தமிழ்நாடு ஆசிரியர் கல்வியியல் பல்கலைக்கழகம்
TAMILNADU TEACHERS EDUCATION UNIVERSITY
(Established under Tamil Nadu Act 33 of 2008)

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Dr.R.Ravindranath Tagore
Registrar i/c

To

The Principals of all affiliated Colleges of Education

Sir/Madam,

Sub: TNTEU – Course Materials for B.Ed Programm (First year 2016-2017) –Reg.
****

I am by direction to inform you that the Vice Chancellor is delighted to provide the following course materials for benefit of the B.Ed – first year students.

1.Childhood and Growing up   - (Unit VI to X)

2. Contemporary India and Education - (Unit VI to X)

3. Learning and Teaching   - (Unit VI to X)

4. Pedagogy of a School Subject **(Tamil, English, Maths, Physical Science, Biological Science, History, Geography, Computer Science, Economics & Social Science).**

The students are advised to follow the regular classroom lectures/assignments/activities in their colleges. In addition, these course materials may be used by students and teachers as supplementary ones for learning and teaching effectively.

REGISTRAR i/c

TAMIL NADU TEACHERS EDUCATION UNIVERSITY

Chennai-600 097

Course Material for B.Ed.(First Year)

(2016-2017)

Course 7 (a): Pedagogy of Biological Science

(Part –I Methodology)

Prepared by

Unit I   **Aims and objectives of teaching Biological Science**

Dr.R.Rajalakshmi, Assistant Professor, Department of Value Education

Unit II   **Planning for Instruction**

Dr.T. Sivasakthi Rajammal, Assistant Professor, Department of Educational   Psychology.

Unit III   **Practising the teaching skills in Biological Science**

Dr.R.Rajalakshmi, Assistant Professor, Department of Value Education

Unit IV   **Methods Of Teaching Biological Science**

Dr.T. Sivasakthi Rajammal, Assistant Professor, Department of Educational Psychology.

Dr.V.Vasudevan, Assistant Professor, Department of Educational Psychology

Unit V   **Resources for Teaching Biological Science**

Dr.V.Vasudevan, Assistant Professor, Department of Educational Psychology

Tamil Nadu Teachers Education University

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UNIT I: Aims and Objectives of Teaching Biological Science

Objectives:

- To obtain knowledge on the nature and scope of biological science.

- To understand the aims and objectives of teaching of biological science.

- To examine the need and significance of teaching of biological science.

- To explore the values of teaching of biological science.

INTRODUCTION

The science which deals with the study of living objects is called Biology. Thus the subject involves the studies of all kinds of micro-organisms, plants and animals. Biology is related to mankind ever since the origin of man, therefore this branch of science stands first in order of studies as compared to other branches of science. Ever since the origin of life man is eager to know about various phenomenon of life processes such as health and disease, birth, growth and death. However, man depends on plants and animals for food, shelter and clothing which are immediate needs of life, come from Biology. Perhaps it was the elementary need of man to know about the living beings, so that maximum benefits can be drawn out of them. Though biology involves study of life, but now a days it is mostly centralised with the study of agriculture, animal husbandry, health and microbiology and related branches. Today study of any branch of science is not possible in isolation as it also involves principles of physics, chemistry and various other branches.

MEANING

Biology is a natural science concerned with the study of life and living organisms, including their structure, function, growth, evolution, distribution, identification and taxonomy.

Biology literally means "the study of life". Biology is such a broad field, covering the minute workings of chemical machines inside our cells, to broad scale concepts of ecosystems and global climate change. Biologists study intimate details of the human brain, the composition of our genes, and even the functioning of our reproductive system.

Human's exploratory activities have resulted in the accumulation of vast source of knowledge called Biology. In Biology, we study about nature which means the entire universe. The knowledge is now organised in several disciplines for the convenience of study. This knowledge is based on

inquiry, observations and logical extensions, and is testable by experiment or has logically convincing explanation.

It is this organised knowledge with inquiry, logical reasoning and experimentation as its central themes that we call science. Science may rightly be said to be a domain of inquiry.

NATURE AND SCOPE

Biology has certain characteristics which distinguish it from other spheres of human endeavour. These characteristics define the nature of biology. Humans have always been curious about the world around them. The inquiring and imaginative human mind has responded to the wonder and awe of nature in different ways. One kind of response from the earliest times has been to observe the physical and biological environment carefully, look for any meaningful patterns and relations, make and use new tools to interact with nature, and build conceptual models to understand the world. This human endeavour is Biology. But Biology is ultimately a social endeavour. Biology is knowledge and knowledge is power. With power can come wisdom and liberation. Or, as sometimes happens unfortunately, power can breed arrogance and domination. Biology has the potential to be beneficial or harmful, emancipative or oppressive. History, particularly of the twentieth century, is full of examples of this dual role of Biology.

In a progressive forward-looking society, Biology can play a truly liberating role, helping people out of the vicious circle of poverty, ignorance and superstition. Biology, tempered with wisdom, is the surest and the only way to human welfare. This conviction provides the basic rationale for Biology education.

Science promotes scepticism; scientists are highly sceptic people. Scientists look at everything with suspicion. Every new observation or a new theory is received with a lot of scepticism. It leads to a lot of debate among scientist. A new observation is accepted only when experimental observations have been checked by independent individuals or groups at various places with identical results. Similarly, a new theory is accepted when theoretical calculations have been repeated by other scientists independently with identical results.

Science, and biology in particular, holds several foundational values that should be conveyed to students as they pursue careers as scientists or science teachers.

Science is based on at least four fundamental values:

- Curiosity is good and should be encouraged.

- Knowledge itself is good—it is good to acquire knowledge.

- It is wrong to falsify or fabricate the data on which knowledge is based.

- It is good to keep an open mind (to be willing to examine and consider new evidence and arguments), tempered by a vigilant level of scepticism**.**

Curiosity is surely the most essential trait a scientist can possess. Curiosity leads to a search for knowledge for its own sake, which is the driving force behind the great majority of scientific discoveries ever made. Acquiring knowledge for curiosity's sake leads naturally to the second value that knowledge is good— not because it may be useful in some pragmatic way, but simply because it increases our store of knowledge about the universe in which we live. Staying open-minded and sceptical is certainly a value and goal for all scientists, provided that one's open-mindedness is reserved for objective evidence, as opposed to subjective opinion.

Curiosity can be a hard sell because, sadly, many of today's students seem to lack curiosity about the world and universe outside their personal spheres of relevance. Even at the college level, many students appear to have no interest in learning about anything as remote as stellar evolution, photosynthesis, Krebs cycle, the Burgess Shale fossils, hydrothermal vent communities, lateral gene transfer, the bacterial origin of mitochondria, and so on. Yet these topics would not seem remote if they were approached in a creative and spirited manner.

Most investigations in science involve some form of scientific method. It shows creativity of humankind in seeking solution to its problems. The approach used by the scientists in the study of astronomy and ecology is observation and prediction. In microbiology they rely on laboratory experiment focused on cause and effect relationship. This is a glimpse of the process by which science works. The essential elements of this process have been collected in what is known as scientific method.

In science, experimentation and theory building complement each other. Sometimes a new experiment throws up observations which force modification in an existing theory or demand the development of an altogether new theory. At other times, theoretical development in a theory

predicts new phenomena which needs to be verified by experiment. This interplay between theory and experiment is a fascinating facet of the scientific process.

Broadly speaking, science is a particular way of looking at nature, which may also be called scientific attitude. One of the most important characteristics of science is that even the most established theories can be modified, or even abandoned, if new experimental results do not fit into the existing theories. This promotes scepticism among scientists. They look at every new observation or theoretical calculation with a healthy dose of scepticism and do not accept it till the result has been reproduced by many scientists at various places. Reproducibility is one of the importantcriteriaforascientificresulttobeacceptable.Itisbelieved that scientists, in their exploration, employ inquiry and scientific method. The use of scientific method and inquiry in daily life promotes scientific temper and rationality. That is why it has been emphasised that all of us should imbibe the spirit of scientific inquiry in our personal lives. So, science can never belong to a country or region. It belongs to the whole mankind.

AIMS AND OBJECTIVES OF TEACHING BIOLOGICAL SCIENCE IN SCHOOLS

One of the important aims of education is to help students to become responsible democratic citizens of the country. The responsibility of science teachers is not only to teach facts, principles and processes of science, but also to facilitate students to discharge their social responsibilities and preserve democracy as well. They should appreciate how science and technology have developed and are affected by many diverse individuals, cultures and societies. They need to be encouraged to appreciate and participate in the responsible use of science and technology for the benefit of society, to visualize future of our nation and to become sensitive and responsible citizens. It is important to develop critical thinking in them about interconnectivity of science, technology and society in order to maintain a healthy and sustainable society. Students should be encouraged to develop a scientific vision about different issues, about acquiring and processing information, about scientific and technological developments and their relevance to everyday life and long-term implications to society.

Science education aims to make students develop scientific attitude, so that in later life they can help society make rational choices when confronted with various possibilities and challenges.

Humans' inquisitiveness and usefulness of the knowledge of science are the two main factors which have led them to continuously strive to understand the behaviour of nature and use the

knowledge of science to make their life more comfortable. In doing so humans systematised knowledge by classifying it into various fields of their activities, built concepts to understand the behaviour of nature and found various ways to exploit it. All these endeavours of the humankinds resulted in a new discipline known as science. Science has influenced and benefited us so immensely that it has become indispensable. At the same time, the society has also helped science to grow.

Science enhances the quality of our life and it is visible in all walks of life. Since science has been developed by people who are part of a group, society or a country, it is expected that their social, psychological, political, economic perceptions could change the course of development of science.

The science education is aimed for the learner to

- know the facts and principles of science and its applications, consistent with the stage of cognitive development;
- acquire the skills and understand the methods of processes that lead to generation and validation of scientific knowledge;
- develop a historical and developmental perspective of science and to enable her to view science as a continuing social enterprise;
- relate science education to environment (natural environment, artifacts and people), local as well as global and appreciate the issues at the interface of science, technology and society;
- acquire the requisite theoretical knowledge and practical technological skills to enter the world of work;
- nurture the natural curiosity, aesthetic sense and creativity in science and technology;
- imbibe the values of honesty, integrity, cooperation, concern for life and preservation of environment; and
- cultivate scientific temper- objectivity, scepticism, critical thinking and freedom from fear and prejudice.

Acquisition of knowledge and understanding

An important trait of humans is to wonder, observe and interact with the surroundings and look for the meaningful patterns and relations by making and using new tools and build conceptual models to understand this universe. This humans' endeavour has led to modern science which took thousands of years to get crystallised. So one can say that science leads to generation of ideas helping to make sense of observed facts that get accepted if they fit observations, but may be refuted until

tested through evidence. These ideas represent a broad view and are generalised as the scientific principles that are true universally.

It is important for children to acquire the knowledge of science content, i.e., concepts and underlying principles as they provide a sound base to explore the unknown and build further knowledge, yet these cannot be passed to children directly. In addition, their understanding cannot be developed by rote learning. It can be done by providing children relevant and age appropriate learning opportunities that allow them to undergo experiential learning through exploration and interaction with their environment and construct their knowledge. Creation of knowledge is crucial to children's learning. Their previous experiences are very important for it, as the experiences lead them to develop new ideas. Teachers need to collect such experiences of children to build further knowledge on their previous knowledge. For this they may engage the children in meaningful discussions through questioning and listening. Even children's drawings, concept maps also serve as good tools to acquire such information.

Development of skills

Science is about asking questions and finding answers to them through scientific method and inquiry. The processes that scientists use in it are science processs kills. Science is important to all young people for not only to acquire the knowledge associated with it, but also to imbibe its inquiry and processs kills. These skills enable them to develop into adults who are able to take informed and responsible action while engaging and reflecting upon different ideas, opinions, beliefs or values. These are longlasting ;thus, tend to be useful throughout each area of our lives. These skills involve the use of all the senseorgans providing hands-on experiences for enjoyable and effective learning.

Doing experiments require certain skills, which are called laboratory skills. In order to do experiments, students have to handle apparatus carefully, set up the apparatus to perform the experiment and make correct observations. These are the skills which come under laboratory skills. Some simple apparatus can be prepared by the students which also require some skill. When they do experiments in laboratory they have to mover with other students cooperatively sharing the responsibilities. This develops feeling in the students. This is called general skill. They also need to develop drawing skill. These skills are necessary for the students to develop when they study biology. All these basic skills are important individually as well as when they are integrated.

Development of scientific attitude

Scientific attitude is a composite of a number of mental processes or tendencies to react consistently in certain ways to a novel or problematic situation. These include accuracy, intellectual honesty, open-mindedness, respect for evidence, scepticism, suspended judgement, critical thinking, perseverance and looking at true cause and effect relationship. Scientists, because of their thirst for knowledge become perpetual learners. They are constantly curious and continually seeking knowledge by inquiring. This in turn nurtures the trait of scientific attitude.

Student who study science are curious. So students of biology are also curious. They are also open-minded to hear anything from anybody. They receive information and come to a conclusion or judgement only based on facts. At the same time they are ready to test and verify their judgements. This makes them believe that nothing is final in biology. They are truthful in doing experiments, making observations, recording and reporting. They also have faith in cause and effect relationship. The students of biology possess all these qualities and also develop these qualities while studying biology. These qualities are called as scientific attitude.

Science attitude can be nurtured over a period of time through the process relevant learning situations that require creating an open classroom environment encouraging children to perform activities and experiments and reading scientific literature, freely interacting with their surroundings and asking questions. A science teacher needs to provide children experiences of a number of scientific activities as base for a thorough understanding of science and developing scientific attitude and temper.

Development of thinking abilities

In science, critical thinking increases science learning potentials. It requires deliberate review of the way in which activities are carried out, the ideas emerges and the way these can be improved. It is the ability to analyse information and experiences in an objective manner. Reflecting on the processes of thinking does not come readily to young children as it involves abstract thinking as well. Teachers can facilitate this by engaging the children in discussions through activities.

The process of linkage of the past experiences in terms of cause and effect relationship on a model of set rules, i.e. thinking with reasoning is known as logical thinking. Children should be

helped to reason out consistently before arriving at conclusion. Scientific temper is the refined logical thinking.

Nurturing curiosity

Thus curiosity led to questions in her mind like why, what and how. When students ask such questions, the teacher should not discourage them. She should facilitate them to find answer using scientific principles. Science is nothing but all that happens around us. Students come across many questions out of curiosity. Curiosity leads to inculcation of *learning to learn* aspect of education. Curiosity can be generated in the learners by taking them to science centres; providing opportunities to work on science projects and to read scientific literature; facilitating interaction with persons having scientific attitude; encouraging to participate in science exhibition and science quiz, etc. Science activities can be designed to encompass several factors making up curiosity. Curiosity gets aroused as a result of doubt, perplexity, contradiction, cognitive conflict, ambiguity, lack of clarity, etc. A teacher needs to create suitable learning situations for this.

Nurturing creativity

Creative thinking is a novel or innovative way of seeing or doing things. Creative thinking enables a learner to explore available alternatives and consequences of actions or non-actions and contributes to decision-making and problem solving.

Creativity has been defined in different ways. It is the production of relevant and novel product and process. Also, it involves classification and assessment of different components of the problem or delineation, manipulation and linkage of ideas in a novel manner to solve a problem, or to deal with an idea or to confirm a conclusion. Creativity is doing or seeing the things differently. It cannot be taught, but developed in children by using planned strategies and techniques.

The teacher plays an important role for nurturing creativity in learners. From pedagogical perspective of physical science, inquiry and activity oriented, process based teaching-learning can facilitate in nurturing creativity. Therefore, the role of the teacher should be to–

- assist students in developing models of inquiry and discovery;
- guide students in the use of multidisciplinary approach;
- recognise and appreciate creative ideas and products of students;
- provide rich variety of learning experiences to students;

- encourage students to frame questions and browse variety of reading materials; and

- express to the students that their ideas have value

A creative child thinks differently, expresses unending curiosity and possesses divergent thinking ability. She wonders what makes things work. She is always a keen observer who ponders over the outcome of an event of phenomena and seeks information. She has original, divergent, independent, fearless and intuitive thinking and welcomes new ideas. She likes to ask thought-provoking questions rather than fact seeking or memory type questions. Teachers should identify these traits and provide a variety of learning experiences of inquiry and discovery of science to nurture creativity.

Nurturing aesthetic sense

Aesthetics deals with the creation and appreciation of beauty that gives us happiness. Harmony, order and pattern are some of the criteria which define beauty. A learner of science is also concerned with them. She gets motivated to see some patterns in the properties of substances and other things in her surroundings. She appreciates her creation and derives joy when finds that a particular toy or a gadget works on same scientific principle that she has already learnt.

For nurturing aesthetic sense through science teaching learning, the teacher may encourage students to consider the following steps:

o Observe keenly while doing any work. For example, observing the flowers while walking in the garden one can appreciate their colour and wonders why the flower is of that particular colour. Observe, analyse and reject what is not scientific.

o One should be conscious of one's inner being.

o Learn to be generous. One should develop the sense of sacrifice and self-righteousness.

Development of Problem solving skill

Problem solving means that an individual has learned the skills and acquired relevant information necessary to solve problems that are not only curricular, but also related to everyday life.

Various skills required for problem solving can be enhanced by providing opportunities to students to ask questions, think aloud, look for alternative explanations and procedures, isolate and control variables, keep record, apply reasoning and analogy, make models, and apply process skills

in teaching-learning of science. Students can explore such potentiality while working on the problem. They feel a sense of achievement on getting success and develop self-confidence.

In order to provide opportunities of problem solving we need to inculcate the following abilities among the learners:

- o Flexible and divergent thinking;
- o Decision-making and generating self-confidence;
- o Accepting/rejecting hypothesis;
- o Correlating between various quantities/phenomena;
- o Checking the validity of results;
- o Expressing the task in terms of goals;
- o Searching for innovative practices;
- o Creating new challenges for life; and
- o Developing positive and cooperative attitude.

To solve problems in science, students must acquire what cognitive psychologists call *declarative knowledge* which consists of the body of knowledge and facts needed to work in science. .Simply acquiring knowledge of science is not sufficient. One must organise this knowledge in such a way that can be retrieved easily to solve problems. Simultaneously, with acquiring and organising declarative knowledge, one must also acquire *procedural knowledge* (knowledge of processes) which are procedures and heuristics that can be applied to solve problems.

NEED AND SIGNIFICANCE OF TEACHING BIOLOGICAL SCIENCE

Science has been given due place in our school education programmed by being made as a compulsory subject. Not only is that more and more emphasis now being paid over the scientific and technical education. By doing so infact a right step has been taken to push our country forward and to enable us to compete with other progressive nations. It has necessitated to lay due emphasis on the teaching of science right from the primary stage. Realising such need Kothari Commission has very rightly remarked in their recommendations as follows:

"Science and Mathematics should be taught on a compulsory basis to all pupils as a part of general education during the first ten years of schooling".

Utilitarian value of day to day use.

Modern age is science age. We see a network of scientific gadgets based on latest scientific inventions all around us. Science has revolutionised our way of living. Now our lives depend on scientifically invented gadgets so much that we cannot do without them. It is now imperative for everyone not only to understand science but to master it from all angles. According to Herbart Spencer, "The knowledge gained through science is much more useful in guiding our life style than gained through other sources".

Intellectual value

The study of science provide us the opportunity of developing our mental faculties of reasoning, imagination, memory, observation, concentration, analysis, originality and of systematic thinking. Science gives us the insight which enables us to search the truth and the reality of nature around us. Science does not permit us to accept anything which we cannot prove by actual observation, reasoning and experimentation. The queries of all problems and phenomena can be satisfactorily answered only by the wisdom of science.

Disciplinary value

Science develops our personality as a whole. It inculcates spirit of enquiry, seriousness, and systematic thinking. It brings about total transformation of one's view point and makes thought process more organised. Science makes us think seriously and helps to observe the real nature of the problem. It helps us to judge all the good and bad points, together with the gain and loss likely to be incurred in the plan of action contemplated. Sciene is only the one subject which promotes interest in study, concentration and habit of hard and systematic work. It also inculcates the habit of viewing a problem impartially with an alert mind. This helps to lead one's daily life successfully in a well organised and systematic way.

Cultural value

From time immemorial man has been trying to maintain and preserve their way of life and standard through the use of science. But somehow our way of life has been changing with the passage of time and progress of science. This change in our life-style is due to the inventions of science. The development of culture is the history of science. We can judge the progress of civilisation and culture

of a nation by its progress in science. Science not only develops our culture but also helps in preserving it.

Moral value

Some people believe that Science is responsible for lack of faith in God, but in reality the situation is reverse. Science does not permit blind faith, it also does not admit faith in idol worship nor follows many useless customs and rituals. The search for truth or reality of nature and search of God are identical aims. Thus pursuit of knowledge of nature or study of science cannot be called contrary to religion and faithlessness. Science and its pursuit not only include all the traits of morality but also develop them. The qualities of honesty of purpose, truth, justice, punctuality, determination, patience, self-control, self-respect, self-confidence and tolerance are automatically developed in man if he follows scientific method in his pursuit of knowledge.in science every conclusion depends upon tests and actual observations and not by cheat and deceit.

Aesthetic value

Science is beauty, art, a source of entertainment and a successful means of attaining physical comforts. Even the study of science is a source of great pleasure, when one gets answers to his questions about the mysteries of nature. Science helps us to utilise our leisure purposefully.

Social value

Science is of great value to society. Science makes a man a useful citizen. Science gives impetus to the progress of society by its new thoughts and inventions. From the very beginning of our civilisation science has played an important role in its development. In fact, the world has become a small social group. Today's society stands on pillars of scientific techniques and knowledge. All our social activities depend upon science. Science is essential for the progress of our society and nation. By studying science we can make our social life happy and comfortable by leading a healthy life and by gaining from public welfare activities based on science.

Vocational value

Science has opened vast vistas of vocations, because scientific principles and inventions have become so universal and pervasive in our daily life. Scientific inventions have now helped widely all

the traditional vocations nowadays like – agriculture, poultry farming and dairy farming. Science has also revolutionized modern vocations like – telephone, radio and television broadcasting etc.

Psychological value

Study of science fulfils the psychological needs of man and helps in evolution of natural curiosity and other instincts like instinct of collection, ego, and self-expression. The instincts of curiosity is responsible for the urge of investigation, experimentation and research. In this way study of science develops all the latent faculties of a child.

Whether we consider from personal or social point of view, the study of science has its special importance. The joy and bliss are obtained from successful investigation of scientific problems but in addition it also gives children self-confidence and insight for solving any life-problem facing them. In brief, the study of science gives us self-confidence and teaches us to lead a successful and meaningful life.

Develops problem-solving skills

With the knowledge of science, you learn to think logically and solve a problem. It is this problem-solving skill, which is learnt in the early years that have enables a person to solve problems. Communications, medicine, transportation, and almost everything you see around you are mainly present because individuals have used their knowledge of science to create real life applications. Knowledge in this subject also enables you to understand many other subjects better.

Awareness about technology

Learning the basics of how certain devices work can help you develop ideas of your own and invent new technology. Even the knowledge of how to use telescopes, microscopes, and other devices in a laboratory can help you in examining objects and determining differences between them. Fixing minor problems in electronic objects in your own home is possible when you have the basic knowledge about technology.

How to conserve natural resources

All aspects of the environment have a deep impact on our lives. As a student, science helps you to learn about how the earth functions, and how to make use of natural resources. It also teaches you how the lack of these resources affects living things, and how you can conserve these resources.

When you learn about wildlife in science, you will learn about the many species that are already extinct, because of shortage or absence of certain resources and environmental changes. Awareness about such aspects can help you contribute towards preserving wildlife. Science also teaches you to recycle and reuse products and promote a greener environment. This knowledge is very essential to help save our planet for the future.

Instils survival skills

Science helps to learn about the various weather conditions, and helps to distinguish between normal weather and dangerous weather. With this knowledge, learner can stay alert about natural disasters or survive the disaster. Because the learner learn about the characteristics of different objects that they use in day-to-day life, learner will be able to distinguish between things that are safe to eat and those that they should not. Almost everything that a person does requires a basic knowledge of science, and logical reasoning that is based on this subject. So, it is undoubtedly important to learn science from the early days of school.

VALUES OF TEACHING BIOLOGICAL SCIENCE

Teaching science inevitably involves value messages for instance in the management of the curriculum (e.g. science can be presented as physics, chemistry and biology or as rural science, or domestic science or as environmental science each of these involving different value judgements) and the particular selection of knowledge which is included in the curriculum (e.g. breathing and circulation are conventionally taught in a biology programme in such a way as to emphasise anatomy and physiology related to the preparatory needs of future medical students.

In many parts of the world today there is a concern about the role science education may play in establishing a sense of personal and social identity for a student. Implicit in this concern is the recognition of

- o The powerful social, economic and cultural impact of contemporary science world-wide;
- o The importance of the process, ideas and products of science to individual citizens irrespective of their particular role and status in society; and
- o The urgent need to harness science to human welfare.

Baez (1984) in discussion issues of science, environment, education and basic human needs identifies survival needs such as food, shelter, health and safety, development needs such as education and employment, and perceived needs such as wealth, security and growth. He notes that all these are in some form or other dependent upon the physical environment in which we live.

However he goes further in his identification of basic human needs making the point that....'Man does not live by bread alone. His needs go beyond the purely physical and include such things as leisure time and the human qualities of respect, care and affection. Deprived of these a person may languish as surely as if he were deprived of food and water'.

Jennings (1983) in discussing the place of biology in the curriculum and its role in the education of the individual argues that the respectability of school biology as a scientific study was hard earned and the rigour and precision of modern biology make it important for schools to sustain the scientific process dimension to the biology curriculum. However he adds that the key issue is that while retaining this scientific biology curriculum it is necessary to extend it adequately along a human social dimension. He presents an interesting distillation of objectives associated with biology programmes in which he identifies affective as well as cognitive aspects.

According to Kelly (1980), 'It is one of the greatest challenges to biological education to formulate a biosocial synthesis in a way that gives it credibility and a rightful place in the curriculum'.

The affective dimension of biological education has often been more effectively developed in terms of translating affective aims into effective teaching strategies when biological science has been placed in a broader curriculum context such as that of environmental education, health education or personal and social education. The perception of the relevance of biological processes and concepts to the individual has in such programmes been sharpened by the need to look more at the whole education of the person and so individual and social need rather than deriving teaching programmes solely based on the internal logic of the subject. Environmental education

programmes for instance often focus upon issues which involve scientific knowledge within a frame work of social values and aesthetic personal life, through their community, culture and environment. In such contexts as these it has been necessary to explore teaching strategies which go beyond the cognitive and give scope for affective development.

Tones (1981) in discussing this aspect of health education suggests that the options open to teachers in Affective Education and Health. It is attempted to be implemented in science programmes that the values context of the cognitive processes starts to be recognised creating problems for the teachers' role in relation to imparting particular sets of values. Teachers may not wish to impose their own values, or those of a particular class or culture in the com- munity. A particular approach that has been used by teachers taking this attitude has been that of value clarification. Simon 1972) has defined value clarification as involving a hierarchy of seven sub-processes:

Prizing: 1. Prizing and cherishing.

2. Publicly affirming, when appropriate.

3. Choosing from alternatives.

Choosing 4. Choosing after consideration of concern

5. Choosing freely.

Acting 6. Acting

7. Acting with a pattern, consistency and repetition.

The U.K. Association for Science Education in a discussion paper on Planning for Science in the Curriculum (1985) has argued that a broad balanced science curriculum should be seen within the context of a road balanced general education and that each teacher should be aware of the total package that is being prepared for and offered to the students. It is further argued that 'Learning experiences should be constructed so as to take account of student's needs and not only the entry requirements of the profession and higher education or the perceived needs of the nation. Students have to be helped to develop their own identities so that they can become autonomous learners and decision makers and feel a sense of confidence and success in their personal relationships'. This does not necessarily mean that the traditional subjects are not an appropriate way in which to organise teaching, but it does mean that there should be co-ordination across the curriculum. Perhaps in such

away we may be able to see means though which science education can contribute not only to man's physical needs but also to those such as leisure and human qualities of respect, care and affection.

CONCLUSION

Biology teaching seen in this way can be developed to contribute to linguistic, mathematical, scientific, personal, aesthetic and physical development, rather than at times actually inhibit or even conflict with some of these development aims an effective science education will be one that is placed in a values context and contributes to the education of the whole individual. Science and in particular biology teaching has affective aims which are essential contexts for the cognitive aims. Science teaching in a whole curriculum perspective can be effectively organised and lead to a useful rethinking of the purpose of science programmes for individuals especially at the Upper Secondary level where, increasingly, the number of students who will go on to professional or technical level careers in science, technology or related fields is limited (Unesco,1980).

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Questions for Discussion and Reflection

1. Discuss the nature and scope of biological science.

2. How will you develop the Problem solving skill of a learner?

3. Describe the aims and objectives teaching of biological science in schools.

4. Critically analyse the need and significance of teaching of biological science.

5. Explain the values of teaching biological science.

Unit II Planning For Instruction

Objectives

After the completion of the unit, the learners will be able to:

1. explain the steps involved in the lesson plan.

2. design a unit plan for Biological Science

3. formulate instructional objectives based on the domains

4. construct test items for formative evaluation

5. discuss the different types of test items

Introduction

Planning is essential in any sort of activity and more so when a teacher is going to a classroom for teaching a subject. Especially for a science teacher, it is absolutely essential that he plans the topic well in advance so as to make his teaching interesting and efficient by organizing simple demonstration experiments and other activities. After all science is doing and children should learn science as a fun. Teachers should avoid reading the science text book in class room. Planning helps the teacher in systematic presentation of subject matter. The teacher has to plan every step and should go to the classroom with a written plan.

Effective lesson planning requires the knowledge of the physiological developments and the intellectual maturity of the students. It also requires knowledge about the needs, interests and abilities of the students. The knowledge of psychology of learning, principals of teaching, previous knowledge of the students, and effective mastery of the subject matter are essential for lesson planning. A lesson plan demands sufficient experience of the teacher to plan classroom activities to develop understanding, interest, aptitude and skill of students in addition to the scientific knowledge in all its aspects- scientific terms, facts and principals ideas and concepts. In a lesson plan there should be scope for creative activities by the students and should provide opportunity for critical thinking. How to prepare such a plan is discussed in this unit.

LESSON PLANNING

Different teaching methods are available for teaching science and all these methods are discussed in an earlier unit. Similarly various teaching aids are available for transacting the curriculum. Before going to the classroom the teacher has to select the appropriate method for teaching the topic and also the proper teaching aid which will help the learner to understand the concepts in the topic. This is sometimes called planning the strategy.

- The lesson plan stimulates the teacher to think in an organized manner. It helps the teacher to outline the objectives properly.
- The lesson plan helps in creating the interest of pupils towards the lesson.
- A proper correlation is established between the new and old lesson.
- The lesson plan provides guidance to the teacher as to what and how he should teach.
- This compels the teacher to think about using teaching aids.
- This helps the teacher to choose the best teaching method.
- The lesson plan inspires the teacher to ask proper and important questions.
- This helps the teacher to teach, keeping in the mind the individual differences.
- The subject matter is organized in a time frame and with proper sequence.
- This develops self-confidence in the teacher.
- This helps the teacher in evaluating his teaching.

Definition of Lesson Plan

Bossing defines, "A lesson plan is an organized statement of general and specific goals together with the specific means by which these goals are to be attained by the learner under the guidance of the teacher on a given day."

In the words of Lester B. Stands. "A lesson plan is actually a plan of action. It includes the working philosophy of the teacher, his knowledge of philosophy, his knowledge about students, objectives, material to be taught and his ability to utilize effective methods."

Like a dexterous craftsman a teacher should plan his tools and techniques, which may help him in moulding his materials that is students in the right way. In other words, it is a window through which teacher can see his originality and teaching talents. Lesson plan is teacher's mental and emotional visualization of classroom activities.

Components of a Lesson plan

Teacher should follow specific steps in writing lesson plans. J.F. Herbart and other educationists after him have emphasized the following steps. These steps are called as Herbartian Formal steps. They are:

1. Preparation or Introduction.
2. Presentation.
3. Comparison or Association.
4. Generalization.
5. Application.

6. Recapitulation.

1. Preparation or Introduction

According to J.F. Herbart the mind of the students must be prepared to receive new knowledge. It is first like preparing the land before sowing the seed.

This step should be brief and nothing new to be told to the students. The teacher should ascertain what the students know already related to the topic and should provide a link between the previous knowledge and the new lesson. This step may involve.

(a) Testing the previous knowledge of the students

(b) Arousing curiosity by the novelty of experimentation or activity.

(c) Use of charts, pictures and models.

(d) Skillful discussion.

This is most important step because "well-begun" is half done."

1. Presentation

Immediately after the preparation, the aim of the lesson should clearly be stated. This becomes the second step.

In the second step the actual lesson begins. Students get new ideas and knowledge. The teacher presents the subject matter to the students. The students passively listen and learn the ideas told by the teacher. The teacher may demonstrate any experiment, use any aid or do any activities.

2. Comparison or Association

The new ideas or knowledge learnt should be compared and associated with already known ideas and facts. It is felt that knowledge is not like piling up of bricks, but it is like a tree that grows. This step is most important when the teacher is establishing principals or generalizing definitions.

3. Generalization

In most of the science lessons teachers have to arrive at certain generalizations. Formulas, principles or law are to be established. As far as possible the students should draw out the conclusion themselves. Sometimes the student's generalizations may be incomplete or irrelevant. At this time the teacher should guide them to make corrections.

4. Application

A lesson of science will be incomplete if the rules or formulas are not applied to new life situations. It is always the desire of the students to make use of generalizations and to verify whether they really work in new situations. Knowledge becomes clear and meaningful in this stage.

5. Recapitulation

This is the last step in the process. Here the teacher ascertains whether the students have understood and grasped the subject matter or not. It is generally done by on of the following ways:

      (a) Asking suitable questions on the topic taught.

      (b) Applying a short objective type test.

      (c) Asking the students to label the unlabeled sketch.

It should be remembered that these forms of Herbartian steps are not final. These are tentative guidelines. We should not always try ton rigidly follow them. Moreover it is not possible to follow all these steps in all types of lessons.

In the modern days these Herbartian steps are included in four steps, which are as follows:

      1. Preparation

      2. Development

      3. Review

      4. Assignment

In this you know very well about preparation. The second step development involves the activities of both teacher and students. Teacher helps the students to learn the lesson. Both the students and teacher participate in the development. The teacher is expected to develop the lesson with students' participation. The third step review is equivalent to recapitulation. The forth step assignment is the homework to be given to the students. These are the four steps involved in the lesson plan.

Advantages of lesson planning

Lesson plan is actually a plan of action. A teacher without lesson plan ends his efforts to keep proper discipline in the class and discouraged with his failures. A teacher with good plans is also tried, but his tiredness is tempered with the joy of satisfaction. The advantage of lesson plan can be listed as follows:

1. It makes the teacher's work regular, well organized and systematic.
2. It prompts confidence and self-reliance in the teacher.
3. It helps the teacher to proceed with particular aims in view and thus makes him conscious of interests and attitudes to be developed in the students.
4. It renders a saving in time, for the students have a better understanding of the subject and develop some desirable attitudes in a specified time, while in the absence of a plan it might have taken more time for the similar understanding.

5. Lesson plans establish proper connections between different lessons of study. Therefore, they provide continuity in the teaching process.

6. It stimulates the teacher to introduce striking questions and illustrations.

7. It provides greater freedom in teaching, for a teacher who has properly planned his lesson, enters the classroom with confidence; without any anxiety, ready to attack the problem and prepared to carry it out like a skilled workman.

8. It helps the teacher to plan the teaching aids to be used din the class, well in advance and also ensure their workability.

9. It avoids wastage of time.

Criteria of a Good Lesson Plan

The following are the criteria of a good lesson plan. Any lesson plan should contain these criteria.

1. A lesson plan should be written and well prepared assuming that teacher has gone through the matter from all aspects.

2. General Objectives also called non-behavioural objectives of the lesson should be clearly stated.

3. Specific objectives also called behavioural objectives should be clearly stated.

4. Types of aids that are to be used along with the situation in which they are able to be used should be used.

5. Content, learning experiences and evaluation tools and procedure should be stated.

6. Review and assignment should be written at the end of the lesson.

7. A good lesson plan should reveal the type of activities to be performed by the teacher and the students.

8. Active participation of the students should be made possible in the lesson plan.

9. Questions should be well planned and unambiguous.

10. There should be provision for individual attention.

Writing objectives in behavioural terms

In a lesson plan general objectives should be clearly stated in the beginning itself. After that specific objectives should be stated. These are the specific behaviours exhibited by the students in order to achieve the objectives. The specification or performance objective should not be a description of what the lesson is about, but it is a statement of what the learner will be able to do at the end of the learning at the activity. A key to write good performance objective is use of a verb that describes what the student's action or activity will be. Some verbs are open to many interpretations and are vague. Only

those verbs, which are direct and have only one interpretation, should be used in writing the behavioural objectives. The following list of verbs will make the point clear.

Verbs open to many interpretations	Verbs open to few interpretations
to know	to write
to understand	to recite
to appreciate	to identity
to enjoy	to solve
to believe	to list

STRUCTURE OF A FOUR FOLD LESSON PLAN
Content

The teacher elicit the content to be taught to the students in the classroom . The students develop skills in terms of cognitive, affective and psychomotor domain after attending the teaching session of this content.

Specification of Behavioural Outcomes

Specification of behavioural outcomes helps us to state the instructional objectives of various school subjects. These objectives, however, are too vague for the teacher. They should be specific and must be expressed in behaviors terms. Vague, general objectives often do not offer an adequate enough direction to the teacher. As a result, he cannot prepare and organize appropriate learning activities for his pupils. Hence the need for specifications. We have also discussed that the term specifications mean specific objectives or behavioural objectives. The statement of a specification contains an action verb. The statement of specification should be in the form of the student's achievement and not in the form of the teacher's intentions.

Learning Experiences

Learning Experiences results from the active participation of students in the stimulus situation which the teacher provides in the classroom. It is the interaction of the learner and the situation provided by the teacher. It should be purposeful, continuous, interactive based on facts, concepts, principles, generalization for making learning experience more functional and effective in teaching learning process.

Evaluation

The teachers can adopt internal and external methods of evaluation to assess whether their transaction is proper according to the pedagogy of teaching in science classrooms. So the objectives, learning

experience and evaluation are the three interrelated and interdependent aspects in the teaching learning process.

MODEL LESSON PLAN - BOTANY

Name of the School: Name of the Student Teacher:

Standard: IX   Name of the Guide Teacher:

Subject: Biology   Date:

Topic: The structure of a cell   Time: 45 Minutes

Instructional Objectives: The Students

- o define the basic unit of all the living organisms**.**
- o identify the outer cell wall of the plant cell.
- o explain the cell wall is made up of cellulose.
- o describe the matter inside the cell wall is protoplasm.
- o identify protoplasm which is divided into cytoplasm and nucleus.
- o explain cytoplasm is a viscous fluid.
- o discuss the reasons for the presence of cell membrane in animal cell.
- o list out the cell organelles.
- o differentiate between plant and animal cell.

Instructional resources required:

1.   Slides of cells of different plants and slide projector.
2.   Charts of plant cell and animal cell.
3.   Slide of animal cell

Previous Knowledge of learners:

- ❖ The teacher ask questions regarding cell, plants and animals and bring out the previous knowledge of the student about the cell.

Pupils answers the following questions:

- ➢ What is a living organism?
- ➢ What is a non-living organism?

> ➢ What is the difference between living and non-living organism?
>
> ➢ What are the organs found in man?
>
> ➢ What constitute the organs?
>
> ➢ What constitute the tissues?

Content	Specification of behavioural outcomes	Learning Experiences	Evaluation
Cell	define	The teacher defines the basic unit of all the living organisms as cell. The student understands that the cell is the fundamental unit of living organisms	What is the fundamental unit of life? Define a cell?
Cell wall	identify	The teacher ask the student to identify that the plant cell is surrounded by the outer cell wall. The student identifies the outer cell wall of the plant cell from the slide.	What is the boundary of the plant cell?
Cellulose	explain	The teacher explains that the cell wall is made up of cellulose in plant. The student identifies the cellulose from the chart.	What does the cell wall made up of?
Protoplasm	describe	The teacher describes that the matter inside the cell wall is protoplasm. The students understand that the protoplasm is found within the cell wall.	What is a cell wall? What is the name for the matter inside the cellwall?
Cytoplasm and the nucleus	Identify	The teacher describes that protoplasm is divided into cytoplasm and nucleus.	What parts do you find with in the cell wall?

		The student identifies from the chart that protoplasm consists of two parts, the cytoplasm and the nucleus	
Cytoplasm	explain	The teacher explains that cytoplasm is a viscous fluid that fills the major part of cell. The nucleus is a spherical body found embedded in the cytoplasm. It is deeper than the cytoplasm The student explains cytoplasm among themselves and identifies nucleus and cytoplasm from the chart.	What is the viscous fluid called? What is the central spherical body called? Is the spherical body denser than the fluid?
Cell membrane.	discuss	The teacher discusses the reasons for the presence of cell membrane in animal cell. The student discusses among themselves that the animal cell does not possess a cell well but possess only cell membrane.	What is a cell membrane?
Cell organelles	list	The teacher lists out the cell organelles and small vacuoles in the cytoplasm. The student lists out the cell organelles and identifies Centrosome, Golgi bodies, Mitochondria, endoplasmic reticulum in the cytoplasm from the chart. Many small vacuoles are also seen.	Where is centrosome? List out the cell organelles.
Plant cell and animal cell	differentiate	The teacher explains the differences between plant and animal cell. The student differentiates that the plant cell possesses cell wall, chloroplast and many large	Which cell possesses chloroplast? Where do you find large vacuoles? Where do you find cell

		vacuoles. Animal cell membrane, small and a few vacuoles but no chloroplast.	membrane?
Important points of the topic	Summarize draw	The teacher summarizes the important points of the topic and the student practices to draw the plant and animal cell structure.	Draw the diagram of animal and plant cell? Label the parts. What is its importance?

Follow up activities:

1. Draw and label diagram of a plant cell?
2. Describe the structure of an animal cell with neat labeled diagram.

Name of the Guide Teacher   Name of the Student Teacher

UNIT PLAN

 Unit Plan

"A unit may be defined as a means of organizing materials for instructional purposes which utilizes significant subject matter content, involve pupils learning activities through active participation intellectually and physically and modifies the pupils behavior to the extent that he is able to cope with new problems and situations more competently".   **H.C. Morrison**

What is a unit?

A unit is a large subdivision of subject matter with a common fabric of knowledge. The unit is not just blocks of subject matter, but is composed of both method and content. Thus, a unit organizes instruction and increases the probability that instruction will be presented in a cohesive, meaningful and logic way. A properly planned unit integrates many type of activities, some of which provide new information and others help pupils evaluate and retain this information. Units of break up a course into meaningful segments that is larger than lesson plans. They are organized around specific topics so they are neither a block of subject matter nor a series of independent lessons, but represent a

careful organization of subject matter and learning experiences. So a unit can be treated as a 'compound' of lessons and not a 'mixture' of lessons.

Definitions of a Unit

Burton: 'the important thing to provide a combination of subject matter and processes which will have real meaning for the learner which will aid him in continuously integrating his learning is through h a unit'.

Preston: 'A unit is as large a block of related subject matter as can be over viewed by the learner'.

Stanford: 'A unit is an outline of carefully selected subject matter which has been isolated because of its relationship to pupil's need's and interests'.

Characteristics of a Good Unit

- It should keep in view, the needs, the capabilities and the interest of the pupil
- It should take into account the previous experience and background of the pupil
- It should provide for new experiences which the students have not done before
- The length of the unit should maintain interest of the pupil till the last
- The material of the unit should consist of familiar and related topics and not as remote and strange one
- It should be related to social and physical environment of the pupil
- It should help to anticipate and satisfy some of the future needs of the pupil
- It should be a part of the sequence that permits growth from year to year
- It should be a results of the co-operative planning of the teacher as far as possible
- It should provide the basis for its evaluation
- It should be flexible enough to provide individual differences
- It should permit a variety of field trips, experiments, demonstrations, and projects etc.
- It should be practicable in the given setting

Steps in Unit Planning

1. Content analysis (the What of the unit)

2. Objectives with specifications (the Why of the unit)

3. Learning activities (the How of the unit)

4. Testing procedures (evidence of achievement)

i. Content analysis

In unit planning emphasis is placed on analyzing the content into terms, facts, concepts, situations, processes, generalizations, principles, laws etc. the analysis helps the teacher to get a thorough I n-depth of the subject understanding and this also increases the confidence of the teacher.

ii. Objectives and specifications

After analyzing the content, teacher should identify the general and specific objectives of the content.

iii. Learning activities

Learning is not a pouring in process, but a gradual process that comes about as a result of experience. Activities like field trips, experiments, demonstrations and projects can be used in different settings. The experience can be backed up with reference books films and slides. Keeping in mind of the individual differences, the psychology of learning, the content and objectives, suitable learning activities can be planned to which the students will be exposed during the course of the unit.

iv. Testing procedures

The last step is the choice of suitable evaluation tools and techniques through which teacher can evaluate the content coverage and teaching method used.

Format of a Unit Plan

1. ----------

2. ----------

3. ----------

Sl. No.	Concepts	Process skills	Activities/ strategies	Learning materials	Product	Evaluation	No. of Periods

Advantages of Unit Planning

1. It is establishes general as well as specific aims of teaching.
2. It breaks up the entire work into smaller sections, small enough so that pupils can easily grasp the scope of these during a brief overview. Short tasks are easily completed than long ones.
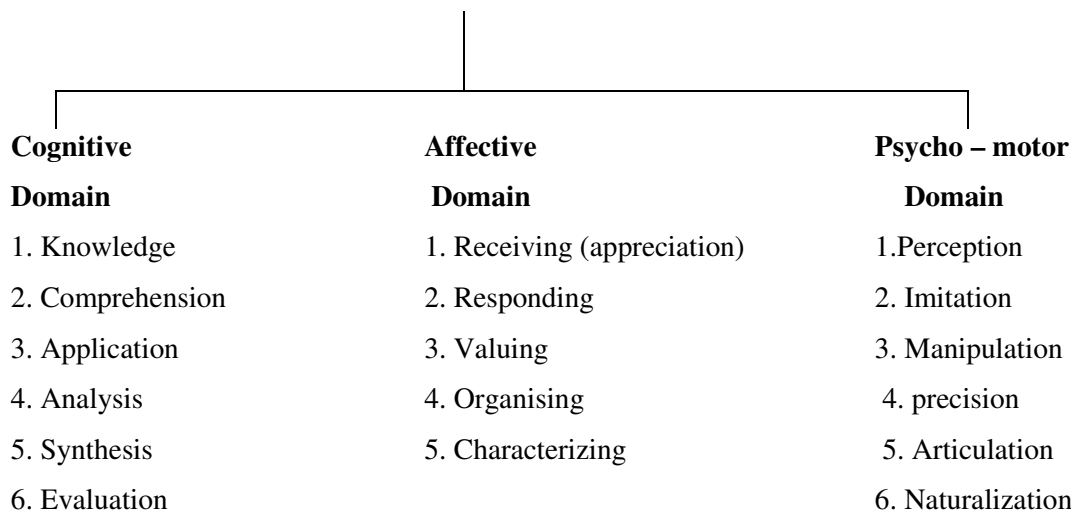
3. It helps to cater the needs, nature and aptitude of the students.

4. It is economical in terms of time.

5. Since several activities are involved it helps to develop the skills in the students.

6. It develops self confidence among students because it provides opportunities for meaningful experience wherein they can organize and review their learning.

7. It gives an overall view to handle each and every lessons as the unit structure.

BLOOMS TAXONOMY OF EDUCATIONAL OBJECTIVES

Taxonomy of educational objectives is intended to provide the classification of goals of our educational systems. The idea of classification of educational objectives was given by Dr.Benjamin S Bloom of Chicago University USA. He classified educational objectives in to three main areas or domains called Cognitive, Affective and Psychomotor. The three domains are interrelated and mutually dependent.

TAXONOMY OF EDUCATIONAL OBJECTIVES

Cognitive Domain	Affective Domain	Psycho – motor Domain
1. Knowledge	1. Receiving (appreciation)	1.Perception
2. Comprehension	2. Responding	2. Imitation
3. Application	3. Valuing	3. Manipulation
4. Analysis	4. Organising	4. precision
5. Synthesis	5. Characterizing	5. Articulation
6. Evaluation		6. Naturalization

Cognitive Domain: The recall or recognition of knowledge and the development of intellectual abilities and skills.

Affective Domain: The changes in interests and values and the development of applications

Psychomotor Domain: The development of manipulative or motor skills

The three domains of learning do not occur in isolation but rather work together to make up one whole being.

Cognitive Domain

Cognitive domain includes those objectives which deal with the recall and recognition of knowledge and development of intellectual abilities and skills. **-Blooms et al.**

 Benjamthe domain in S Bloom and his coworkers have done the taxonomical classification of this domain in 1956. The domain contains six major objectives arranged in an order on the basis of increasing complexity of tasks. Each of these six is further divided in to specified behavioural objectives.

Categories in the Cognitive Domain

1. Knowledge

This is the first and the lowest level of cognitive domain. It includes recall of information such as specifies, facts, methods, processes, generalizations, patterns etc., Thus, the knowledge objective emphasizes what can be described as memory.

2. Comprehension

This second category includes translation, interpretation and extrapolation. This is also related to the use of ideas. It refers to a type of understanding of the materials or literal message contained in a communication.

3. Application

This third level includes the ability to apply abstract ideas to a concrete situation. The abstraction may in the form of general ideas, rules or procedures or generalized method.

4. Analysis

It means the "breakdown of the materials into the constituent parts and detection of the relationship of the parts and of the way they are organized". Analysis includes analysis of elements, analysis of relationship and analysis of organizational principles.

5. Synthesis

This category is just the opposite of analysis. Synthesis is the "putting together of elements and parts so as to form a whole. This involves the process of working with pieces, parts, elements and arranging and combining them in such a way as to constitute a pattern or structure, not clearly there before".

6. Evaluation

It is the assignment of symbols to phenomenon, in order to characterize the worth or value of a phenomenon, usually with reference to some social, cultural or scientific standards. Evaluation involves judgments in terms of internal evidence as well as external criteria.

To conclude, it may be pointed out that the above six major categories in the cognitive domain do not always appear in isolation from one another.

Affective Domain

This domain involves attitudes, interest, values and appreciation. The affective domain is concerned with 'feeling'. The objectives under affective domain are difficult to define and evaluate. The hierarchy of objectives in affective domain has been developed by Krathwohl, Bloom and Masia in 1964. The order of objectives is in such a way that each category is more abstract and complex than the previous one.

Categories in the Affective Domain

1. Receiving:

This is at the lowest point o the affective domain. Receiving may be defined as "sensitivity to the existence of certain phenomenon and stimuli, that is, the willingness to receive or attend to them".

2. Responding:

Responding refers to a behavior which goes beyond merely attending to the phenomenon; it implies active attending, doing something with or about the phenomenon, and not merely perceiving them.

3. Valuing:

Valuing implies "perceiving them as having worth or value. The three sub-categories of this objective are, acceptance of value, preference for a value and commitment.

4. Organizing:

This involves building up of organized system of values. The individual organizes a set of values such as truth, goodness and helping others, in determining their relationships and deciding their need and priority.

5. Characterizing:

In this category the individual displays the integration of values and it becomes a lifestyle with him. He gets these values organized into some kind of internally consistent system, which has controlled the behavior of the individual for a sufficient time. This category is concerned with one's view of the universe and one's philosophy of life.

Categories in the Psycho-motor Domain

Psychomotor domain concerns with the attainment of neuro-muscular coordination. Here the objectives which deal with manual or motor skills. As the level of coordination goes up, the action becomes more refined, speedy and automatic. Simpson, Kibler were working on this area for

systematically classifying educational objectives. R.H. Dave has given the classification of educational objectives under this domain 1969. The order of objectives in such a way that coordination is to be brought about among different parts of a given act or different acts performed with required articulation.

1. Perception

Skill of keen observation, skill of sensing a problem and skill of developing self-motivation are the specific objectives under this category.

2. Imitation

Skill of repeating actions and skill of reflective thinking are the specific objectives under this category.

3. Manipulation

Skill to operate upon with intelligence and manage cleverly are the specific activities that fall in this category.

4. Precision

Skill of experimentation, skill of precise movements and neat execution of skills are the activities which fall under this objective.

5. Articulation

Skill of logical thinking, reflective thinking, skill of mind and body and development of mathematical skill are specific objectives to attain this step.

6. Naturalization

As we practice a skill, in due course it becomes our natural habit. Skill of attaining success and skill of multiple actions are the specific activities under this objective.

TYPES OF TEST ITEMS

Achievement tests are conducted using different types of test items. Hence science teacher should master the skills of constructing test items. A constructor should take the following precautions while framing the test items.

- The items should cover as far as possible, the whole range of topics prescribed in the syllabus.
- No item or part of the item should be set which is outside the syllabus.
- More items should be set to test higher objectives. For this purpose items should be in the context of new situations.

- Items should provide clear direction to the students regarding the scope and length of responses
- The language of the items should be simple and within the easy grasp of students

A. Objective Type test item

An objective type test item is one in which the response will be objective. The responses are made fixed and hence the freedom of the respondent to deviate subjectively is restricted. Objective type test item can be broadly classified into two they are

1. Supply Type (Recall Type)

2. Selection Type (Recognition Type)

For supply type test items the respondents have to supply the response where as for the selection type they have to select the responses from among the given responses. Usually five different forms of objective type items are in vogue. They are true-false type, multiple choice types, matching type, simple recall type and completion type. Of these simple recall and completion type items are supply type and the other three belongs to the selection type.

a) True – False Items (Alternate Response Type)

A true – false. The respondent is asked to read a statement and indicate in some specific manner suggested, whether it is true or false, right or wrong, correct or incorrect, agree or disagree, yes or no. it tests the ability to discriminate between misconceptions and scientific truth. It is suitable for young children who have poor vocabulary. Large sample of subject matter can be covered within a short period.

b) Multiple choice Test Items (Changing Alternative type)

These are items presenting four or more responses in which one is either correct or definitely better than the others. The examinee has to find this out and record this in the manner required in the paper. Here the chances of guess work are minimized. Multiple choice items consist of two parts.

The fast part of the item is called stem presented in the form of a direct `question or incomplete statements. The second part of the item is called options or alternatives or responses, usually four or five in number among the options one is the keyed response and others are called distracters or misleads or foils. The stem gives data for the selection of the keyed response. The respondent has to read the stem and options and select the correct or best alternative. The different forms multiple choice test items in vogue are correct answer form, best answer form, multiple response form, etc.

Scoring Formula or Correction Formula for Multiple Choice Test Item

Scoring formula is used for reducing the chances of guessing. An item with four options has a chance of 25% guess work, which is rather very high. The formula based on statistical assumptions (Theory of Probability) is

$$S = R - \frac{W}{N-1}$$

Where

S = resultant score that a respondent deserves

R= Number of right responses

W= Number of wrong responses

N= Number of alternatives in an item

c) Matching Type Test Item

This is a modified version of the multiple choice test items. In fact matching type is an economized form of combining a number of multiple choice items in the same question- a condensation of several multiple choice items. It consists of two parallel columns, with each phrase, word or number or symbol in one column (Usually the first) being matched to a word, phrase or sentence in the other column. The items in the column for which a match is sought are called premises or stem and items in the column from which selection is made is called responses or options. The respondent is required to make some sort of association between each premise and each response in the two columns.

d) Simple Recall Type Test Items

This test requires the respondent to recall a response to a direct question. The typical response should be short preferably a word, a number or a small phrase. It eliminates the chance of guessing.

e) Completion Type Test Item

A completion type item consists of a series of sentences in which certain words are omitted and replaced by blanks. The respondents are expected to fill in the blanks with a word or a number or at the most a phrase. The probability of guess work is completely eliminated.

Advantages of Objective Type Item

1. As a large number of question are set, a wide coverage of the syllabus is possible.

2. Questions can be set which are designed to assess one particular educational quality. For example ability to apply.

3. Marking of such tests is objective and can be done speedily

4. They are more valid and reliable, since the response/ answers are definite

5. There is greater administration use and control

6. They have higher diagnostic value

7. They are less time consuming

Disadvantages of Objective Type Items

1. Such tests do not encourage verbal fluency or a student's ability to development argument

2. Chancing of guessing are high

3. An objective test is difficult and expensive to construct

4. Emphasis on testing superficial knowledge

5. Inefficiency in testing complicated skill.

6. Objective type items are often ambiguous, particularly for the better students.

7. Such tests when over used can have a negative effect on teaching, since they encourage the student to learn bits of knowledge rather than the whole.

B. Short Answer Type

A question requiring value points at the most may be defined as a short answer question. The term value points indicates a point to be given credit in the expected answer. Thus the length of the answer expected from a short answer question becomes very short. This diminishes subjectivity. In this way it is an improvement upon essay type question. Such question are of great helping having wide coverage of content and each item can be set to a test a definite objective. Because of this reason, a fair proportion of such questions should be included in a test.

Advantages of Short Answer Type

1. Questions of this form can be made stimulating

2. Students can be trained to select relevant information and present it in a few short, crisp Sentences

3. Short answers are easy to score

4. Reliability of scoring is high

5. Questions can cover a wider content area than easy type test items. It is possible to achieve a more expensive sampling in the short answer test than in the essay type test

6. The short answer test is especially useful in diagnosis. In part, this follows from the factor of extensive sampling

Disadvantages of Short Answer Type

1. It is more subjective than the objective type of items

2. Its excessive use may encourage a student to memorize facts and develop poor study habits

3. Mechanical scoring is not possible because of the subjectivity involved

C. Essay Type

According to dictionary by Good, essay test is a type test is a type of examination in which the subject or examinee is asked to discuss, enumerate, compare, state, evaluate, analyze, summarize or criticize and involves writing at specific length on a given topic involving the processed listed above. The essay type questions get its name from the manner in which the examinee responds. The term essay implies a written response which may consists of many sentences to several pages. The student is allowed freedom with respect to what his answer will include its wording length and organization.

Advantages of Essay Type

1. They are easy to construct

2. They can be used to test the student's language mastery, expression and organizational ability of a student

3. Chances of copying are minimal

4. A student's ability to use knowledge effectively can be assessed. It helps to develop a variety of skills. In addition to self-expression, students have to select pertinent material, organize this material into a coherent discussion and arrive at conclusions.

5. Guessing creates few problems

6. It encourages good study habits. A student preparing for an essay test is likely to highlight important units, look for relationships and exercise judgement in deciding points of emphasis.

Disadvantages of Essay Type

1. Subjective bias could creep in as these test are based on the examiner's moods and whims

2. Essay type encourages rote memory. The higher levels of the cognitive domain cannot be completely assessed by this method.

3. Sampling is limited. Adequate sampling is essential in good testing. But time limitations make it impossible to achieve good sampling in an easy test, assuming that a large body of subject matter has been covered.

4. There is danger of bluffing. The "gift of gap" can be encountered in written as well as in oral communication. It requires a discerning teacher to realize that nothing much is been said.

5. Essay type test are difficult to score. Besides no two teachers agree on the score given to a particular paper, the hand writing, presentation and so on. Thus score rating cannot be generalized.

CONSTRUCTION OF AN ACHIEVEMENT TEST (FORMATIVE EVALUATION)

Formative Evaluation

Formative evaluation is concerned with making decisions relating to forming or development of students as well as of the courses. It provides feedback at appropriate stages of the teaching learning process which helps in making changes in the curriculum, teaching strategies and the learning environment. Formative evaluation is done during the process of teaching learning with the following main purposes

- To monitor student learning for the purpose of providing individualized instruction
- To evaluate teaching effectiveness
- To evaluate courses and curricula with the purpose of modification, updating or replacement if necessary
- To evaluate curriculum materials
- To evaluate the learning environment with a view to improving it.

Since evaluation is an integral part of teaching and learning, students are observed in various situations continuously with a view to assess their level of achievement in terms of what have been expected of them. Written examination is one of the most commonly employed and widely acceptable techniques for measuring student's achievement. The construction of an achievement test has its importance in student evaluation.

Steps involved in the Construction of an Achievement test

1. Planning of the test
2. Preparation of a design
3. Preparation of the Blue print
4. Writing of Items
5. Preparation of the Scoring key and Marking scheme
6. Preparation of Question wise Analysis

Planning of an Achievement Test

A test is meant to serve many essential and important purposes. Therefore, it should be well planned and systematically developed. The first consideration which is of utmost importance is what the paper setter intends to find out through the achievement test. There are certain outcomes of learning which any teacher would like to realize by teaching every unit. The paper setter should aim at testing the achievement of these objectives. The next step is to determine the maximum time, maximum marks

and the nature of the test. These should be decided in terms of the nature and scope of the sub units or units involved in the testing.

Preparation of a design for the Test

After determining the board scope of the test, a design has to be developed in tune with it. The objectives, content, forms of questions, difficulty levels of items, scheme of options and the scheme of sections are the most important factors to be considered in such of a design.

i. Weightage to objectives

This indicate what objectives are to be tested and what weightage has to be given to each objective. Suppose the teacher wants to make his pupil acquire knowledge of certain facts, develop understandings of certain concepts and principals, the ability to apply these in new situations and the skill to perform certain task, while teaching the specific subject matter for which the test is being designed. He should decide the relative importance of each of these objectives after carefully studying the prescribed curriculum and in tune with the nature of the content covered. This step will ensure objective based ness to the test, which is required for scientific evaluation.

ii. Weightage to Content

The content refers to the topics where the achievement test is to be conducted. The content is taken for properly distributing marks in each unit by which proper coverage is made possible. This indicates the various aspects of the content to be tested and the weightage to be given to each of these aspects.

iii. Weightage to Form of Questions

This indicates the forms of questions, objective type, short answer type and essay type to be included in the test and the weightage to each form of questions. The setter should select those forms of questions that are suitable to the objectives and content to be tested.

iv. Weightage to difficulty level

It is desirable to construct the test with some questions with some questions as easy, some difficult and the others of average difficulty. A good test will contain some question which even the dull pupils can answer. Some items which only the bight one's can answer and many items that most can answer. This would help us to discriminate between the bright, average and the dull students.

v. Scheme of Options

Scheme of option means the option or choices given to the students to select certain questions. There may be external option as well as internal options. External option (overall option) means the

choice is given to the students for selecting a given number of questions only from among the total number of questions provided. For example the students are asked to attend any eight questions out of the given ten. But in case of internal options the choice is given within a question for example write an essay on one of the following.

vi. Scheme of sections

The test will be in three sections. Section A will contain only objective type items and Section B short answer and section C essay type items.

Design of Achievement Test in Biology

Standard: VIII   **Time: 1 hour**

1. Weightage to Curricular Objectives

No.	Objectives	Marks	%
1	Knowledge	4	16
2	Understanding	6	24
3	Application	8	32
4	Skill	7	28
	Total	25	100

2. Weightage to Content

No.	Objectives	Marks	%
1	Plant Cell	9	36
2	Animal Cell	7	28
3	Nucleus	9	36
	Total	25	100

3. Weightage to Form of Questions

No.	Objectives	No. of Question	Marks	*%*
1	Objective	10	5	16
2	Very Short Answer	8	8	24
3	Short Answer	5	7.5	32
4	Essay	1	4.5	28
	Total	24	25	100

4. Weightage to Difficulty Level

No.	Objectives	Marks	*%*
1	Easy	4	16
2	Average	17	68
3	Difficult	4	16
	Total	25	100

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Questions for Discussion and Reflection

1. Explain the steps included in a lesson plan nowadays.
2. State the criteria of a good lesson plan.
3. Present a format of a lesson plan.
4. Choosing a topic from IX Std. Biology content develop a lesson plan, indicating the different steps involved.
5. What do you mean by 'unit plan'? Explain the steps involved in developing a unit plan.
6. Discuss in detail the classification of cognitive domain objectives.
7. Discuss in brief the classification of affective and psycho-motor domain objectives.
8. Discuss Bloom's Taxonomy of Educational objectives and its importance.
9. Mention the various types of tests employed in assessing achievement in biology.
10. Discuss briefly the steps involved in the construction and standardization an achievement test in biology.

Unit- III   Practising the teaching skills in Biological Science

Objectives:

- To obtain knowledge on the meaning of Teaching.

- To understand the teaching skills.

- To analyse the major steps in teaching a mini-lesson.

- To explore, observe and feedback on integration of teaching steps in mini-teaching

INTRODUCTION

An educational institution performs a significant function of providing learning experiences to lead their students from the   darkness of ignorance to the light of knowledge. The key personnel in the institutions who play an important role to bring about this transformation are teachers. As stated by NCTE (1998) in Quality Concerns in Secondary Teacher Education, ‒The teacher is the most important element in any educational program. It is the teacher who is mainly responsible for implementation of the educational process at any stage. This shows that it is imperative to invest in the preparation of teachers, so that the future of a nation is secure. The importance of competent teachers to the nation's school system can in no way be overemphasized. There is widespread consensus, however, that our education systems are failing to adequately prepare all students with the essential 21st century knowledge and skills necessary to succeed in life, career and citizenship.

MEANING OF TEACHING

Teaching includes all the activities of providing education to other. The person who provides education is called teacher. The teacher uses different method for giving best knowledge to his students. He tries his best to make understand students. His duty is to encourage students to learn the subjects.   Teaching   means interaction of   teacher   and   students.   They participate   for their mutual benefits. Both have their own objective and target is to achieve them.

Teaching skill is a group of teaching acts/ behaviours intended to facilitate student's learning directly/ indirectly.

Nature and characteristics of teaching

1. The main character of teaching is to provide guidance and training.

2. Teaching is interaction between teacher and students.

3. Teaching is an art to give knowledge to students with effective way.

4. Teaching is a science to educate fact and causes of different topics of different subjects.

5. Teaching is continues process.

6. Teacher can teach effectively, if he has full confidence on the subject.

7. Teaching encourages students to learn more and more.

8. Teaching is formal as well as informal

9. Teaching is communication of information to students. In teaching, teacher imparts information in interesting way so that students can easily understand the information.

10. Teaching is tool to help student to adjust himself in society and its environment.

Characteristics of Teaching Skill

1. Teaching skill is a set of strictly overt or observable behaviours.

2. Purely cognitive skills such as problem solving is not considered as teaching skill.

3. Teaching skills have three basic components viz., perception, cognition and action.

4. Teaching skills have three dimensions viz., Non-verbal behaviour, openness, nature of moves in teaching to which skill belongs.

UNDERSTANDING MAJOR TEACHING SKILLS

Teaching skills would include providing training and practice in the different techniques, approaches and strategies that would help the teachers to plan and impart instruction, provide appropriate reinforcement and conduct effective assessment. It includes effective classroom management skills, preparation and use of instructional materials and communication skills.

1. Introducing

This is an important skill required for a teacher. Well begun is half done is a saying which indicates the importance of introducing a lesson. It is the duty of a teacher to bring the students into the classroom mentally. The skill is intended for making effectiveness in introducing of the content. This is always done at the start of a class. Here teacher gives a brief introduction about the lesson in order to pre-dispose the pupil's mind to it.

There are many ways to present an introduction. Here are a few:

- o Asking questions to get the students thinking about the topic of the lesson.

- o Showing pictures that relate to the lesson topic.

- o Telling a story to show the importance of the topic.

- o Bringing in real objects related to the lesson.

2. Explaining

Teaching is not primarily telling. It's helping other people learn. That means the focus is on the learners, not the teacher. People learn best through experiencing something themselves, so when you are striving to teach something, you are constantly trying to Get into the shoes of the learners so that you can better understand where they are and what they need from you to learn the subject understudy.

Explaining can be defined as an activity to bring about an understanding of a concept, principle etc. it is an activity to fill the gap in someone's understanding.

In classroom the teacher explains ideas and concepts. It is the most commonly used skill and is the essence of instruction. Explanation is a key skill. Generally, the skill of explanation is complex Explanation is to explain or to give understanding to another person. It leads from the known to the unknown, it bridges the gap between a person's knowledge or experience and new phenomena, and it may also aim to show the interdependence of phenomena in a general sable manner. It assists the learner to assimilate and accommodate new data or experience.

In a classroom, an explanation is a set of interrelated statements made by the teacher related to a phenomenon, an idea, etc. in order to bring about or increase understanding in the pupils about it. The teacher should practice more and more of desirable behaviours like using explaining links using beginning and concluding statements and testing pupil understands behaviours like making irrelevant statements, lacking in continuity, using inappropriate vocabulary, lacking in fluency, and using vague words and phrases as far as possible.

A class in not homogeneous group. Some pupils are intelligent some have normal intelligence, some are mature and others are immature. But the teacher has to impart knowledge to all. To present the subject matter in the simplified form before the pupils and making it acquirable is called the skill of explanation. It is necessary in all the subjects. In its absence the presentation of the subject matter is

not possible. In the skill of explanation, such words are used in the statements by which the statements exhibit the clarity of their meanings.

The explanation serves two purposes: (1) to introduce the subject by giving some background about its usefulness and application; and (2) to describe the subject in a simple, complete, and tantalizing way. The explanation should create a desire to become proficient in the subject under study

The components of skill of explaining involved

- Clarity

- Continuity

- Relevance to content using beginning and concluding statements

- Covering essential points

- Simple

- Relevant and interesting examples appropriate media

- Use of inducts, deductive approach, it can be functional, causal or sequential

Characteristics of effective explanation

- Coordination in Statements. Coordination in the statements used during the explanation is very essential; otherwise there will be all hotch- potch.

- Relevant Statements. While presenting the subject matter, the concerned statements should be relevant.

- Fluency in Language. The teacher should use fluent language so that the pupils may listen and understand his thoughts.

- Connecting Links. The use of words, idioms or connecting links such as 'therefore' as a result of etc. is essential to link the different thought or statements.

- Clear Beginning Statement. Before starting any explanation, the teacher should make the pupils aware of what he is to teach on that day through a clear beginning statement.

- Use of proper Words. The teacher should use proper words for explaining an object or an event otherwise he would be in a state of confusion

3. Questioning

Successful teaching highly dependent on questioning technique employed in the teaching sessions. Questioning is an important teaching skill that a teacher must learn. The teacher should learn to ask suitable, appropriate and meaningful questions. Questioning is definitely a skill. We can very easily answer a question but it is too difficult to ask a question.

A question is any sentence which has an interrogative form or function. In classroom settings, teacher questions are defined as instructional cues or stimuli that convey to students the content elements to be learned and directions for what they are to do and how they are to do it. Questioning promotes involvement, initiates thinking, creates motivation and enhances learning.

Effective questioning is a real compliment to the instructional skills. It shows the ability to understand the student's real needs. It shows that for meaning that's deeper than the spoken message. Effective questioning is a powerful, learned skill.

For students, questioning strategies help to categorize and anticipate exam questions, allowing for more effective preparation. The strategies are also useful for study groups, focusing efforts and allowing members to test each other. They improve the student's ability to clarify, reorganize, and accurately explain new information. Questioning also aids in self-assessment and self-monitoring.

Basis of Questioning skill

Questioning skills refer to one's ability to formulate and respond to questions about situations, objects, concepts, and ideas. Questions may derive from oneself or from other people.

There are two levels of questions:

1. Low-level questions refer to questions that require one to recall information that has been registered in memory. Low-level questions operate on the level of knowledge, drawing from one's knowledge base of a subject.
2. The High-level questions encompass questions that require one to process information rather than simply recall it. High-level questions operate on one's ability to comprehend, apply, analyze, synthesize, and evaluate information.

Questioning techniques

Good questions are essential to effective communication between: the teacher and the student: the teacher who lack the skill to effectively question their student create disinterest and boredom on the part of the student. They also ignore a fine opportunity to open communication lines for determining the effectiveness of the lesson. Good questions expand on central thoughts, develops the subject, and not on minor, nice-to-know points. Let us look at some rules for asking questions.

• Distribute questions at random. Do not always ask the same student or those sitting in a particular area. Ask questions of the entire class to promote thinking in all students and get them involved.

•Acknowledge all answers to ensure incorrect or vague answers are clarified.

•Don't use catch or trick questions. Students will not participate and you could possibly lose them if they feel humiliated.

•Allow enough time for the student to think about and give an answer. Do not waste time waiting if the student clearly does not know the answer, but do not cut the student off before ample time is given for the complete though process or answer period.

•Begin questions with the words that require thoughtful answers, such as, "Why, When, How, What," etc. Stay away from questions that can be answered with a simple yes or no. This will help stimulate and even guide students thinking.

•Avoid frequent group or choral responses. This method provides answers that are often unintelligible and errors that are hard to pick up.

•Do not waste time "pumping" a student. If the trainee does not know the answer, either offer an explanation or ask the question of another student.

4. Skill of closure

This skill is useful for a teacher to close his teaching properly. The teacher is to summarise all the teaching during the period and provide opportunities for the students to correlate the learnt matter with the past and future knowledge. This is to be done by statements or by asking questions.

5. Skill of Reinforcement

This skill is the most important one than other teaching skills. Reinforcement, the term implies the use of the technique for influencing behaviour of individuals in desired direction. The concept of reinforcement is based on the hedonistic principles, which envisages that all individuals tend to repeat the pleasant experiences and avoid unpleasant ones. The skill is being used to utilize good behaviours of the learners and to avoid the undesirable behaviours of the learners. The teacher would like the student's desirable behaviours and criterion responses to be retained and undesirable behaviours to be eliminated. For reinforcing student's desirable behaviours and criterion responses he uses positive verbal and non-verbal reinforcers. These reinforcers not only strengthen the student's desirable behaviours but also develop confidence in them. Besides, they enhance their positive self-concept. Absence of positive reinforcers for student's desirable behaviours may erode their confidence and lead to poor self-image. Positive reinforcements encourage students to participate actively in classroom interactions. It stimulates them to achieve more, thereby, creating a sense of achievement.

Skilled use of reinforcers helps a teacher to promote student's learning. The skill of reinforcement refers to the effective use of reinforcers. It, can therefore be defined as 'the effective use of reinforcers to modify student's behaviour in the desired direction".

6. Skill of varying the stimulus

Varying the stimulus is described as a deliberate change in the behaviours of the teacher in order to sustain the attention of the learners throughout the lesson. The variation in the stimulus helps in avoiding monotony and in generating interest among the students which in turn makes learning effective.

Learning in the classroom depends, to a large extent, on the attention of the students on the learning task. It is therefore, essential for the teacher to secure and sustain student's attention for making his teaching effective. Continuous use of the same stimulus or activity for longer period induces inattention. The inattention is caused in two ways: one is continued focus of the students on the same stimulus for a long time restricts his postural mobility which leads to fatigue. Next is the continued use of the same stimulus for longer duration introduces the element of monotony, which brings in dullness. This will be further aggravated because of the short span of student's attention. Their attention tends to shift from one stimulus to another frequently. They find it difficult to attend to one

stimulus for more than a few minutes. The problem of inattention is a challenge to t he teacher, unless he is in a position to secure and sustain student's attention. It is therefore, essential for the teacher to secure and sustain student's attention towards the topic of the lesson.

One of the significant ways to secure and sustain students' attention is to introduce the elements of variation in teaching. The variation can be introduced in several ways depending upon the teaching activity. Appropriate variation in different dimensions can help a teacher to secure and sustain students' attention. The set of teacher behaviours that tend to secure and sustain student's attention in teaching learning situation in the classroom constitutes the skill of varying the stimulus.

Some of the components of varying the stimulus are as follows:

- ❖ Movement
- ❖ Gestures
- ❖ Change in voice
- ❖ Focusing
- ❖ Change in interaction pattern
- ❖ Pausing
- ❖ Student's physical participation
- ❖ Aural visual switching

7. Non- verbal cues

Non-verbal communication has been defined as communication without words. They are usually made with the help of the movements of the eye, hand, head, body, and facial expressions. Facial expression will lead to encourage pupil to participate actively in learning situations. Positive non-verbal cues include smiling, nodding the head, a delighted laugh, patting on the shoulder, asking the students to clap. The students can be asked to clap their hands for correct answers given by a student.

Disapproval without suing words has the effect on negative reinforcement. Negative non-verbal cues include staring, looking angry, shaking the head, beating, caning, bruising, raising the eyebrows, tapping foot impatiently and walking around etc.

8. Fluency in communication

Communication in general is a process of sending and receiving messages that enables humans to share knowledge, attitude, and skills. Communication is a series of experiences of hearing, seeing, smelling, tasting, and touching / feeling. Although we usually identify communication with speech, communication is composed of two dimension: verbal and non-verbal. Both verbal and non-verbal plays a significant role in teaching learning process. Verbal communication is divided into Intra verbal: intonation of word and sound and extra verbal: implication of words and phrases, semantics.

The teacher uses knowledge of effective verbal and nonverbal communication techniques as well as instructional media and technology to foster active inquiry, collaboration, and supportive interaction in the classroom.

MINI-LESSON

- It is a teaching training technique for learning teaching skills.

- It employs real teaching situation for developing skills and helps to get deeper knowledge regarding the art of teaching.

- A mini lesson is a basic precursor to a bigger or broader topic. It is a short lesson that can be taught in just a few minutes, but it can benefit the students in lessons to come.

- For instance, you may teach a basic topic like fact versus opinion by sharing a variety of statements and having students tell you if the statement is fact or opinion.

- This practice may take only 20 minutes, but teaches a valuable lesson to the students and sets the foundation for further discussion of writing styles or reading concepts.

PRACTISING A MINI-LESSON WITH MULTIPLE TEACHING SKILLS

Name :   xxxxx

Subject: Biology

Topic :   External features of a Bird

Date :

Time :

Objectives:

- Acquires knowledge of the technical terminology used to describe the external characters of a bird.

- Understands the significance of the various external features of a bird.

- Applies the knowledge in identifying birds.

- Develops skills in drawing and labelling the external characters of a bird.

- Appreciates the flying minstrels of nature.

Materials

- A pigeon (specimen)

- Stuffed birds

- Bird photographs

- Chart – external characters of pigeon

Content Outline

- A bird is with a bundle of feathers with different colouration, boat shaped contour with flight adaptation.

- Birds have fore limbs modified into winds. Birds are bipeds.

- The body of the bird is divided into four regions: head, neck, trunk (body) and tail. The head consist of bead which is modified according to feeding habits.

- Lateral eyes with well developed vision.

- External ear opening completely covered by feathers.

- Neck is highly mobile.

- Entire body is clothed with feathers. The two wings and two legs are attached to the middle of the body

- Tail varies in length and colour with the function of balance and direction.

Teaching skills

Important skills are as follows:

1. Introducing

A bird is an animal with a bundle of feathers with different colouration, boat shaped contour with flight adaptation

2. Explaining

Birds have fore limbs modified into winds. Birds are bipeds. Birds are divided into two types: a) Flying birds. E.g. Pigeon. b) Running birds. E.g. Ostrich. The body of the bird is divided into four regions: head, neck, trunk (body) and tail. he head consist of bead which is modified according to feeding habits with absence of teeth. Lateral eyes with well-developed vision. Nostrils in the dorsal aspect of the upper beak present proximally. External ear opening is present completely covered by feathers. Tongue is modified according to the feeding habits. Neck is highly mobile (rotation 30◦). Entire body is clothed with feathers. The two wings and two legs are attached to the middle of the body. Legs are with 4 claws and modified according to locomotion and feeding. Tail varies in length and colour with the function of balance and direction. Cloaca is present at the base of the tail.

3. Questioning

How are the forelimbs modified?

The legs of the Ostrich are strongly built because _____.

Mention the different types of tails found in birds.

The external ear openings in birds cannot be seen because _____.

4. Varying the stimulus

There can be variation of teachers' position in the classroom while he is teaching. Variation in voice represents another dimension. Use of media like Bird photographs, specimen and Chart showing external characters of pigeon provides yet another area of vibration. There can also be variation in the classroom interaction pattern.

5. Non verbal cues

Positive non-verbal cues include smiling, nodding the head, a delighted laugh, patting on the shoulder, asking the students to clap etc can be used while the class is going on.

The students can be asked to clap their hands for correct answers given by a student.

6. Reinforcement

Positive verbal reinforcers like saying good, very good, excellent, fantastic, splendid, right, yes, correct, fine etc can be used in the class for the desirable behavior of the students like being calm, clarifying their doubts, answering the questions, drawing the pictures on the board etc.

7. Closure/Summing up

The topic will be summed up as a bird is with a bundle of feathers with different colouration, boat shaped contour with flight adaptation. The body of the bird is divided into four regions: head, neck, trunk (body) and tail. The beaks and limbs are modified according to the feeding habit of the bird. Mention the names of birds that you know? Observe and examine the pigeon and locate its parts. Draw the diagram of a pigeon step by step and label the parts.

8. Fluency in communication

The topic will be discussed by explaining and interacting with the students by asking questions and making the students to observe the specimen, photos and charts. The teacher uses knowledge of effective verbal and nonverbal communication techniques as well as instructional media and technology to foster active inquiry, collaboration, and supportive interaction in the classroom.

OBSERVATION AND FEEDBACK ON THE PRACTICE OF INTEGRATION OF TEACHING SKILLS

The complex teaching act can be split into component skills, each simple, well defined and limited. These skills can be identified, practiced, evaluated, controlled and acquired through training.

McIntyre et.al (1977) defined teaching skill as a set 'set of related teaching behaviours which is specified the achievement of specified types of educational objectives'.

Passi (1976) defines teaching skill as 'a group of teaching acts or behaviours intended to facilitate pupils learning directly or indirectly'.

The teaching skills developed through training are to be observed by the peers/ teacher educators. Immediate feedback may be given to the student-teachers individually using the feedback forms.

Integration of teaching skills feedback form:

Name of the student teacher: Duration: 20 minutes

INTEGRATING SKILLS IN MINI TEACHING (Assessment by Peers/Teacher Educators)				
Teaching skills	**AVERAGE (SCORE 1)**	**GOOD (SCORE 2)**	**VERY GOOD (SCORE 3)**	**TOTAL**
Introducing				
Explaining				
Questioning				
Varying the stimulus				
Non verbal cues				
Reinforcement				
Closure				
Fluency in Communication				
Total				

Range of scores:8-24

 OVERALL ASSESSMENT OF MINI-TEA CHING

AVERAGE _____   GOOD _____ VERY GOOD_____

Interpretation of scores

Average   : 8

Good   : 9-16

Very Good   :17-24

                                         Signature of the Observer

UNDERSTANDING MAJOR STEPS IN TEACHING A MINI-LESSON

Instructional Procedures and Activities: Provide a detailed discussion of the mini lesson (15-20 min) using the following headings:

Motivation

This step is considered to be the preparatory step, wherein the teacher is trying to prepare the minds of the students ready to receive the subject matter. Hence, this step identifies the mental readiness of the students. The teacher will be able to check the students' entering behavior before he starts teaching the lesson. Thus testing students' previous knowledge develops interest in the minds of students and helps to maintain curiosity of the students.

Presentation

It is the key step and only through which the actual process of teaching is going to take place. Here the aims of the lesson should be stated clearly and the heading shold be written on the blackboard. We have to provide situation for both the teacher and the students to participate in the process of teaching and learning. Our ultimate aim of the presentation is to make the concepts understandable to the students. Therefore, use of simple language is recommended. Appropriate and specific examples and illustrations of the concepts will make the understanding better. The interest of the students on the subject matter should be maintained continuously by the way of asking questions from time to time in this stage. Use of instructional aids like charts, audiovisuals, specimen etc in an appropriate manner is strongly recommended during presentation.

Interaction

Interaction in the classroom will be done by speaking, sharing opinion, listening to others and establishing a mutual consent. Students in the learning process support when they are done by interacting directly with the object of learning and communicating in groups and also provide the ability of gaining mastery over the subject.

Reflection

Students will be given opportunity to express their ideas, experiences and opinions. Students will be cooperative, respect the opinions of others, responsible, honest on information receiving and able to give decisions.

Summing-up

This stage is meant for the teachers to know whether the students have grasped and understood the concepts taught or not. This can be achieved by reviewing the lesson and by giving assignments to the students. Only through this step achieving closure is possible.

PRACTICING A MINI-LESSON WITH FIVE TEACHING STEPS

INSTRUCTIONAL PROCEDURES AND ACTIVITIES: Provide a detailed discussion of the mini lesson (15-20 min) using the following headings:

INTRODUCTORY ACTIVITIES

1. *Motivation* **(Skill of Introduction – use of previous knowledge)**

The teacher asks the students questions related to their knowledge of birds, as follows:
- o What do you know about birds?
- o Do you how birds are flying?
- o Give the names of birds that you know?
- o Name the bird which do not fly?

DEVELOPMENT ACTIVITIES (*Presentation, Interaction, Reflection*)

2. Presentation
- o The teacher announces the topic as, "External features of a bird" and writes it on the black board. (**Skill of Explaining – Cognitive link**).
- o The teacher ask the student to catalogue the birds known by them**. (Recalls)**
- o The teacher ask the students to Observe and name the stuffed birds shown to them.(**Recognizes**)
- o Birds have fore limbs modified into winds. Birds are bipeds.

- o Birds are divided into two types: a) Flying birds. E.g. Pigeon. b) Running birds. E.g. Ostrich. The body of the bird is divided into four regions: head, neck, trunk (body) and tail.

- o The teacher uses aids like chart and specimen to show the body of the bird and to observe the streamlined body contour and identify the four regions. (**Skill of Explaining – uses of Illustrations**)

- o The head consist of bead which is modified according to feeding habits with absence of teeth.

o Lateral eyes with well developed vision.

o Nostrils in the dorsal aspect of the upper beak present proximally.

o External ear opening is present completely covered by feathers.

o Tongue is modified according to the feeding habits.

o Neck is highly mobile (rotation 30◦).

o Entire body is clothed with feathers.

o The two wings and two legs are attached to the middle of the body.

o Legs are with 4 claws and modified according to locomotion and feeding.

o Tail varies in length and colour with the function of balance and direction.

o Cloaca is present at the base of the tail.

3. **Interaction:** (**Skill of Questioning –specificity**)

o Give some examples for flying and running birds.

o How are the forelimbs modified?

o The legs of the Ostrich are strongly built because _____.

o Mention the different types of tails found in birds.

o We cannot see the external ear of the bird? Why? The teacher points out by lifting the features that the external ear openings in birds cannot be seen because it is completely covered by feathers.

4. **Reflection**: **(Skill of Stimulus Variation – Audio visuals)**

o The teacher ask to student to Observe and identify the birds from photographs and drawing. (**Identifies**)

o The teacher now shows the chart illustrating different regions and asks pupils to identify the various parts of the bird.(**identifies**)

o The teacher ask the students to observe the specimen and locate the upper eyelid, the lower eyelid and nictitating membrane. (**locates**)

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o The teacher points out the neck which is highly mobile (rotation 30◦). Then teacher ask the students to examine the neck of the bird. **(Recognises)**

o Observe the diagram of the pigeon and compare it with the actual specimen**. (Comparing)**

5. Concluding Activities (*summing Up/Closure*)

The bird is an animal with a bundle of feathers with different colouration, boat shaped contour with flight adaptation. The body of the bird is divided into four regions: head, neck, trunk (body) and tail. The beaks and limbs are modified according to the feeding habit of the bird. Observe and examine the pigeon and locate its parts. Draw the diagram of a pigeon step by step and label the parts.

EVALUATION AND ASSESSMENT

List how the pre-service teachers (peers) will demonstrate their learning. That is, how will you know the mini-lesson has been successful?

Distribute a copy of both Assessment formats (skills & steps) to the pre-service teachers (peers)

OBSERVATION AND FEEDBACK ON INTEGRATION OF TEACHING STEPS IN MINI-TEACHING

Name of the Student teacher: Duration: 20 minutes

INTEGRATING THE STEPS IN MINI TEACHING (Assessment by Peers/Teacher Education)				
TEACHING STEPS	**AVERAGE (SCORE 1)**	**GOOD (SCORE 2)**	**VERY GOOD (SCORE 3)**	**TOTAL**
Motivation				
Presentation				
Interaction				
Reflection				
Summing Up				

Range of scores: 5-15

OVERALL ASSESSMENT OF TEA CHING STEPS

AVERAGE _____   GOOD _____ VERY GOOD_____

Interpretation of scores

Average : 5

Good : 6-10

Very Good :11-15

Signature of the Observer

CONCLUSION

Teaching means interaction of teacher and students. They participate for their mutual benefits. Both have their own objective and target is to achieve them. Teaching skills would include providing training and practice in the different techniques, approaches and strategies that would help the teachers to plan and impart instruction, provide appropriate reinforcement and conduct effective assessment. Thus teaching skills can be identified, practiced, evaluated, controlled and acquired through training.A mini lesson is a basic precursor to a bigger or broader topic. It is a short lesson that can be taught in just a few minutes, but it can benefit the students in lessons to come. This practice may take only 20 minutes, but teaches a valuable lesson to the students and sets the foundation for further discussion of writing styles or reading concepts.

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Questions for Discussion and Reflection

6. Write the meaning of 'teaching'.

7. Give the Characteristics of Teaching Skill.

8. Explain any three teaching skill in detail.

9. Write a mini-lesson with five teaching skill for Class IX in the Science subject.

10. Critically analyse the Skill of varying the stimulus.

Unit –IV Methods of Teaching Biological Science

Objectives

After the completion of the unit, the learners will be able to:

1. explain the various methods of teaching Biological Science
2. identify the different teacher centered methods of teaching
3. analyse the recent trends in teaching and learning methods
4. adopt the small group interactive learning methods
5. discuss the various learner centered methods

Introduction

Teaching is an art and there are some born teachers, but majority of the teachers that we have today are not successful in delivering their acquired knowledge to their learners, and those teachers who have no inherent flair for teaching are unable to arouse in their learners. The flair for teaching and the ability to get acquainted with the trends and developments in teaching learning pedagogy can be improved by knowledge of different methods of teaching. A teacher has got freedom to choose any of the method of teaching according to his knowledge, interest and experience. A single method is not preferred for all topics as the best one, but the combination of methods can be used as more effective.

Methods of Teaching in Science

'Science is not only knowledge about universe; it is also a way of obtaining knowledge'. Each teacher may find ways in which he could get the best results. Etymologically method is derived from Greek word 'Methodos' which means pursuit of knowledge. Method refers to the way of delivering knowledge and transmitting scientific skills by a teacher to his pupils. Methods of teaching science can be classified into two types

1. Teacher –centred
2. Pupil Centered
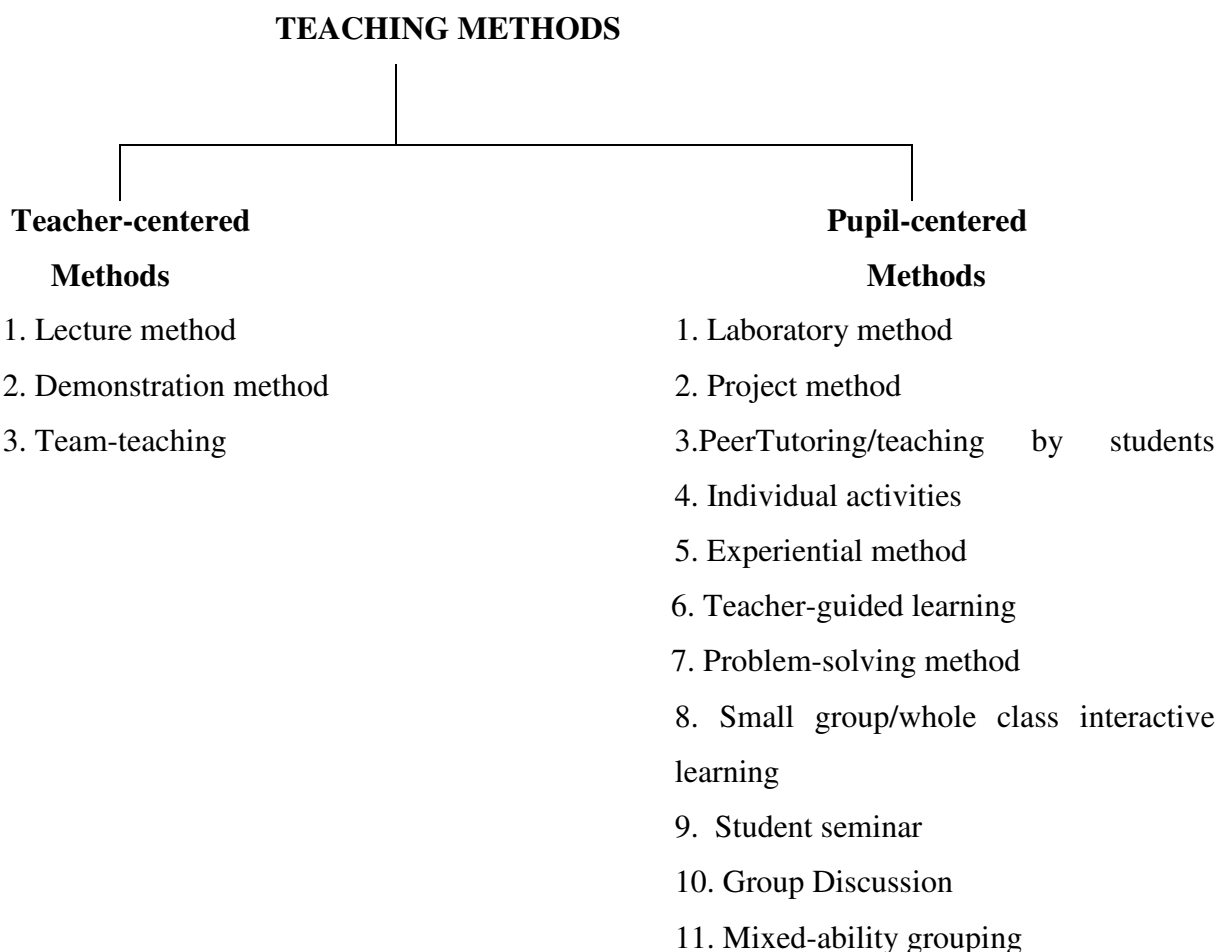

Teacher Centred Teaching

The teacher –centered teaching is mainly expository in type in which the focus is on telling, memorization and recalling information. The students are passive recipients of knowledge. The teaching environment is very much formalized and the teacher occupies a central position in the classroom.

Pupil-centered Teaching

In the pupil centred teaching the whole teaching learning process is geared to the needs, requirements, capabilities and interest of the pupils. The purpose is to develop the learner's skills and abilities in independent learning and problem solving.

Categories of "Teaching Methods"

We shall deal with some of the commonly used methods of teaching Biological science. Generally teaching methods can be categorized as follows:

TEACHING METHODS

Teacher-centered Methods	**Pupil-centered Methods**
1. Lecture method	1. Laboratory method
2. Demonstration method	2. Project method
3. Team-teaching	3.PeerTutoring/teaching by students
	4. Individual activities
	5. Experiential method
	6. Teacher-guided learning
	7. Problem-solving method
	8. Small group/whole class interactive learning
	9. Student seminar
	10. Group Discussion
	11. Mixed-ability grouping

Criteria of Choosing the Method of Teaching

There is no such thing as the best method of teaching. A method 'best' for one teacher and applicable for a class under some conditions may totally be a failure for another teacher to teach the same class or other class under the same or different conditions. Teaching methods are like the tools in the kit of a carpenter. An efficient carpenter chooses his tool from the kit, depending upon the purpose, availability of time and helpers, and the nature of wood he had to deal with. Similarly the teacher has to select the method of teaching, based on the following factors.

1. Level of the class

e.g. For lower classes, lecture method is highly inappropriate, pupil-centered methods in the class-room setting will be appropriate.

2. Size of the class

For large classes teacher-centered methods are preferable. In higher classes, when the strength of students is more, pupil-centered methods in socialized classroom setting are more preferable.

3. Availability of time

When the time available is short, lecture method or demonstration be employed in preference to methods demanding socialized classroom-setting.

4. Availability of materials and facilities

Depending on the resources available, methods involving instructional technology could be used.

5. Nature of the topics to be taught

Choice of selection of teaching method is also influenced by the nature of the topic to be dealt. On the whole it could be said that teacher should try to select the method which facilitates for greater pupil-participation and individualized learning with the optimum use of available resources in the school.

B. TEACHER-CENTERED METHOD

I. LECTURE METHOD

This is a method generally followed in colleges and schools with big classes. In this method only the teacher talks: the students are passive listeners and they do not take any active part in the development of the lesson. Student listen, get bored, yawn and sometimes go to sleep as well. The teacher acts like a chatterbox, talking and talking all the time without ascertaining whether the students are following him or not. The students are spoon fed and their powers of observation and reasoning the exercise of which are not essential in learning process are not stimulated. Perhaps this method originated in very ancient times, when printing press was not invented and hand-written manuscripts were very few, hardly for the use of teacher. The lecture is one of the most basic pedagogic tool which is generally followed in schools and colleges, here the teacher talks and the pupil listens. Despite the fact that this method does not cater for realizing the aims of teaching science and is not in accordance with the principles of teaching, it is the most dominating method today and is liked by majority of teachers. The lecture is an exposition of knowledge, facts, principles or other information which a teacher wishes to present to her students. In short a lecture means one person addressing many students.

When to use lecture method?

Although lecture method has more disadvantages than advantages yet we cannot reject it outright. This method may not be very helpful for teaching lower classes. However, it can prove very successful for higher classes when we want to:

    i.   Cover the syllabus quickly.

   ii.   Introduce some new and difficult topics.

  iii.   Arrive at generalization from the facts students already possess.

  iv.   Impart factual knowledge.

   v.   Explain certain difficult points.

  vi.   Revise and summarise the lessons already learn.

 vii.   Give some background material for a topic.

So lecture method can be more useful in the above circumstances.

Planning the lecture

Who is your audience? – WHO

What is the purpose of your lecture? – WHY

How much time is available? – HOW LONG

What is your subject matter? – WHAT

Phases of a lecture

There are three phases of a lecture. They are preparatory phase, development phase and consolidation phase.

I. Preparatory Phase (Warm up Phase)

In this phase students are to be prepared to receive the contents of a lecture. Variety of formal and informal techniques can be used to prepare the students or to arouse their level of motivation or curiosity. In the classrooms normally teacher relates the contents of the lecture to the previous knowledge of the students.

II. Development Phase

This is the most important phase of the lecture. The entire body of the lecture is delivered in this phase only. Some activities of this phase are using analogies, giving suitable examples, proper illustration, comparison and differentiation, use of proper aids and in recent time's proper use of audio visual technology in classrooms.

III. Consolidation Phase

This is the end part of the lecture. Here the lectures pin point the important aspects of the lecture once again by summarizing. Now proper reviewing can be done to check the level of understanding by asking questions. Provide assignments, feedback and can relate the topic to the future learning content.

Skills associated with good lecture

1. Use of body language
2. Use of communication boosters
3. Varying the stimulus
4. Voice modulation
5. Use of proper language

Area of application of Lecture method

- To introduce new and difficult topic
- To revise the topics already covered
- To give some background of a certain topic
- To present the life histories of great scientist and their struggles and achievement in life
- To explain about certain procedures
- To impart factual knowledge
- To explain too deep theoretical factors

Merits:

1. **Attractive and concise**: It is very attractive, concise and very easy to follow without much botheration on the part of the teacher and the taught. The teacher feels secure and satisfied.
2. **Economical**: It is economical because no laboratory is needed and one teacher can teach a large number of students at a time.
3. **Speedy:** Lengthy syllabi can be covered in a short time by this method.
4. **Useful for Factual Information:** Factual information and historical anecdotes can be easily imparted by this method.
5. **Useful for Logical Sequence:** The logical sequence of the subject can be easily maintained. Since the teacher has to plan the lectures in advance, there cannot be gaps or over-lapping in the development of the lesson.
6. **Time Saving:** In this method there is no student activity, no project no demonstration, therefore there is hardly any wastage of time and lesson can go at top speed.

7. **Inspirational Value:** Good lectures have high inspirational value. Sometimes students pick up motivation, inspiration, instigation, zeal, ambitious ideas and do something creative in life.

Demerits

1. **Memory based:** It lays too much stress on memory work, experimental work is neglected and the power of observation of a child is seldom exercised.

2. **Spoon feeding:** It does not encourage independent thinking, discovering, exploring and taking initiative. It is a type of spoon feeding and all the faculties of the child are not allowed to develop.

3. **Teacher centered:** When the teacher lectures, there is no guarantee whether the pupils are concentrating and understanding all what the teacher is teaching.

4. **Too rapid:** the rate of imparting knowledge and information may be too rapid and the students may not get necessary connections of thought.

5. **Un - psychological:** In this method the teacher is active participant while the students are passive listeners, which is opposed to the principles of psychology. The interests, aptitudes and capabilities of the pupils are ignored.

6. **No inculcation of scientific attitude:** It does not help to inculcate scientific attitudes and training in scientific method among the pupils.

7. **No learning by Doing:** There is no place for learning by doing in this method. The very root of science is cut when practically nothing is done, for science is something which must work.

8. **Authoriatarian:** This method is undemocratic the pupils are encouraged to depend upon one authority i.e., the teacher. They cannot challenge or question his verdict.

9. **No critical Thinking:** It fails to develop critical thinking and reasoning power, so essential for democratic living.

   An informal talk, punctuated by suitable by suitable questions and made spicy by the use of audio visual aids providing a more vivid picture, will be able to secure sustained attention of the pupils and will result in considerable amount of learning.

10. **Useful for higher classes:**

    This method may not be very helpful for teaching lower classes.   However, it can prove very successful for higher classes i.e. tenth, eleventh, and twelfth classes when we want to;-

    - Cover the syllabus quickly.

- Introduce some new and difficult topics, such as evolution of man, discovery of natural magnet etc.

- Arrive at generalizations form the facts, gathered by students.

- Impart factual knowledge.

- Explain a practical demonstration which is to be done or which has been done.

- Revise and summarize the lessons already learnt.

- Give some background material for a topic.

- Give biographical sketch of a scientist or relate some of his anecdotes.

11. Any lecture has to be planned well in advance. Selecting the content, objectives of teaching the content, structuring the lecture, summarizing at every step and also at the end must all be planned.

12. **Notes-taking:** while making use of this method, it will be beneficial if the teachers give some training in the art of notes taking while the lecture is on.

13. **Student's Question:** At the end of the lecture, time should be given for the students to ask questions ad such questions be answered by the teacher without any hesitation. In this way the teacher can make sure whether the students have understood the lesson or not.

Conclusion

Lecture technique is useful for communicating information to students. As there is little opportunity for getting feedback from students, it is a less effective method of teaching. In science, the laboratory work and problem solving exercises help the teacher to find out the effectiveness of lecture.

II. DEMONSTRATION METHOD

This method includes the advantages of both lecture and demonstration method and avoids the disadvantages of both the methods. The main demerit of the lecture is that it is a one-side process. The teacher talks too much and the students are neglected. The best method is that which involves a kind of interaction between the teacher and the taught because they are really part of an educative process. The teacher performs experiments before the class and meanwhile goes on asking relevant questions. The students are compelled to observe carefully because they have to describe each and every step of the experiment accurately and draw inferences. The students are questioned and cross-questioned concerning the problem in hand and their inferences are discussed in the class. Thus unlike in a lecture, the students are active participants in a demonstration and their faculties of observation and reasoning are properly exercised. The students see the actual apparatus and

operations and help the teacher in demonstrating the experiment and thereby they feel interesting in learning. It is difficult to talk about the thing, which the students have to imagine. It is always easy for the students to understand and remember the concrete things. This method is said to be in accordance with the maxim of teaching "from concrete to abstract".

The lecture-demonstration method can prove to be one of the best methods if the demonstrations are, well planned and rehearsed by the teacher. If the demonstration fails, it creates a very undesirable effect upon the moral and attitude of the students. If failure is too frequent, confidence of students in the teacher is lost. And if the demonstration is successful it will form a desirable effect on the students and will help in achieving the objectives of teaching of biology.

Criteria of a Good Demonstration

There are several criteria, which are more important for this method. If they are kept in a view by the teacher the demonstration will be a successful one. The following are the criteria of good demonstration.

- The demonstration should be planned and rehearsed well in advance. Planning and rehearsing of the experiment is very essential for it gives confidence to the teacher. He finds the difficulties involved in the experiments and the precautions to be observed. The students will be discouraged because of the badly planned lessons. If the experiment fails the students may lose interest and confidence in the teacher and in the lesson. In some instances a well – rehearsed experiment may also fail in the class. At such occasions the teacher should turn it into a problem for the students. In this way, the interest and confidence of students will not be lost but on the other hand they will feel more interested in finding out the cause and then presenting it before the class. This will encourage the students to exercise the powers of observation and reasoning and at the same time their instinct of self-expression will also be satisfied.

- The teacher should be clear of the purpose of demonstration. He should be very clear about the objectives of the demonstration, the comparisons to be made the generalization to be arrived at, applications to be made and the attitudes to be developed.

- The teacher should get the help of students in arranging, filling up and performing the experiment. It should be the participation of both the students and teacher.

- The teacher should ask questions in order to know that the students have understood and are attentive in observing the demonstration.

- The teacher should explain the important and difficult points involved in the demonstration in simple and comprehensive language and should write them on the blackboard.

- The apparatus for demonstration should be arranged in order. It is always better to keep the apparatus to be used on the right hand and the used one on the left hand side.

- The demonstration should be visible to all the students in the class.

- The demonstration should be at a little higher level than the student's table.

- Proper care should be taken for adequate lightning and to size the clarity of the apparatus.

- Demonstration experiments should be simple and speedy. Lengthy demonstrations in which the students have to wait for long time destroy the interest of the students. At the same time the complicated apparatus, which is above the understanding of average students, also discourages them. So the experiment should be simple and move on quickly to the conclusion.

- Demonstration should fix in the sequence of experiment, which the students carry out themselves and should be consciously connected with the things seen and handled by the students.

- Demonstration should be in accordance with the time and season otherwise it will prove to be a failure.

- Demonstration should be supplemented with other teaching aids to make it more real and interesting.

- Demonstration should create problems for the students and also make provision for solving them through their own efforts. In this way the students will find a chance to exercise their own abilities to observe, explain, analyze, verify and review. They will get training in scientific method of solving problems.

- The teacher should maintain the interest of the students throughout the experiment.

Principle

This method is based on the principle: Truth is that which works. The teacher has to work out something and then only the students will believe.

Requisites for a Good Demonstration

The method, though very popular and most widely used, may not prove successful with some teachers. The following are some of the requirements which will assure that the demonstration will be a success.

- **Appropriate Arrangements:** while performing an experiment the teacher must be sure that everything done on the demonstration table is clearly visible to the pupils. There will be no

difficulty if a lecture gallery is available but in its absence there are several ways of enabling the pupils to get a better view.

- **When there is no demonstration table:** The teacher may carry on the experiments on one of the student's table located in the front row and the class can view the demonstration by standing at some distance round the table. This method may prove very useful with small classes.

- **Sufficient Light:** Attention must be paid to adequate lighting of the demonstration table and the back-ground. Additional illumination may be used if necessary. Proper back-ground is very important. Black things should never be shown in front of the black-board.

- **Demonstration Apparatus:** Demonstration apparatus should be large as possible such as a big model of electric bell, vernier calipers etc. and the graduations on any instrument should be clearly visible.

- **Arrangement of Apparatus:** everything must be placed in order before the demonstration starts. The apparatus to be used should be placed on the left hand side of the table and arranged in order in which it will be shown. After a particular thing or apparatus has been used, it should be transferred to the right hand side. When several things are to be shown, they should not be placed all at once. A wealth of apparatus may impress a student but it can confuse him as well. The general order and tidiness of the demonstration table is very essential. Nothing looks worse than a demonstration table littered with books and other useless things. Only the things relevant to the lesson should be placed on the demonstration table.

- **Preparation by teacher:** the teacher must be sure that the experiments will succeed and are strikingly clear. This demands adequate preparation on the part of the teacher and rehearsal of the experiments under the conditions prevailing in the class-room.

- **Securing attention:** Attention of the class is very important. The teacher should know various methods of arresting and creating interest. He may, at occasions, be a bit of a 'showman'. To inspire the class with a sense of dramatization and to arouse an atmosphere of suspense just before the critical point of an experiment, is an art. It is useful to a teacher as to an actor.

- **Effect of Season:** Proper account should be taken of time and season. Climate conditions sometimes affect the apparatus. For instance, frictional electricity experiments should not be done during rainy season. Hot season is best for experiments with ice. White phosphorus can be safely used on a cool day.

- **Teaching Aids:** Demonstration experiments should be supplemented with teaching aids like charts, pictures, diagrams, models, film strips etc.

- **Use of Black board:** A large black-board behind the teacher's demonstration table is most essential. During the lesson the teacher can use it to great advantage. Tabular statements for entering data, principals arrived at, as a result of demonstration, can be written on the black-board. Necessary simple diagrams can be drawn on it.

Conduct of a Demonstration Lesson

Lecture demonstration method is the most suitable method to teach biology. It, therefore, seems appropriate tom discuss some of the essential steps to be followed in a demonstration lesson.

1. Planning and Preparation

The adoption of demonstration method requires a thorough preparation on the part of the teacher. While preparing, he must bear in mind the following points:

a. Subject matter

b. Lesson plan including the questions to be asked.

c. Collection and arrangement of apparatus required.

d. Rehearsal of experiments.

The teacher should study the lesson before he enters the classroom. This will enable him to be exact and to the point. Drawing up a lesson plan is equally necessary and this should include a list of the principles to be explained, a list of the experiments to be demonstrated and the type of questions to be put to the students. This will make his work very systematic. Each and every experiment should be rehearsed under the same conditions hat prevail at the time of demonstration. Rehearsal of experiments will enable the teacher to collect all the requisites for the demonstration work. It is all the more important that each and everything is arranged on the demonstration table in a wise and proper order so that no difficulty is felt at the time of demonstration.

2. Introducing the Lesson

It is useless to start a lesson without properly motivating and preparing the minds of the students for it. The lesson should be introduced in a problematic manner so that the student can appreciate and realize the importance of topic in hand. When a teacher is able to awaken the keenness and enthusiasm of his students half the game is over. Much depends upon starting a lesson in the wright way. The teacher should begin the lesson with some personal experience or mind incident, a simple and interesting experiment, a familiar anecdote or by telling a story. He should keep in mind the value of an interesting experiment the experiment, which will set his students talking in school

and out of it, about the wonderful things they have seen or done in the biology lesson. The teacher should maintain the interest and enthusiasm of the students alive throughout the lesson.

3. Pr**esentation of the Subject matter**

The actual lesson may be concerning some prescribed topic, but the teacher is at liberty to treat it in narrow sense or to introduce into his teaching material and illustrations from a wide field of knowledge and experience. Even if the lesson deals with a particular topic of biology, a widely read and well informed teacher will draw illustration from all branches of science. In addition to this wherever practicable, reference should be made to the names of great scientists and their works. The lives and achievements of great men are always sources of inspiration and an acquaintance with their early difficulties encourages the students.

Teaching, as far as possible, should be through well thought out and judicious questions. The questions should be so arranged that their answers form a complete teaching unit. In the teaching of a lesson the voice of the teacher plays an important role. The teacher should speak slowly, deliberately and with correct pronunciation. The teacher should use voice effectively. It should be pleasant and not jarring. The tone his voice should be modulated according the nature of the statement.

4. Performance of experiments

The work at the demonstration table should be a model for the students to copy. The demonstration table should be clean and dry. The experiments must work and their results should be clear and striking. The experiments should be simple and speed. They should be well spaced throughout the lesson. They should be convincing and striking. Reserve apparatus should always be kept near the demonstration table so that much time is not wasted in collecting the apparatus in case of breakage. It is wise to keep the demonstration apparatus intact until it is to be used again.

5. Blackboard work

In the lecture demonstration method backboard is very useful. It mainly used for:

      a. Writing important results and principles in summarized form.

      b. Draw necessary sketches and diagrams.

As the face is an index to one's mind, blackboard work is an index to a teacher's ability. The writing on the blackboard should be neat, clean and legible. ''Single lined' diagrams should be preferred to 'double line' diagrams. Every part of the diagram must be properly labeled. The labeling should be written in script and not in running hand.

Copying and Supervision

At the end of the demonstration the students should be given time to copy the black board summary and the sketches. A record of the blackboard summary will prove very useful for further reference.

Common Errors in a Demonstration Lesson

Some of the most common errors committed by the beginners in giving demonstration lesson are summarized below:

1. The apparatus may not be ready for use.
2. The teacher may fail to show how the demonstration fits into the problem in hand.
3. The teacher may not be able to focus the attention of the students to the important facts of the experiment.
4. Black-board may not be used properly.
5. The minor facts may be given as much importance as the major facts.
6. The teacher may arrive at the generalization himself rather than getting it done by the pupils.
7. The teacher may fail to emphasize the generalization.
8. The language used by the teacher may be difficult for the students to understand.
9. Right type of questions may not have been asked.
10. The persistent and continuous talking by the teacher may have marred the enthusiasm of the children.
11. Sufficient time for recording data may not have been given to the pupils.
12. The student's interest for further study may have been over-looked.

Merits:

- **Psychological Method:** This method is psychological because the students need not imagine anything, instead they are shown concrete things and living specimens. Consequently they take active interest in teaching –learning process. It, therefore, motivates their interest and enthusiasm of science.

- **Sensitive Apparatus:** Demonstration is very suitable technique when the apparatus is very costly or very sensitive and is likely to be damaged if handled by the students e.g., Fortin's barometer, electric dynamo etc.

- **Useful in dangerous Experiments:** It is helpful in case of dangerous experiments like preparation of chlorine, burning of hydrogen etc.

- **Economical:** The method is considered most economical. When apparatus is not sufficient for the students to do practical individually, the teacher may perform the experiment before the whole class. Also it saves time when a number of experiments can be performed in a short time.

- **Time Saving:** It is a time-saving method. If compared to Heuristic, project or Experimental methods, it saves much time. On this score it cannot be compared to lecture method, which is too fast.

- **Based on Activities:** Although it is not a child-centered method, yet the students are kept engaged in various activities like observing, taking notes, answering questions, drawing diagrams and sometimes involving in the actual performance of experiments.

- **Useful for everyone:** It is suitable method for all types of students i.e. average, below-average and above-average.

Demerits

- **Not Based on learning by Doing:** There is no scope for 'learning by doing' which is an important principle of learning and the students do not realize the joys of direct personal experience.

- **Not Child Centered:** It is not child centered. The teacher has the final responsibility to manipulate and perform the experiments in any manner he likes. Therefore, to some extent it is an authoritarian approach, and is teacher dominated.

- **No scope for Individual differences:** This method does not provide food for individual differences. Slow learners and genius are made to crawl at the same pace.

- **Obstacle in Progress:** The desirable laboratory skills are not developed among the students.

- **Not based on Scientific Attitude:** It does not inculcate the most-needed scientific attitude and training in scientific method.

Conclusion

This method is one of the best methods for teaching science to secondary classes. However, if the teacher feels that it will tax upon his time and he will have to put in more work by rehearsing, arranging and then demonstrating, it is suggested that the teacher can, to much extent, call upon his pupils for help. There can also be pupil-demonstrations. Let the pupils do everything regarding arranging, rehearsing etc. No doubt the teacher will always be guiding. In this way, the objection against this method that it is devoid of 'learning by doing' will also be removed.

III. TEAM TEACHING

Introduction

The present system of education demands too much from a teacher curtailing his freedom. He has to teach same subject-matter every year and he is forced to teach the same content to two or three section of the same class. It is very boring for him and stifles his interest in the subject. Sometimes he is assigned to teach the subject in which he has no interest to teach but he is forced to do so. More-over the present day classrooms are appropriate only for the average students. Team teaching is one of the most modern techniques in the field of educational technology. The concept of team teaching arose in 1957. Although begun in some secondary schools, the team teaching idea was given momentum by activities of the Commission on staff utilization of the national Association of Secondary School Principals (U.S.A).This is the result of numerous and successive January issues of the bulletin of the national association of secondary school principals beginning in 1958.Noall has defined team teaching as "a combination of two or more teachers who work with variable size group of students during an adjustable period which covers two or more regular section". The best-know and commonly used plan is the trump plan of teaching, so named after Professor J. Lloyd trump, associate secretary of the national association of secondary school principals.

Origin of Team Teaching

The concept of 'Team – Teaching' has it is origin from America during the mid-1950. It reached England in the 1960. J.Freedom's team teaching in Britain gives an account of its growth in the country. It has occupied a place for itself itself in schools and colleges.

Harvard University is the first institution which has initiated an internship plan in 1955. The second mile stone in team teaching is the project in Lexington (1957-64) which has been influenced by the Hardvard programme.

Francis Chase of the University of Chicago has developed the need of team teaching to use the best teachers more effectively.

J. Leyod Trump made valuable contribution for the success of team-teaching. Team-Teaching was not only confined to educational institutions but its use was extended to armed forces for teaching purpose during second world war.

It is difficult to trace the origin of team teaching because so many individuals and organizations have been conducting studies in their own areas for last two decades all over the world.

In India many educationists are aware of this system; but they are not confident to implement it even though it will best suit to our teaching learning situations.

Meaning of Team Teaching

The term 'team teaching' has been defined by several persons because they have designed and conducted experiments to understand the nature of team teaching. Warwick has tried to define the term more comprehensively. According to him "Team-teaching is a form of organization in which individual teachers decides to pool resources, interests and expertise in order to devise and implement a scheme of work suitable for the needs of their pupils and the facilities of their schools."

According to J. Lloyd Trump, teaching is "an arrangement whereby two or more teachers with assistants plan, instruct and evaluate co- operatively two or more classes in order to take advantage of their respective special competencies as teachers".

According to **Harold S. Davis**, "Team Teaching may be considered to be any form of teaching in which two or more teachers regularly and purposefully share responsibilities for the planning and correlating of lessons to one or more classes of students".

Definition of Team-Teaching

Carlo-Olson has defined team-teaching as:

"An instructional situation where two or more teachers possessing complementary teaching skills cooperatively plan and implement the instruction for a single group of students using flexible scheduling and grouping techniques to meet the particular instruction."

Another definition of term-teaching is:

"An arrangement whereby two or more teachers, with or without teaching-aids cooperatively plan, instruct and evaluate one or more class groups in an appropriate instructional space and given length of time so as to take advantage of the special competencies of the team members."

It may be inferred from the definitions of team-teaching that it has the following of the team members."

- It involves two or more teachers to teach a class.

- In this type of teaching, a group of teachers is responsible rather than an individual teacher.

- A team or group of teachers of the same subject work together to deal a significant content to same group of students jointly.

- It can be termed as co-operative teaching, in which individual teachers plan to pool resources, interests and their experts for teaching a content for the same group or class of students.

- Every individual teacher gets appropriate instruction space and length of time so as to use special competencies of teaching a content to a group of students.

- A group of teachers shares responsibilities of planning, organizing, teaching, controlling and evaluating the same class of students.

- In team-teaching the group of teachers has to consider the needs of their pupils and they should teach jointly to satisfy ir needs and remove the difficulties of their students.

    Chaplin has defined team teaching in the following lines:

    "Team teaching is a type of instructional organization involving teaching teams and the students assigned to them, in which two or more teachers are given responsibility, working together, for all or a significant part of instruction of the same group of students".

    We can generalize that "team teaching is any form of teaching in which two or more teachers purposefully share responsibility for the planning, organizing and evaluating the learning of a large group of students. It has shared responsibility with a purpose that teachers can accomplish more by working together with their different expertise".

Purpose of Team Teaching

Team Teaching offers an opportunity for better education to a large group of students through a team of teachers. Some of the purpose are as follows:

1) The goal of team teaching is the improvement of teaching through a better utilization of a group of teachers.

2) It utilizes teacher's specialized expertise, interests, instruction skill, time and energy.

3) It ensures preparation of lessons, materials and other .ids to create motivation among the students and better learning situations.

4) The team concept itself increases the possibility of variety of instruction based on pooled talent to the teachers.

Characteristics of Team Teaching

The theoretical design for team teaching is based on the co-operative planning but there are many other aspects of team teaching such as.

1. Role differentiation of team members.

2. Regrouping of students.

3. Rescheduling of time.

4. Redesign of teaching space.

5. Common time for planning.

6. Integration of learning in a meaningful way, and

7. Development of resource centres.

The teaching involves much different combination of teachers and other staff personnel, for example one team may consist of a subject matter specialist and a guidance and counselor. Another team would have groups of teachers comprising such related specialization as Zoology, Botany, Physiology and Bacteriology. In the large combined class they would teach in an interdisciplinary fashion. This large class would then be broken down periodically so that each specialist might meet small class discussion groups with those students whose interests or course requirements call for problems more deeply in the various areas of specialization. Still other types of teams use a master-teacher, regular teacher combination with master teacher conducting the large group lesson and the regular teachers being the instructional leaders in the subdivided small group classes.

Types of Team-Teaching

There are different styles of organizing team teaching in schools. One of the common methods adopted is that the teachers teaching the students of same standard and subject join together, collaborate and perform the task. The whole team can plan the lecture and discuss which teacher is best suited to lecture, for small group discussion, for guiding library work, for setting up demonstration and visual aids that can be used in presentation in large groups and for preparing evaluation materials. Each of the members in the team has a specific assignment.

All the students of four sections meet at the large hall for large group instruction. One teacher gives a lecture and another teacher demonstrates. This lecture is arranged after thorough preparation in consultation with the other teachers in the team. The purpose of the lecture is to motivate the students and initiate them in the learning activity.

Team teaching can be effective only when this lecture in a large group is immediately followed by small group discussions under the guidance of all the teachers in the team. The large group is split up into small groups of homogeneous abilities and the teacher's pay individual attention and work as counsellor or consultant to these small groups. This homogeneous grouping can be accomplished on the basis of student's abilities, interests, needs and achievements.

Another style of team teaching can be that the team members join together, discuss the topics, plan the work, prepare the teaching aids and then go to their respective classes and teach the subject matter.

In yet another approach, when a topic of common concern to different disciplines is to be discussed, teachers of these subjects after proper planning together, can go to the same class and teach the subject matter in coordinated manner. One teacher is followed by another teacher and the

discussion is completed from each one's point of view. This may bring about the interrelatedness of knowledge through discussion by different subject teachers.

Objectives of Team-Teaching

The teaching strategies have been designed to achieve certain objectives. The team-teaching has been evolved to realize the following objectives:

1. To make the best use of expertise of teachers under team-teaching.
2. To improve the quality of teaching. The services of the expert teachers are shared by a large number of students.
3. To develop the feelings of co-operation or group work in teaching-learning situation.
4. To help the students, to satisfy the needs and difficulties relating to the special content.

Principals of Team-Teaching

The team-teaching is based upon certain general principals which are helpful in organizing team-teaching. The principals provide a guideline for planning and organizing team-teaching. The following are the important principals of this team-teaching.

1. Principal of Size and Composition: The size of the group or class should vary according to the objective or purpose of team-teaching. For example, if the purpose of team-teaching is to remove the difficulties of the students in certain topic of a subject, obviously, the size of the group should be small involving the students who have similar type of difficulties.
2. Principal of Duties Assigning to Teachers of the Team: the team-teaching involves two types of tasks: lead lecture and group work cum follow-up work. Therefore, this task must be assigned to a competent person.
3. Principal of Learning Environment: Every subject requires its own learning situation or environment. Therefore, learning environment must be generated by employing appropriate teaching aids and equipments, e.g., laboratory, workshop, field work, good library and lecture room, etc.
4. Principal of Time Factor: The team-teaching is a well-organized teaching task, and therefore time schedule should be prepared by allotting appropriate time for lead lecture task and group-work or follow up task. In this type of teaching, time arrangement should be fairly fluid.

5. Principal of Supervision: The focus of team teaching is to develop the mastery over subject-matter by employing the expertise of teachers. The supervised-study is essential for assimilating the knowledge of a topic or concepts. The nature and duration of the supervision of the student's activities depend upon the purpose of team teaching.

Procedure of Organizing Team-Teaching

The team-teaching serves several purposes of teaching and it has different forms or types. Therefore, it is difficult to provide a general procedure for organizing team-teaching, but it involves the following steps:

Step 1 – Planning, Step 2 – organizing and Step 3 – Evaluating. The details of activities of these steps have been given in the following paragraphs:-

Step 1-Planning of Team-Teaching:

This step involves the following activities which are decided by the team members.

- Deciding the topic to be taught.
- Writing the terminal objectives in behavior terms.
- Identify the entering or initial behavior of the learners of the group.
- Preparing a tentative schedule of teaching.
- Assigning duties to teachers, considering their interest and competencies during
  Lead lecture (2) follow-up work and (3) supervision.
- Fixing up the level of instruction.
- Selecting appropriate teaching aids and demonstration equipment's for generating learning environment; deciding ways and means for evaluating the student's performance: oral or written questions for practical work, etc.

These activities are finalized by the team of teachers who are taking part in the team-teaching expertise of every teacher must be fully utilized. There should not be imposition of activities on them.

Step 2-Organizing Team Teaching:

The organization of team-teaching is decided by considering the purpose or needs of the learners of the groups. The following are the general activities which are usually performed by team of teachers:

- Determining the level of instruction: Some questions are asked to explore the background of the learners.

- Presentation of lead lecture by a competent teacher of the team: other teachers listen to the lecture and note down the elements of topic which are not easily understand able to the learners group or not appropriately presented.

- Follow up work, the other teachers have to supplement the lead lecture by explaining the elements of the topic in a more simple way so that learners can understand easily.

- Providing motivation or reinforcement by teachers to the learners in both the situations: lead lecture and follow up work.

- Supervision of students-activities which are assigned in lead lecture or group work or follow-up work. This stage is considered to be important for assimilation.

   Every member of the team should be conscious about time schedule and about the duty assigned to him.

Step 3- Evaluating Team- Teaching:

   The evaluation is an important aspect of any type of teaching. It is a helpful to measure the performance of learners which determines the level of achievement of the objectives. It also provides the reinforcement to team members. Thus, it involves the following activities:

- Asking oral questions, writing questions and practical work. Each question should measure a particular objective of team-teaching.
- Taking decision about the level of performance and realization of the objectives.
- Diagnosing the difficulties of the learners and provide the remediation.
- Revising the planning and organizing phases of team-teaching on the basis of evaluation of students.

Team Organization

   This is based on hierarchy whose basic unit is a teacher. The teacher's experience, skill and specialty are the criteria of joining the team. There is joint responsibility for instruction but the teacher enjoys his status and prestige. Typically, from three to eight teachers take responsibility for the instruction of 75 to 240 students of similar age and class. The clerical and secretarial needs of the team are cared by the clerical staff.

Types of teams:

   1) Single Subject Team

   In single-subject teams, two or more teachers agree to teach the same subject at a particular class level to the same group in a common period. The strength of the students varies according to the number of teachers.

2) Interdisciplinary Teams

In these teams teachers of different subjects assume responsibility for the same large group and are given a block of time in which to work with them.

3) Hierarchical Teams

Some teams are hierarchical in nature consisting of teachers, clerks and assistants. Job descriptions give the difference of roles played by each member.

In these teams one professional teacher is taken as team leader and functions as administrator in-charge. The remaining teachers performs professional duties. Similarly, clerks perform secretarial work and prepare cyclostyled materials.

4) Synergetic Teams

These are some teams, which work together as a team, and there is a minimum of hierarchical approach.

Facilities Required

Team Teaching necessitates flexibility. Time schedules must be organized in such a way that there are large blocks of time allotted by the combined large group-small group lesson. The school building itself must be flexible so that large rooms can be easily transformed by movable partitions into separate rooms for small class discussion. School organization must be flexible so that students get to know one another better. Such fine support is necessary for effective group discussion.

Advantages

The team-teaching is a perspective and economical device of teaching to cater to the needs of the students. It is highly flexible. It has the following major advantages:

- The team-teaching utilizes the competencies of the teachers.
- It creates the learning environment for better comprehension and mastery over the subject among the learners.
- It provides an opportunity for free discussion in the small group work.
- It provides an opportunity to the teachers to develop the professional status and competency in teaching by mutual sharing of ideas.
- It develops the team spirit and the team members utilize the best use of multimedia. Time and energy are saved by the team teaching. It maintains the discipline in the class and creates a conductive environment of learning.
- It is highly flexible method of teaching while traditional methods of teaching are rigid.

- It enables the students to become more aware of their own approach, knowledge of content and simultaneously to the other experts of the same area. It brings excellence of teaching in them.

Limitations

With all the advantages, the method has got some demerits.

- It is very difficult to seek co-operation among teachers to work jointly in teaching-learning situation. There is no mutual regard and respect among the teachers. Every teacher considers himself expert of the subject. Every teacher has his own style of teaching.

- The teachers do not like to deviate from the routine method of teaching and they do not prefer any change in system of education. Generally they are of the opinion that is can be used in Western countries not in Indian schools.

This type of attitude of teachers hampers in the progress and improvement of educational system.

Suggestions regarding the Use of Team-Teaching:

The team-teaching can be used effectively by incorporating the following suggestions:

- The research studies has established for its workability and effectiveness but its success will depend upon the way it works in practice. The meaning and understanding of team-teaching should be given to the school teachers and favorable attitude would be developed among them towards team-teaching

- The success of team-teaching rests upon the co-operation and devotion of the teachers. Only those teachers who are willing to work in a team must be invited for this method.

- The teachers should not be assigned the duties but they themselves should prefer the activities of teaching. They should be given full freedom to work at various stages of team-teaching. It is always better to have a leader for the team.

- In teacher education departments and institutions, pupils-teachers should be trained for this type of teaching.

- Anderson, Warwick and other experts and other experts in the fields of team-teaching consider hierarchical structure and composition as a very logical and attractive arrangement. The success of team-teaching plan largely depends upon a balanced team in which all the teachers feel their responsibility and co-operate willingly in organizing teaching.

B. LEARNER-CENTERED METHOD

Learner-centered methods are those methods where the focus of attraction is learners than teachers. It is through the involvement of learners the method develops. The recent psychological approaches in the classrooms give more importance to learner centered methods than teacher centered methods.

I. LABORATORY METHOD

This method is considered to be one of the best methods of teaching science, as it provides learning by doing. In this method, the students perform experiments on their own. The main difference between the demonstration method and this method is that in demonstration method the teacher performs experiments and the students observe the activity. But in this method, the students perform the experiments under the supervision of the teacher. Unless the students perform experiments on their own they will not come to know what science really is. In this method they may do experiments individually or in small groups.

The famous quote of the Indian education commission report (1964-1966), "to learn science is to do science. There is no other way of learning science." Since biology is a branch of science is applies to biology is also. In a modern science teaching, practical and experiences occupy an important place. So the branch of science, which does not give importance to practical, will not be considered as a complete subject. Since psychologists emphasise the principal of "learning by doing" the practical should be commenced from the school stage itself. Then only the scientific concepts and principals should be meaningful. Students understand more from the real specimens than from the printed pictures or diagrams drawn on the black board. All students like to involve in activities. These activities satisfy the emotions of the students; activities. These activities satisfy the emotions of the students; develop their thinking ability.

Laboratory is used to do experiments. These experiments are used to prove the theories in the lessons. The history of biology shows a number of examples to prove how they are treated. So a theory, however strong it may be, unless it is proved by experiment, will not be accepted. So, in order to prove a theory, experiment is necessary.

Objectives of Laboratory method

- To develop the skill of drawing
- To develop the skill of computation
- To develop manipulative skills
- To develop scientific attitude

- To develop and maintain interest in science
- To promote accurate observations and proper recording
- To verify facts and principles

Development of Laboratories

Laboratories were not given much importance in school education till 1000 A.D. Laboratories came into existence only during the period of Francis Bacon. He was considered as the father of scientific researches. After him during the period of Gilbert laboratories were used in the development of scientific method. In the beginning only chemistry laboratories developed. When electives were introduced in school curriculum laboratories in all branches of science flourished well.

Advantages of Laboratory

1. The laboratory works broadens the interest of the students because they can see and confirm things stated in the textbook.
2. The students get accustomed to use scientific tools and equipments.
3. They get an environment to carry out scientific activity and get an opportunity to exercise their ingenuity.
4. They learn to work in co-operation with others, which is a necessary tradition in any scientific pursuit.
5. They learn to rely on facts, which they actually see happening rather than opinions stated by others.
6. They prove the scientific theories by experiments.
7. They acquire the skills in handling apparatus reading scales, drawing diagrams and graphs and other scientific disciplines such as careful observation, collection and arrangement of data, drawing conclusions and taking necessary precautions.
8. The laboratory experience is pleasant to the students as they can satisfy their sense of curiosity.
9. They like the excitement and challenge of the unknown, the opportunity to manipulate things, materials comparatively, freely.
10. They gain the satisfaction of achieving something tangible.

Aims and Procedures of Experiments

1. Experiments done in laboratory should stimulates critical and scientific thinking in the students.
2. They should also cater to the needs and requirements of individual students.

3. The teacher should be considered as a friend and philosopher.

4. All the apparatus required for the experiment should be verified and kept ready in advance on the table.

5. Difficult experiments should be repeated by the students

Instruction for the Students

In order to enable the students to do experiments some guidelines should be given to the students. The guidelines can be given in different forms. They are:

a. Laboratory manuals

b. Laboratory instructions

c. Instruction card.

Laboratory Manuals

These manuals are more useful to the new teachers who are not much experienced in doing the experiments. These are also useful to the students who want to do their experiments by themselves and to the students who were absent to the class by some reason or the other. Teachers need not give procedures for each experiment. These manuals contain the correct result of the experiments so that time is not wasted on the experiments.

These manuals should contain the following points:

i. Procedure for doing the experiment and precaution to be taken for the experiment.

ii. The method of entering the observation in the record.

iii. An example should be given in the beginning

iv. The places where reference should be made to the textbook.

v. The points left out in the textbook should be included in them.

Laboratory Instruction

These are useful to the students when they do experiments in laboratories. The instructions for experiments should be in simple and clear language. This will contain the procedure for doing the experiment in brief and order. This will also contain the precautions to be taken, method of observation recording, number of times to be repeated and calculations to be done. These instructions will help the students to do experiments very easily.

Instruction Cards

These cards are given to the students in the laboratory in order to enable them to do the experiments using the procedure given in the cards. 15 cm x10 cm. One card will be used for one

experiment. The instructions regarding the experiment will not be too long or too short. They will be brief and clear. Each instruction card will bear the following information.

1. Experiment number
2. Aim of the experiment
3. Apparatus required
4. Procedure
5. Precautions to be taken
6. Tabular column to be adopted
7. Conclusion

Categorization of Laboratory Method

Laboratory method can be divided into two types. They are;

1. Multiple or group systems and
2. Individual system

Multiple or Group System

In this system students do the experiments in groups. Arrangements will be made in the laboratory in such a way that the students, in groups, do the experiment.

Individual Laboratory System

Individual laboratory system is a system in which the students are doing the experiments individually. This method is further divided into Even Front System and Rotation Method.

(i)   Even Front System

This is system in which all the students will be doing the same experiment simultaneously and individually. In this method supervision will be easy for the teacher. Students can compare the results. They can rectify the mistake if at all any, happens in the course of the experiments. It is easy for the teacher to give the procedure for the experiment. The apparatus can be kept ready since they are the same. The time required for the experiment can be fixed very easily.

This is the most expensive method since it requires more number of apparatus. The space required for storing so many sets of apparatus will be enormous. The experiments are not based on the interest and aptitude of the students. Lazy students may copy the results from other students without actually doing the experiment.

(ii)   Rotation Method

Different experiments as per the syllabus are arranged and the students are asked to do the experiments one after the other in rotation.

Merits

1. The apparatus required for the experiment can be left in the place ready for doing the experiment.

2. The apparatus are cleaned immediately after the experiment.

3. This method avoids repetition of experiments by the students.

4. It is easy to pay individual attention to the student.

5. It requires only 4 or 5 sets of apparatus for each of the experiment and hence storage-space required is comparatively small.

Demerits

1. It is very difficult for the teacher to supervise the laboratory work.

2. It is not possible to dictate procedure for all the experiments at the same time.

3. Duration for the experiment cannot be fixed because it differs from experiment to experiment.

Conclusion

Both even front system and rotation method have some merits and demerits. The demerits can be eliminated when even front system is followed for chemistry and biology and rotation method for physics. Normally in biology even front system is followed as it has all the advantages.

II. PROJECT METHOD

This method was devised by **Kilpatrick** and was given a project shape by **Stevenson.** This is based on the philosophy of pragmatism. **John Dewey** wanted that education should be for life and through life. School should be a miniature society. In this method connected facts are developed round a central theme which may be any matter of scientific interest, a scientific principal or a topic of immediate interest to the students.

Definitions

The term project has been defined by a number of educationists in their own way. According to **Kilpatrick**, "A project is a wholehearted purposeful activity proceeding in a social environment." According to **Stevenson** "A project is a problematic act carried to completion in its natural setting.'' According to **Ballard** "A project is a bit of real life that has been imparted into the school."

This method is based on the following principals:

1. Students learn better through association, co-operation and activity.

2. Learning by doing

3. Learning by living.

A project is a kind of life experience which is the outcome of a desire of the students and teaching by this method is therefore, based upon the use of this desire. "Learning by living" is the better meaning of project method, because life is actually full of projects and we try to carry out these projects every da.

Projects work out best with small groups or classes. Biology can be best taught through projects. Students can gain interesting information if they are made to investigate the same locality at different seasons of the year for flora and fauna. They may note down the ways in which living things may adopt themselves to dry and wet seasons, the differ times of flowering and fruiting of plants, and of breeding of birds and the presence or absence of various species of animal life.

Suitable planning and organization is essential for any investigation. Students should be classified into groups with a leader for each group. Every student should be assigned a definite task the leader being responsible for collecting all the information together at the end. Students should take down notes as and when observations are made

Steps in a project

1. **Providing a situation**

The teacher should always be on the look out to find out situations that arise and discuss them with their students to discover their interest s. situations may be provided by different methods. The teacher can talk to the students on the topics of common interests, for example about their hobby, how do they spend the leisure time and holidays. By talk and discussion with the students the teacher should provide situations for the students to tell about a project, which can be completed by project method.

2. **Choosing and Proposing**

The project should be chosen and proposed by the students. The teacher should not choose the project himself and compel the students directly or indirectly to accept the proposal. The teacher should tempt the students and the proposal should finally come from the students. The teacher should continue his discussion till the students propose the project. When a project has been proposed the teacher should see that the propose of the teacher is clearly defined and understood. Incase the students make an unwise choice the teacher should carefully guide them for a better project by providing some other situation.

3. Planning

The success of a project depends on the planning. This planning is to be done by the students. All the details of the project are to be planned well in advance. The teacher should guide the students in planning by giving some suggestions. The teacher should not impose his plan on the students. Everything should be told by the students.

4. Executing

It is the most important and longest step in the project method and therefore needs a great deal of patience on the part of the teacher and the students. The project must be executed by the students because they have chosen and planned parts among the students. The work of the project is to be assigned to the students according to their tasks, interests, aptitudes and capabilities. All the work of the project cannot be done by every member of the group. Every students should get a chance to do something. Those who are backward in one subject, may be excellent in others, and therefore can contribute their might towards the execution of the project. The teacher is simply to keep a close watch, and encourage and guide the students wherever necessary.

5. Evaluating

It is very valuable to review the whole project, after the project has been completed and find out the mistakes, if any. Students should evaluate their own work and they should be able to look their own failures and findings.

6. Recording

The students should keep a complete record of the project. They should record the discussion, the proposal, and the plan, allotment of duties, books referred, places visited, maps drawn, places surveyed, specimens collected and lessons learnt.

Criteria of a Good Project

1. The project selected should be purposeful it should be useful and practicable to the students in their daily life.
2. The experience gained should be fruitful. The students should learnt to co-operate and share their interests and should develop into a democratic individual.
3. The project should cater for the activities of the students.
4. Students should be given full freedom to work on their own accord.
5. The project should be selected by the active participation of both students and teacher.
6. The project should be economical and the purpose of the project should be achieved without any waste of time or money.

7. It should be timely and drawn in relationship with seasons of the year and the interest and needs of the community.

8. It should be challenging.

9. It should be feasible.

10. It should help individuals to see and understand life in its unity.

Role of the Teacher in Project Method

1. The teacher is a friend, guide, and a working partner.

2. He should provide opportunities for shy students to contribute something for the success of the project.

3. He should try to learn more along with the students.

4. He should help the students in developing character and personality by allowing them to accept the responsibilities and discharge them efficiently.

5. He should move freely with the students so that democratic atmosphere prevails in the class.

6. He should be alert and active all the time to see that the project runs in the right line.

7. He should have a thorough knowledge of the students so as to allot them work according to their interest and ability.

8. He should be well experienced and should have initiative, tactics and taste for learning.

Merits

1. This method is based upon the laws of learning. They are as follows:

   a. Law of readiness

The students are made ready to learn by creating interest, purpose and life situations.

   b. Law of exercise

The student's carry out activities in the real life situations, the experiences gained thus are very useful in the later life of the students.

   c. Law of effect

The sense of success and satisfaction should follow the learning process. This law makes it essential for the teacher to make the student satisfy and feel happy in what he is learning.

   d. It promotes co-operation and group interaction.

   e. It is a democratic way of learning. The students choose, plan and execute the project themselves.

   f. It teaches dignity of labour.

g. The correlation of subject is best sought. There is no division of subjects into watertight compartments.

h. It gives opportunity to develop keenness and accuracy of observation and to experience the joy of discovery.

i. It calls for wholehearted purposeful activity.

j. It sets up a challenge to solve a problem and this stimulates constructive and creative thinking.

k. It helps to widen the mental horizons of students.

l. Students learn the matter very easily because the subject is associated with activities.

Demerits

1. The project method absorbs a lot of time.

2. It gives the students superficial knowledge of so many things but leaves an insufficient basis of sound fundamental principles.

3. It requires much work on the part of teacher for planning and carrying out projects.

4. It presumes that the teacher is the master of all subjects and has an all-round knowledge of everything to impart correction.

5. The books written on these lines are not available.

6. It is more expensive because the students have to bear the expenses of excursions, outdoor activities, purchase of material and do experiments.

7. In this method, the teaching is not well organized, regularized and continuous. The timetable is almost upset.

Suggestions

1. This method is suitable for teaching to primary and middle school students. This can also be used for secondary school students with some modifications.

2. There is no need for text books and materials. The red project can be carried out in its natural setting and so local material can be made use of.

3. The problem of expenditure can be easily solved by taking some such projects in which we can earn something. Vegetable gardening and staging a play will fetch some money.

The time table may be so arranged that in the forenoons subjects may be taught and in afternoons project will be carried out.

III. PEER TUTORING/TEACHING BY STUDENTS

Introduction

Peer tutoring is an instructional strategy that consists of student partnerships, linking high achieving students with lower achieving students or those with comparable achievement, for structured reading and math study sessions. According to Rohrbeck, Ginsburg-Block, Fantuzzo, & Miller (2003), peer tutoring is "systematic, peer-mediated teaching strategies". Peer teaching is not a new concept. It can be traced back to Aristotle's use of *archons*, or student leaders, and to the letters of Seneca the Younger. It was first organized as a theory by Scotsman Andrew Bell in 1795, and later implemented into French and English schools in the 19th century. Over the past 30-40 years, peer teaching has become increasingly popular in conjunction with mixed ability grouping in K-12 public schools and an interest in more financially efficient methods of teaching.

Not to be confused with peer instruction—a relatively new concept designed by Harvard professor Eric Mazur in the early 1990s— peer teaching is a method by which one student instructs another student in material on which the first is an expert and the second is a novice.

What is peer tutoring?

Peer tutoring is a flexible, peer-mediated strategy that involves students serving as academic tutors and tutees. Typically, a higher performing student is paired with a lower performing student to review critical academic or behavioral concepts.

 Why choose peer tutoring?

1. It is a widely-researched practice across ages, grade levels, and subject areas

2. The intervention allows students to receive one-to-one assistance

3. Students have increased opportunities to respond in smaller groups

4. It promotes academic and social development for both the tutor and tutee

5. Student engagement and time on task increases

6. Peer tutoring increases self-confidence and self-efficacy (Spencer, 2006)

7. The strategy is supported by a strong research base (e.g., Calhoon, Al Otaiba, Cihak, King, & Avalos, 2007; Kunsch, Jitendra, & Sood, 2007; Vasquez & Slocum, 2012)

What are the most frequently used peer tutoring models?

Classwide Peer Tutoring (CWPT): Classwide peer tutoring involves dividing the entire class into groups of two to five students with differing ability levels. Students then act as tutors, tutees, or both tutors and tutees. Typically, CWPT involves highly structured procedures, direct

rehearsal, competitive teams, and posting of scores (Maheady, Harper, & Mallette, 2001). The entire class participates in structured peer tutoring activities two or more times per week for approximately 30 minutes (Harper & Maheady, 2007). While the procedures and routines in CWPT remain the same, student pairings or groups may change weekly or biweekly. In CWPT, student pairings are fluid and may be based on achievement levels or student compatibility. Students may

Cross-age Peer Tutoring: Older students are paired with younger students to teach or review a skill. The positions of tutor and tutee do not change. The older student serves as the tutor and the younger student is the tutee. The older student and younger student can have similar or differing skill levels, with the relationship being one of a cooperative or expert interaction. Tutors serve to model appropriate behavior, ask questions, and encourage better study habits. This arrangement is also beneficial for students with disabilities as they may serve as tutors for younger students.

Peer Assisted Learning Strategies (PALS): PALS, a version of the CWPT model, involves a teacher pairing students who need additional instruction or help with a peer who can assist (Fuchs, Fuchs, & Burish, 2000). Groups are flexible and change often across a variety of subject areas or skills. Cue cards, small pieces of cardstock upon which are printed a list of tutoring steps, may be provided to help students remember PALS steps (Spencer, Scruggs, & Mastropieri, 2003). All students have the opportunity to function as a tutor or tutee at differing times. Students are typically paired with other students who are at the same skill level, without a large discrepancy between abilities.

Reciprocal Peer Tutoring (RPT): Two or more students alternate between acting as the tutor and tutee during each session, with equitable time in each role. Often, higher performing students are paired with lower performing students. RPT utilizes a structured format that encourages teaching material, monitoring answers, and evaluating and encouraging peers. Both group and individual rewards may be earned to motivate and maximize learning. Students in RPT may prepare the instructional materials and are responsible for monitoring and evaluating their peers once they have selected a goal and reward as outlined by their teacher.

Same-age Peer Tutoring: Peers who are within one or two years of age are paired to review key concepts. Students may have similar ability levels or a more advanced student can be paired with a less advanced student. Students who have similar abilities should have an equal understanding of the content material and concepts. When pairing students with differing levels, the roles of tutor and

tutee may be alternated, allowing the lower performing student to quiz the higher performing student. Answers should be provided to the student who is lower achieving when acting as a tutor in order to assist with any deficits in content knowledge. Same-age peer tutoring, like classwide peer tutoring, can be completed within the students' classroom or tutoring can be completed across differing classes. Procedures are more flexible than traditional classwide peer tutoring configurations.

How to pull off Peer Teaching

1. be sure your tutors are trained.

Existing research identifies adequate tutor training as an essential component of peer tutoring programs.

One after-school peer tutoring program implemented in a middle school in California, called Student-2-Student, offers tutoring in a variety of subjects to students with the help of high-achieving eighth graders. Student-2-Student is selective in its recruitment of tutors. Qualified eighth graders meeting a minimum GPA requirement and demonstrating high citizenship must complete an application process and obtain approval from their teachers before being paired with struggling students. The program advisor then matches tutors to students based on who seems to be a good match academically and socially. Tutors receive quality training in effective ways to work with their tutees.

This program led to a significant improvement in core subject letter grades for all participants. In an evaluation of the program, participants also demonstrated increased responsibility, completion of homework assignments, and significantly improved work habits.

2. Use a reward system.

In another peer teaching program, sixth grade students enrolled in general reading education classes in a Midwestern, urban middle school were assigned to tutoring pairs of either equal ability or pairs in which high-achieving students modeled successful learning with lower-achieving students. Similar to Student-2-Student, the students received training prior to tutoring.

What sets this peer tutoring program apart from common peer tutoring practices is the inclusion of a reward system for students to encourage participation and on-task behavior. During the sessions, the teacher supervised all activities and passed out raffle tickets to students exhibiting good tutoring or on-task behavior. Students wrote their names on earned tickets and placed them in a collection throughout each week. At the end of each week, the teacher would draw several names of students who could each choose a small prize from a box of inexpensive toys.

Evaluation of the class-wide peer tutoring model with rewards for good behavior showed substantial letter grade improvements for the students. The lottery system for reinforcing participation and on-task behavior was show to overcome challenges to student motivation.

3. Emphasize confidentiality, positive reinforcement, and adequate response time.

The tutors at Student-2-Student are taught to demonstrate three important things during any given tutoring session: confidentiality, positive reinforcement, and adequate response time when asking questions. The training process also instructed tutors on explaining directions, designing work for extra practice, watching for and correcting mistakes, and providing positive feedback and encouragement.

4. Choose the learning exercise and the appropriate vehicle for it.

Simply placing students in groups or pairs and telling them to "work together" is not going to automatically yield results. You must consciously orchestrate the learning exercise and choose the appropriate vehicle for it. Only then will students in fact engage in peer learning and reap the benefits of peer teaching.

5. Use group strategies:

To facilitate successful peer learning, teachers may choose from an array of strategies:

- **Buzz Groups:**

A large group of students is subdivided into smaller groups of 4–5 students to consider the issues surrounding a problem. After about 20 minutes of discussion, one member of each sub-group presents the findings of the sub-group to the whole group.

- **Affinity Groups:**

Groups of 4–5 students are each assigned particular tasks to work on outside of formal contact time. At the next formal meeting with the teacher, the sub-group, or a group representative, presents the sub-group's findings to the whole tutorial group.

- **Solution and Critic Groups:**

One sub-group is assigned a discussion topic for a tutorial and the other groups constitute "critics" who observe, offer comments and evaluate the sub-group's presentation.

- **"Teach-Write-Discuss":**

At the end of a unit of instruction, students have to answer short questions and justify their answers. After working on the questions individually, students compare their answers with each other's. A whole-class discussion subsequently examines the array of answers that still seem justifiable and the reasons for their validity.

6. Use role playing and modeling.

During the first week of the sixth grade reading program, project staff explained the tutoring procedures and the lottery, modeled each component of the program, and used role-playing to effectively demonstrate ways to praise and correct their peers.

7. Emphasize the importance of active learning.

Many institutions of learning now promote instructional methods involving "active" learning that present opportunities for students to formulate their own questions, discuss issues, explain their viewpoints, and engage in cooperative learning by working in teams on problems and projects. Critique sessions, role-play, debates, case studies and integrated projects are other exciting and effective teaching strategies that stir students' enthusiasm and encourage peer learning.

8. Teach instructional scaffolding.

To reap the benefits of peer teaching, tutees must reach a point when they are practicing a new task on their own. Tutors can help prepare students for independent demonstration by providing instructional scaffolding, a method by which the tutor gradually reduces her influence on a tutee's comprehension. See our guide on instructional scaffolding here for further explanation.

9. Explain directive versus nondirective tutoring.

A tutor who engages in directive tutoring becomes a surrogate teacher, taking the role of an authority and imparting knowledge. The tutor who takes the non-directive approach is more of a facilitator, helping the student draw out the knowledge he already possesses. Under the directive approach, the tutor imparts knowledge on the tutee and explains or tells the tutee what he should think about a given topic. Under the non-directive approach, the tutor draws knowledge out of the tutee, asking open-ended questions to help the student come to his own conclusions about the topic. Both are valid methods, but different levels of each should be used with different students and in different scenarios.

10. Explain how to provide feedback.

Positive verbal feedback: Teach your tutors the importance of positive verbal feedback. Prompt students to come up with a list of standard statements which they feel may be positively reinforcing. They also need to be taught how much positive feedback to give. Giving feedback after each and every response can take too much time and diminish its effect. Teach tutors to give genuine praise after every third or fourth correct response and after particularly difficult problems. Make sure to have them practice.

Corrective feedback: Teach your tutors how to respond when an incorrect answer is given. When an incorrect answer is given, the tutor should promptly give and explain the correct answer or draw the correct answer out of the tutee without being critical of the tutee, and then give the tutee an opportunity to repeat the correct answer.

It should be noted that the majority of peer-tutoring programs for students are intended to complement, not substitute for, regular classroom instruction. Tutoring should never be a substitute for professional teaching. An ideal learning atmosphere is as a rich blend of peer and adult instructional strategies.

Benefits of Peer Tutoring

The main benefits of peer teaching include, but are not limited to, the following:

- Students receive more time for individualized learning.
- Direct interaction between students promotes active learning.
- Peer teachers reinforce their own learning by instructing others.
- Students feel more comfortable and open when interacting with a peer.
- Peers and students share a similar discourse, allowing for greater understanding.
- Peer teaching is a financially efficient alternative to hiring more staff members.
- Teachers receive more time to focus on the next lesson.
- Research also indicates that peer learning activities typically yield the following results for both tutor and tutee: team-building spirit and more supportive relationships; greater psychological well-being, social competence, communication skills and self-esteem; and higher achievement and greater productivity in terms of enhanced learning outcomes.

IV. INDIVIDUAL ACTIVITIES

The social aspect of activities is just as important as the creative, leisure and learning aspects. Mentors make great efforts to help people join small friendly groups to share experience and skills and support each other in maintaining the group in the long-term.

Some participants are housebound. In these circumstances, mentors encourage activities that people can pursue individually at home. Sometimes, arrangements may be made for an external artist or 'provider' to visit the person for a while. Wherever possible, the participant is introduced to others who might share their interests, by phone or letter or visiting. Some people prefer to pursue interests on their own.

Here are a few examples of individual activities prompted by mentors:

- A lady who had lived an active life but had become isolated in her home started recording her autobiography on tape, with the mentor's encouragement. She was hesitant at first but developed such confidence that she started using the tape to provoke memories from visiting friends and family, developing lively discussions.

  - A lady who had withdrawn to her room in a residential home, and had very poor memory, started a 'Day Book' where visitors jotted down what they talked about so the next visitor could pick up the conversation. The lady became more confident in 'joining in' and visitors were encouraged and had more to talk about.

  - A participant with severe hearing loss wanted to learn new crafts, including quilling (the craftsperson introduced by the mentor had first to learn quilling herself). The mentor linked the lady with the local church, and she now makes crafts for the church to sell for charity; this provides regular contact outside her home.

  - A man aged 90 living in sheltered accommodation had never learned to cook and asked for lessons after his wife died. Within several sessions, he was preparing 3-course meals for his visiting son and was delighted with his new skills.

  - A participant in Moretonhampstead with rapidly failing eyesight, who used to write poetry and do some painting, wanted to revive her skills despite her changed circumstances. She experimented with using textures (sand, etc.) instead of paint and collected old and new poems and pictures into a small book that she has distributed with great pride to many friends and family.

  - A professional writer has worked with a former poacher and gamekeeper to help him produce a book of lively poaching stories and to give him tips on how to market his work through magazines and articles.

  - A participant who had begun to feel very isolated as a result of being restricted to a wheelchair was visited several times by a mentor and introduced to the South West Lakes organization that he was able to help by trialing access along their routes around Roadford Resevoir. His self-confidence grew greatly.

V. EXPERIENTIAL METHOD

Introduction

Learning is the modification of the behavior through experience. The process has continuity and is carried through various years. The perfection in learning in an individual is achieved only through the active interaction between knowledge acquired by the individual in the years and the

variety of experience he has received. In learning mind reacts to external conditions and the reactions are modified with the help of experience the learner gains. The key element behind this view is that no two minds react identically in the same situation because each has a different history. The process of learning takes place at three different levels depending on the prior experience of the learner, his intellectual ability and the presentation of the materials. The learning process can be categorized into three levels viz. association, conceptualization and creative self-direction.

Association

All initial learning consists in the formation of associations. Here the thing which is to be conceived is taken as comprising of two parts are related to each other in such a way that one follows or precedes the other. Most of the knowledge and attitudes are learnt by association. This type of learning is comparatively easy to evaluate.

Conceptualization

Conceptualization is the process of grasping the commonalities or the relationships. It is the process of abstracting the commonality in association meaning that the relevant relationship is grasped. Most of the higher learning in the cognitive as well as affective domains takes place by conceptualization.

Creative Self-Direction

In creative self-direction is achieved as people progress from association and move on to conceptualization. This is a kind of learning that characterizes the creative artist. This part has got it strength from emotional or affective dimension of learning. When a student has reached to this level of learning, he can work independently on his own initiative.

Some of the important psychological theories of learning are Piaget's stages of intellectual growth, Ausubel's theory cognitive subsumption, Gagne's model of sequential learning and Bruner's concept learning. Learning can be categorized as a process occurring purely psychological in nature and is continuous over years.

Learning experience

Children learn by feeling, thinking, and acting. Learning results from the active participation of children in the stimulus situation which the teacher provides in the class. Learning experience is not a part of syllabus but it is the interaction of the leaner and the situation provided by the teacher. Selecting appropriate learning experience suitable for educational goals must be purposeful, continuous, interactive and integrating. Learning experience should be based on facts, concepts,

principles, generalization, curricular and co-curricular activities for making learning experience more functional and effective in teaching learning process.

Types of learning experience

1. Direct experience

2. Indirect experience

Direct Experience

Firsthand experiences with various objects are termed as direct experience. These experiences are more than perceptual learning in the sense that they include experience with symbols. Perceptual learning arise out of experience dependent on seeing, learning, smelling, tasting, touching, feeling, handling and manipulating objects in various ways and we get meanings of terms like sweet, sour, soft-hard, pulling, pushing through perceptual learning.

Indirect Experience

The experiences which are not received as real are termed as indirect experience. It is very difficult to have direct experience in all classroom situations. Every student cannot get a direct experience in matters like earth quake, feelings of travelling by air or sea. Students can appreciate such experience through imagination only. Some of the experience like nuclear reactions and chain reactions will not be therefore the teacher also, even though teachers teach this topics well.

Characteristics of Good Learning experience

- The learning experience should be directly related to the instructional objectives
- It should satisfy the psychological needs of the learner
- It should be meaningful
- It should be appreciate for the maturity level of the learner
- It should be related to the life situations, so that they may be more effective, more meaningful and satisfying to the learner
- It should be reinforced
- It should be intensive. AV aids play an important role in this
- It should be varied, rich in content and novel
- It should be related to the availability of material and time

Sources of Learning Experience

Sources of learning experience can be grouped into some common heads. They are home, society, peer groups, school, mass media etc.

VI. TEACHER GUIDED LEARNING

Introduction

You have heard the chestnut: "Those who can, do. Those who can't teach." It's catchy, but like so many popular notions about teaching and learning, it's wrong. The best teachers are also doers, and they help their students become doers, too.

Most teachers bring a wealth of practical experience with them to the classroom, serving as role models of what can be achieved and mentoring students through the steps to success. Like a wise parent or a supportive boss, a versatile teacher who is both mentor and role model can inspire, coach, and motive the next generation. Teachers with practical experience and willingness to explore are especially motivating to future entrepreneurs and innovators: people who take ideas and put them into action.

The Guided Learning Method of Teaching is good because students are provided with structured guidelines for assignments but allowed to discover details on their own Students are given a set of guidelines to follow and then collect information and data on their own. Guided teaching can be limiting though because some students need to come up with their own topic. It is especially limiting for students who think outside the box and need to discover things on their own.

The importance of guided practice in the classroom:

"Most of all, a man tends to imitate himself. The fact that he has done a thing once, in a certain way, makes it easier for him to do it again in the same way. The oftener this is repeated, the more fixed does the habit become. At last he cannot do the thing in a different way without great effort. Finally it may become almost impossible for him to do it in a different way."
— Charles Carroll Everett from "Ethics for Young People" (1891)

From our life experiences, we all know the importance of practice in order to get better at something. Consider something you do well: a sport, an activity, a skill. How did you learn to do it? How did you get better at it, or master it?

There is an old saying we are all familiar with: Practice makes perfect. In the classroom, students must practice the skills we are teaching for it to become internalized. As Everett pointed out in 1891, students need to practice something for it to become habit.

It is important for us as educators, then, to not only provide opportunities for students to practice, but to practice correctly. As some have pointed out, perfect practice makes perfect.

This is not to say that we cannot allow students to make mistakes. Errors and mistakes are an integral part of the learning process. Through practice with feedback, students learn to correct errors or mistakes and master a skill or concept. Players of any given sport play practice games, tournaments or races, and the coach provides feedback to participants. So must teachers provide opportunities for students to practice a skill and provide targeted feedback to students so that they can progress.

Madeline Hunter spoke of the importance of guided practice in the 1980s. It has since been entrenched in lesson plans and discussions about teaching. We know that practice builds fluency; in order for students to learn to read or write, they must participate in the act of reading and writing. Reading and writing must be incorporated often in each of the content areas we are teaching so that students can learn about the topic and express their thinking. Similarly, by adding student discourse, we help students to solidify their thinking, gain ideas and thoughts from others and become more articulate.

What does guided practice look like in the classroom? Many teachers are familiar with the phrase "I do, we do, you do," or the gradual release of responsibility.

The idea here is that the learning and cognitive load should be shifted to students over time through teacher modeling, collaborative practice and individual application. The release can occur over a short time frame, such as within a class period, or over longer periods of time, depending on the complexity of the skill or concept.

At times, however, we see an instant release of responsibility, wherein students are immediately asked to apply a skill or concept independently, sometimes after little or no modeling. Consider the following scenario, all too common in classrooms today: The teacher asks the students to read specific pages in the textbook and take notes on what they are reading. The teacher might point out to students that it is important to pay attention to the headings, bolded words, graphics, italicized portions of the text, etc.

After they have read and taken notes, the students then are asked to answer questions based on the reading, referring back to their notes. The teacher instructs the students that they can either answer the questions independently or in small groups.

This scenario provides little to no practice for students before moving to independent practice. The teacher will not necessarily be able to determine areas of misunderstanding or needed additional instruction until students have turned in the work.

Even when teachers are cognizant of the gradual release and begin to implement it in their lessons, we often see a dominance of teacher-student interactions. For example, the teacher may model solving a math problem, using a whiteboard, interactive whiteboard, overhead or document camera.

From there, the teacher guides the students through a discussion, potentially calling on students to share what the next step is, or having individual students come to the front of the room to help work through the problem. The teacher then has the students independently practice by solving a series of problems that involve the skills and concepts being taught.

These interactions, however, miss a critical learning component: learning through collaboration with peers.

Consider, then, a slight change in the phrase "I do, we do, you do" to "I do, we do together, you do together, you do independently." The amount of time for each of these phases of the gradual release will vary, and teachers need to consider both long-term and short-term implementation.

Modeling, guided practice, collaborative practice and independent practice may be done within one class period, and may also last over a longer time span in order to help students master a more complex skill.

For example, math expert Terry Wardlow recommends the following sequence in a math lesson: the lesson starts off with four different examples done by the teacher of the same type problem with teacher talk. Here the teacher is modeling and sharing her thinking about how the problem is being solved.

From there, the "we do" is similar but includes students coming to the board to write the next step or steps. The teacher might have three or four kids to the board on one problem, or she may call on students to tell you what to do next and why.

This is done for two or three problems so multiple students have the opportunity to work through the problem with teacher guidance. The following step would be to have students work collaboratively, in pairs, triads or potentially groups of up to four students do three or four problems.

Lastly, students would be assigned a few problems to do on their own to practice and/or demonstrate mastery of the skills. All of the problems would need to be similar in terms of the skills being practiced.

Modeling (I do)

In this portion of the lesson, be explicit with students as to how to use a particular skill you are teaching or understand the concept being taught. Include think-alouds as a way to explicitly share

with students what goes on in the mind of a proficient reader, writer, mathematician or professional in the discipline you are teaching.

Provide scaffolds for students by clearly explaining tasks and lead students step-by-step through the processes they will be using. Additionally, consider including color-coding as a scaffold, by changing the color of the pen you are using during each step.

For example, if solving a multiple-step math problem, switch colors when you go to the next step so that each step is clearly marked for students and you can discuss clearly each step with them.

It is important to point out that students should still be actively engaged during the modeling process. Teachers can have students chorally call key vocabulary or next steps, discuss predictions or ideas with a partner, or write down a quick summary of what has been done so far before moving on.

Guided practice (we do together)

As you move toward practicing with students, consider how you will call on students. Begin with selecting some students intentionally. These may be students who have a clear understanding of the step you are practicing, or students that have a common misconception that needs to be addressed with the class.

Next move to calling on students randomly. This can be done using a cooperative structure like numbered heads, or through other methods such as using a computer program. Calling on random students holds all students to be accountable to work through the skill and demonstrate where they are in the process. Successes or errors can be addressed at this time.

Finally, call on volunteers. At times the students who always volunteer to share or practice will have something additional to add that has not come up with other students. This practice flips what we often see in classrooms, where teachers first call on volunteers. The problem there is that often the same group of students gets called on time and again, and leave other students disengaged or lacking an opportunity to practice with direct guidance from the teacher. Of course, the students who are helping you or sharing ideas should not be the only students engaged in the instruction.

Just as in the modeling section, other students can stay engaged by chorally calling out vocabulary or steps, helping the student through "phone-a-friend" or by assisting each other, writing down information, making predictions, discussing with partners, etc.

Collaborative peer practice (you do together)

During the interactive peer-collaboration guided-practice phase, students work together in small groups to practice the skill or concept. Teachers can incorporate cooperative learning structures at this point to maximize student participation and practice of the skills or concepts.

Having students seated in pairs, triads or small groups will be helpful during this time, and structures such as having a talking stick and explicit roles within a group can keep students on task and provide an opportunity for all students to be equally involved.

The teacher, during this time, walks around monitoring student practice and assisting students as needed to clarify any misconceptions. The teacher can remind students of key points, and assesses if particular students or if the entire class needs additional instruction.

During this peer collaboration time, teachers can also pull together a small group of student that may need additional modeling or instruction, thereby differentiating for students based on need.

Independent practice (you do independently)

The last stage requires students to practice and apply the task independently. In many ways this can be said to be the purpose of education: to have students be able to apply the skills and information they have learned on their own, without the help and support of a teacher or peer.

There are multiple ways that teachers have implemented and continue to implement independent practice and application in the classroom. Students do projects, keep portfolios, do homework and do in-class practice each day in classrooms around the world.

Providing Guided Practice & Models in Instruction

Teachers spend a lot of time with students throughout the day. Not all of it is used for direct instruction. This lesson shows how to use methods of guided practice and modeling when teaching and offers examples of how each is used.

Quality Instruction

When Dan decided to become a teacher, he didn't realize he'd spend so much time talking. Most of the day, he's either talking to his whole class, small groups, or individual students. The more seasoned teachers on his floor don't seem to spend nearly as much time instructing their students. In fact, when Dan walks by their rooms, he often sees students working on material.

It looks like Dan is making a rookie mistake. Veteran teachers know that quality instruction uses several components:

- Direct instruction time - used to teach students new concepts.
- Guided practice - the time students spend practicing new material with teacher support.
- Independent practice - such as homework, is time students spend practicing without teacher support.

In other words, this model is the 'I do, we do, you do' method of instruction. Dan uses most of his class time instructing, in the 'I do', and allows little time for his students to practice the new concepts he teaches. Let's see how he can change things to improve the flow of his day and increase student success.

Guiding Student Practice - We Do

We all know the benefits of practicing. The more we work on a new skill, like dribbling, the better we get at it. Especially important is the guidance we receive from an expert. When a coach is nearby, showing us how to move our hand in a different way, we get better at dribbling. The same is true for education and learning.

Dan is great at the 'I do' part of his job. He's a top-notch teacher who explains things well to the students. The next step he needs to incorporate is the 'we do', also known as guided practice. Just like a coach standing nearby to help with dribbling skills, the teacher monitors and scaffolds students during guided practice. Guided practice can take a few shapes:

Whole Class

Dan just taught his students how to multiply two digit numbers - now it's time for guided practice. This 'we do' part of the process requires him to support students while they take their first stab at a new concept. He can support all his students while they practice together by giving them some problems to work on and then choosing students to do them on the board. During this time, Dan will walk around the room to check on students as they work. He can also have them work a few problems with partners on whiteboards at seats, or play a game using the new concepts.

Small Group

Another way Dan can guide student practice is to form small guided learning groups. After direct instruction time, Dan can pull these students together to practice skills while other students are working independently. Using guided learning groups gives Dan a chance to zoom in on specific students with common struggles. Today, he may pull a group who didn't quite understand single digit multiplication and help them practice.

Individual

Dan can also scaffold and support guided learning by meeting with individual students and teaching one-on-one. If Dan notices a student who struggles during guided whole group practice, he can make sure to spend time with the student when they go off to practice independently. This way

Dan corrects the misunderstanding of the concept before the student is expected to apply skills without help.

VII. PROBLEM-SOLVING METHOD

It is a method in which a specific problem is given to the students and they are required to find out the solution through objective reasoning and thinking. This method is also highly suitable for teaching of science. In this method, the teacher is going to act as a guide and will be in the background and the students should take active participation in finding out the solution to the problem in hand.

The students should know what he is doing and why he is doing. The problem should be of educational importance and should have educational value and must be selected from the real life situation. Also the problem chosen should be worthwhile and should have practical value. The problem should be chosen in such a way that it can be fitted well in the present curriculum organization in the school to avoid various administrative difficulties.

Steps in problem-solving method

The following steps are involved in the problem solving method.

A. Recognizing the problem

B. Defining and interpreting the problem

C. Collecting data related to the problem

D. Organizing and evaluating the data of problem

E. Arriving at final conclusion

F. Verifying the result

A. Recognizing the problem

In this step, the teacher should organize a discussion of a problem or problems with the students and based on the discussion, the teacher should create a problem in such a way that the students should feel that it is their own problem and they should solve it. The teacher should organize the problem in such a manner that it should arouse student's interest to study and solve it.

B. Defining and interpreting the problem

The teacher should explain the problem given to the students in detail or may be interpreted by the students themselves through discussion. All the attributes constituting the problem must be made clear to the students and the problem must be defined in a systematic manner.

C. Collection of data related to the problem

In this method, the teacher should suggest the available resources like books, journals, periodicals, etc. with respect to the problem given to the students. Also he must encourage the students to collect data from different sources.

D. Organizing and evaluating the data of problem

The data collected must be well organized by the students and all the unwanted superfluous matter should be deleted. In this stage, the teacher can help the students in arranging and classifying the materials collected in a scientific way.

E. Arriving at final conclusion

After analyzing all the important points with respect to the problem, a tentative solution may be discussed among the students and finally they will arrive at a conclusion collectively.

F. Verification of the result

Finally the solution to the problem must be verified by applying this result in a new situation to detect the discrepancies if any, in the facts already discovered.

Merits

- The students will get training in the art of solving a problem in actual life situations
- Reflective thinking and the power of reasoning can be developed with this method
- Self-confidence among the students can be developed through this method.
- It helps the students in developing the power of critical judgement as they have to think a lot to arrive at correct solution to the problem through practice
- It inculcates the habit of open-mindedness and tolerance.

Demerits

- It is difficult for the teachers to organize the content of science according to the need of the students and therefore, he cannot always give real life problems.
- It is a time-consuming process
- Textbooks and other written materials are not available as per the guidelines of the problem-solving method.
- This method is useful only for the students studying higher classes and for those who have higher level of thinking.
- All the lesson or topics cannot be taught by his method.

VIII. SMALL GROUP/WHOLECLASS INTERACTIVE LEARNING

Small group teaching has become more popular as a means of encouraging student learning. While beneficial the tutor needs a different set of skills for those used in lecturing, and more pertinently, small group work is an often luxury many lecturers cannot afford. A further consideration with small group teaching is the subjective perspective of what constitutes a small group. A lecturer used to taking 400 in a lecture would define 50 as a small group, while a lecturer used to a group of 50 would define 5-10 as a small group. In a discussion, where participation is assessed some students may not speak up in a group that begins to be get bigger than 10 participants and in addition tutors would find it hard to assess participation by individual students in groups with numbers greater than this.

Regardless of the group size the learning environment should provide an opportunity for students to obtain a deep understanding of the material. Biggs (1989) notes that in order to gain a deeper learning the following four components are important:

- Motivational Context: Intrinsic motivation, students need to see both learning goals and learning process as relevant to them, to feel some ownership of course and subject.

- Learner Activity: Students need to be active not passive, deep learning is associated with doing rather than passively receiving.

- Interaction with Others: Discussion with peers requires students to explain their thinking, this, in turn, can improve their thinking.

- Well Structured Knowledge Base: The starting point for new learning should be existing knowledge and experience. Learning programmes should have a clearly displayed structure and should related to other knowledge and not presented in isolation.

General Techniques for Use in Small & Large Group Teaching

The following methods can be adapted for either large or small group teaching. Provided below are a selection of common flexible methods one may use in both large and small group teaching. These are open to adaption and interpretation to suit your individual needs, and were originally listed by Brown (1997).

1. Silent Reflection
2. Rounds
3. Three Minutes Each way
4. Buzz Groups
5. Brain storms

6. Syndicates
7. Snowballing/Pyramiding
8. Fishbowls
9. Crossovers

1. Silent reflection

This is where you give students a few minutes to think about a problem or issue. Ask them to write down their thoughts or ideas on a note pad. Keep the task specific. For example, ask them to write down the three most important, or positive, or expensive etc. aspects of a scientific issue. It is often useful to ask them to write on post-its and then post them on, say, a notice board or the well. Alternatively, ask them to share their ideas with their neighbour before moving into a discussion phase. This technique suits quieter students and ensures that everyone has the opportunity to provide feedback.

2. Rounds

Where groups are not too large (20 or so) go around everyone in the group and ask them to respond. People often use rounds as icebreakers or as part of the winding-up of a session. Try not to make the round too daunting by giving students guidance on what is expected of them. Keep it short. For example try and avoid questions like. "I want everyone to give their name and then identify one aspect of the course that they know nothing about but are looking forward to learning about". In big rounds, students can be quite nervous, so make it clear that it's OK to pass and if people at the beginning have made your point, that concurrence is sufficient.

3. Three minutes each way

Ask students in pairs to speak for three minutes on a given topic. Be strict with timekeeping. Your students might find this quite difficult at first, but it is an excellent way of getting students to articulate their ideas, and also means that the quieter students are given opportunities to speak and be heard. The art of listening without interrupting (other than with brief prompts to get the speaker back on target if they wander off the topic) is one that many students will need to foster. This pair-work can the feed into other activities.

4. Buzz Groups

Give pairs, threes, fours or fives small timed tasks which involve them taking to each other, creating a hubbub of noise as they work. Their outcomes can then be shared with the whole group through feedback, on a flip chart sheet poster, on an overhead projector transparency or otherwise as appropriate.

5. Brain Storms

This can be valuable way of stimulating creative freethinking and is particularly useful when looking for a solution to a problem or in generating diverse ideas. Start with a question like "How can we..? or "What do we know about…?" and encourage the group to call out ideas as fast as you can write them up (perhaps use two scribes on separate boards if the brainstorm flows well). Make it clear that this is supposed to be an exploratory process, establish some ground-rules in advance for example:

A large quantity of ideas is desirable, so everyone should be encouraged to contribute at whatever level they feel comfortable.

6. Syndicates

This is the term used to describe activities undertaken by groups of students working to a brief under their own direction. They can be asked to undertake internet or literature searches, debate an issue, explore a piece of text, prepare an argument, design an artifact or many other tasks. To achieve productively, they will need an expect brief, appropriate resources and clear outcomes.

Specialist accommodation is not always necessary; syndicates can work in groups spread out in a large room, or, where facilities permit, go away and use other classrooms etc. if the task is substantial, the tutor may wish to move from group to group, or may be available on a 'help desk' at a central location. Outcomes may be in the form of assessed work from the group or produced at a plenary as described above.

7. Snow balling/Pyramiding

Start by giving students an individual task of a fairly simple nature such as listing features, nothing questions, identifying problems, summarizing the main points of their last lecture.

Then ask them to work in pairs on a slightly more complex task, such as prioritizing issues or suggesting strategies. Thirdly, ask them to come together in larger groups, fours or sixes for example and undertake a task involving, perhaps, synthesis, assimilation or evaluation.

Ask them to draw up guidelines, perhaps, or produce an action plan or to assess the impact of a particular course of action. They can them feed back to the whole group if required. You may also wish to try 'reverse pyramiding'!

8. Fishbowls

Ask for a small group of up to half a dozen or so volunteers to sit in the middle of a larger circle comprising the rest of the group. Give them a task to undertake that involves discussion, with the group around the outside acting as observers. Make the task you give the inner circle sufficiently

simple in the first instance to give them the confidence to get started. This can be enhanced once students have had practice and become more confident.

This method can be useful for managing students who are dominating a group, because it gives them permission to be the centre of attention for a period of time.

After a suitable interval, you can ask others from the outer circle to replace them, thus giving the less vocal ones the opportunity for undisturbed "air-time". Fishbowls can also be useful ways of getting representatives from buzz groups to feedback to the whole groups to feedback to the whole group.

Some students will find it difficult to be the focus of all eyes and ears, so it may be necessary to avoid coercing anyone to take centre stage (although gentle prompting can be valuable).

9. Crossovers

Often we want to mix students up in a systematic way so they work in small groups of different compositions. You can use crossovers with large groups of students, but the following example shows how this method would work with twenty seven students.

- Prepare as many pieces of paper as you have students, marking on them A1, A2, A3, B1, B2, B3 and so on (this combination is for creating triads – groups of three).

When you are ready to have the students go into smaller groups, get them to group themselves with students who have the same letter as themselves: AAA, BBB, CCC and so on for one group exercise. For a second exercise, ask the students to work with people who have the same number as themselves; 111, 222, 333. A third exercise will have students in triads where none of the students can have a matching letter or number: e.g. A1, D2 F3.

- This will allow you to get students to crossover within groups, so they work with different people on each task in a structured way.

- This technique also cuts down on the need to get a lot of feedback from the groups because each individual will create rapport on the outcomes of their previous task in the last configuration. As with snowballing or pyramids, you can make the task at each stage slightly more difficult and ask for a product from the final configuration if desired. Crossovers are useful in making sure everyone in the group is active and also help to mix students outside their normal friendship, ethnic or gender groups.

  It takes a little forethought to get the numbers right for the cohort you are working with (for example, you can use initial configurations of four rather than three, so that in stage two they will work as fours rather than triads).

If you have one person left over, you can just pair them with one other person and ask them to shadow that person wherever they go.

IX. STUDENT SEMINAR

This is the best technique for some situations. This is mostly used alone. When the topics are easy the teacher can ask the students to prepare an essay on the topic and present it to the class. The topics may be assigned for all the students. The papers may be read in the class one after the other. After the presentation the students can ask questions and raise doubts. The paper reader will answer these questions. The teacher will be the chairman or leader. The size of the class will be small containing a maximum of 20 to 25 students. The class teacher acts as a resource person too.

In a typical seminar the strength may range from 6 to 25 and it usually has an appointed chairman and one or more resource persons. It is a common of discussion group and is ideally suited for the study and analysis of difficult problems over a period of time. The group increases in its effectiveness when members become acquainted with each other, and not to feel threatened by each other and are willing to express ideas frankly.

A seminar is a form of academic instruction, either at an academic institution or offered by a commercial or professional organization. It has the function of bringing together small groups for recurring meetings, focusing each time on some particular subject, in which everyone present is requested to actively participate. This is often accomplished through an ongoing Socratic dialogue with a seminar leader or instructor, or through a more formal presentation of research. It is essentially a place where assigned readings are discussed, questions can be raised and debates can be conducted. Student seminars are the open presentations done by the students before their peers and teachers. The word seminar is derived from the Latin word seminarium, meaning "seed plot"

Some Tips for Seminar Preparation

- Choose a Good topic: Choose a topic which will sustain your interest and will allow you to exhibit enthusiasm during your presentation

- Keep your Audience in Mind: The primary objective in giving a talk should be a communicate an interesting idea to students who attend the seminar. This means that the talk should be delivered in a way that students in attendance understand what you are saying, so be mindful of their background.

- Tell a story/ anecdote: Begin with solid motivation for your problem and plenty of illuminating examples. Only after your audience understands what your topic is and why they should care about it should you spend time working carefully through the relevant science.

- Keep timing in mind: Choose a topic that you can motivate and explicate comfortably in this window of time.

Scoring Indicators for Evaluation of Seminar

1. Ability to Collect Data: Sufficient, Relevant, Accuracy of facts
2. Ability to Prepare Seminar Paper: Introduction, Content Organization, Conclusion
3. Presentation: Communication, Competence, Fluency, Spontaneity
4. Understanding the Subject: Involvement in the Discussion, Responding suitably, Capacity to handle differences of opinion

Advantages

1. Students develop the habit of reading more books.
2. They develop the ability to collect relevant information from different sources.
3. They are able to remove shyness and contribute something in the class.
4. They develop a high degree of participation.
5. They are able to face the students and answer the questions boldly.

Disadvantages

1. It requires more time, more space and more personnel.
2. Sometimes only a few students will participate in seminar.
3. Unless the chairman is skilful, the seminar easily degenerates into a question and answer session or a lecture.

X. GROUP DISCUSSION

Managing Group Learning in Classroom

Classroom management is the most vital skill that the teacher should demonstrate. The factors of classroom management depend on the teacher's knowledge of structuring his presentation, knowledge about the psychology of the learner rapport between the students, rule making capacity etc. the efficiency for managing the group learning techniques depends on teacher's efficiency in handling human resources. The teacher should not be a dictator for the execution of the task but he should be dictator of ideas. He should plan the activities in such a way that effective utilization and involvement pupil participation should be maintained. To be an effective classroom manager teacher must learn to exercise, the least amount of power necessary to accomplish the desired result.

Tips for managing group learning

Teachers can use some techniques for producing better efficiency in group learning techniques.

1. Change group composition frequently so that students of different backgrounds, academic achievement levels, and social skills learn to work together. This capacity is build to familiarity, insights, and trust.

2. Organize the work so that each team member contributes to the achievement of the team goals.

3. Use teacher observations, tests, checklists, and individual assignments to measure each student's achievement.

4. Promote group responsibility by holding groups accountable for completing specific tasks or project steps during work sessions.

5. Tech, model, and assess the social skills you expect teams to demonstrate: Listening, taking turns, encouraging, and supporting each other, staying on task, cleaning up the work area, etc.

6. Pick the right sized task. Bit must be challenging enough to keep students interested, but easy enough for students to achieve success (with effort) in the time allotted.

7. Include a very specific assignment or menu of options for teams to work on. "every meeting results in a product "-a list to create, a diagram to draw , an outline to display, a form to fill out.

8. Anticipate that not every group will finish at the same time. Have a classroom poster or   handout with a list of "what to do if you finish early" items on it.

9. Teach teams how to assess how well they work together. Encourage "team reflection" as part of every activity.

Small   Group discussions

Active learning can be implemented by organizing the class into small groups of students who can work together, foster their own learning strategy and create an atmosphere in which information sharing can takes place. Instructional techniques involving group controlled learning experiences provide room for the learner's self-development and active participation in the teaching learning process. A discussion is a teaching technique that involves exchange of ideas with active learning and participation by all concerned. Discussion is an active process of teacher-pupil involvement in the classroom environment. This allows a student present its own perspective about something freely. Four basic concepts are to be considered for initiating small group discussion.

- Process – the interactions that takes place within the group

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- Roles – each group member's specific responsibilities within the group

- Leadership – the capacity to guide and direct others in a group setting

- Cohesion- group members support for one another

- Different Types of Small Group Discussions

- Brain Storming

- Tutorials

- Buzz session

- Task-directed discussion

- Role playing

- Simulation

- Inquiry centered discussion

XI. MIXED ABILITY GROUPING

"Mixed ability grouping", refers to grouping together students of different abilities. Usually this kind of grouping occurs when the group consists of students with different ages with one or two years span. The term "mixed age grouping" or "heterogeneous grouping". But there is distinction between mixed age groupings and mixed ability grouping, the second one is done only based on the ability, since the basic criterian for grouping is ability and not necessarily age. In mixed ability groups there are some students that are more mature and experienced than other ones and thus they have more advanced ability to acquire knowledge. The main aim of setting up mixed ability groups is not to produce homogeneity of ability in a group as this is the case in ability grouping, but to increase interaction across students with different abilities. In other words the purpose of mixed ability grouping is for children to benefit by their intellectual and social interaction with other students of their group that have different social behaviour and ability to learn. The former reveals the main difference of mixed ability grouping with ability grouping. While grouping chidren with same ability the goal is to achieve homogeneity of the group and homogenize instruction for students of the group on basis different of grads are ages but based on ability. Age may not be an exclusive criterion for indicating different levels of ability of children but it is the first factor that you take into account when you set up mixed ability groups. Putting together students with one or two grades difference you can make a mixed ability group. It is believed that this interaction and cooperation of children with different intellectual level and social behavior, experience and skills can have worth mentioning educational benefits. Research is much more favorable for mixed ability grouping than ability

grouping and stress on certain important skills that acquired or improved in mixed ability groups. In mixed ability group of students of different grades indicates the following:

The older, more intellectually and socially matured children benefit:

- By helping their group mates since they are becoming their mentors, they are developing healthy leadership skills and enhancing their self - esteem.
- By improving cognitive skills since they have the chance to consolidate knowledge by sharing it or instructing their younger group mates.
- The younger, less intellectually and socially matured children benefit:
- By being exposed on cooperation activities with more matured students in a spirit of collaboration and team working
- By being stimulated by students with stronger personalities, better abilities with wider range of interests
- By belonging to a team where they feel security, trust and well guided by their group mates.

However as always there are not only beneficial outcomes by mixed ability grouping. Just putting some students together with different abilities doesn't mean that one can guarantee satisfactory results on social and cognitive level for the students. The success of the attempt depends on taking into account several parameters like the appropriate age difference to have the appropriate range of abilities, the allocation of time to activities, the modification of the curriculum and good detailed planning by the teacher. There not enough data available indicating in detail the educational principles and the implementation strategies that mixed ability grouping should be governed by. However it is strongly believed that good planning and monitoring by experienced teachers could reveal the benefits of the technique easily. Mixed ability grouping is believed to be a valuable tool for the multi grade teacher and safeguard good levels of quality in multi grade education. Moreover if the techniques like "peer – tutoring" or the "activity centers approach" along with utilization of ICT in multi grade classrooms are combined together with grouping techniques the results can be even more remarkable.

RECENT TRENDS

Constructivist learning: Constructivism is a learning theory found in psychology which explains how people might acquire knowledge and learn. It therefore has direct application to education. The theory suggests that humans construct knowledge and meaning from their

experiences. Constructivism is not a specific pedagogy. Piaget's theory of Constructivist learning has had wide ranging impact on learning theories and teaching methods in education and is an underlying theme of many education reform movements. Research support for constructivist teaching techniques has been mixed, with some research supporting these techniques and other research contradicting those results.

Problem-based learning: Problem-based learning is a student-centered pedagogy in which students learn about a subject through the experience of solving an open-ended problem found in trigger material. Problem based learning is similar to project based learning, in that it is a student focused approach to learning based on solving open-ended problems, but tends to be more knowledge focused and to operate in loops of inquiry, analysis and articulation. Small group learning is an educational approach. Small group learning allows students to develop problem solving, interpersonal, presentational and communication skills, all beneficial to life outside the classroom. Whole group instruction is direct instruction using traditional textbooks or supplemental materials with minimal differentiation in either content or assessment. It is sometimes referred to as whole class instruction. It is typically provided through teacher-led direct instruction.

Brain-based learning: Brain-based learning is refers to teaching methods, lesson designs, and school programs that are based on the latest scientific research about how the brain learns, including such factors as cognitive development how students learn differently as they age, grow, and mature socially, emotionally, and cognitively.

Collaborative learning: Collaborative learning is an educational approach to teaching and learning that involves groups of students working together to solve a problem, complete a task, or create a product. During this intellectual gymnastics, the learner creates a framework and meaning to the discourse. Thus, collaborative learning is commonly illustrated when groups of students work together to search for understanding, meaning, or solutions or to create an artifact or product of their learning.

The flipped classroom: The flipped classroom is a pedagogical model in which the typical lecture and homework elements of a course are reversed. Short video lectures are viewed by students at home before the class session, while in-class time is devoted to exercises, projects, or discussions. Flipped learning is a learner-centered curriculum that changes the traditional roles of teacher and student. In these instructional approaches, faculty creates active learning opportunities for students to

engage with the content on a deeper level. Flipped Learning is an approach that allows teachers to implement a methodology, or various methodologies, in their classrooms. These Flipped Learning leaders also distinguish between a Flipped Classroom and Flipped Learning. These terms are not interchangeable. Flipping a class can, but does not necessarily, lead to Flipped Learning. Many teachers may already flip their classes by having students read text outside of class, watch supplemental videos, or solve additional problems, but to engage in Flipped Learning, teachers must incorporate the following four pillars into their practice.

Blended learning: Blended learning is a formal education program that involves combining Internet and digital media with traditional classroom methods that require the physical presence of both a teacher and students, with some element of student control over time, place, path, or pace. Blended learning is a term increasingly used to describe the way e-learning is being combined with traditional classroom methods and independent study to create a new, hybrid teaching methodology. It represents a much greater change in basic technique than simply adding computers to classrooms; it represents, in many cases, a fundamental change in the way teachers and students approach the learning experience. Blended learning is a combination of offline (face-to-face, traditional learning) and online learning in a way that the one compliments the other. It provides individuals with the opportunity to enjoy the best of both worlds. For example, a student might attend classes in a real-world classroom setting, and then supplement the lesson plan by completing online multimedia coursework. As such, the student would only have to physically attend class once a week and would be free to go at their own pace

E-learning: E-learning is electronic learning, and typically this means using a computer to deliver part, or all of a course whether it's in a school, part of your mandatory business training or a full distance learning course. In the early days it received a bad press, as many people thought bringing computers into the classroom would remove that human element that some learners need, but as time has progressed technology has developed, and now we embrace smart phones and tablets in the classroom and office, as well as using a wealth of interactive designs that makes distance learning not only engaging for the users, but valuable as a lesson delivery medium. Building partnerships with quality training providers, and combining this with a dedicated experienced technical team and support staff, Virtual College provides the perfect blended learning environment, offering anyone the chance to take their online training to the next level. Some of the most important developments in education have happened since the launch of the internet. These days' learners are

well versed in the use of smart phones, text messaging and using the internet so participating in and running an online course has become a simple affair. Message boards, social media and various other means of online communication allow learners to keep in touch and discuss course related matters, whilst providing for a sense of community.

Videoconferencing

Video conferencing is the conduct of a videoconference (also known as a video conference or video teleconference) by a set of telecommunication technologies which allow two or more locations to communicate by simultaneous two-way video and audio transmissions. A video conference is a live, visual connection between two or more people residing in separate locations for the purpose of communication. At its simplest, video conferencing provides transmission of static images and text between two locations. At its most sophisticated, it provides transmission of full-motion video images and high-quality audio between multiple locations.

Questions for Discussion and Reflection

1. What is 'lecture method' of teaching? When the lecture method can be effectively used?
2. Explain the features of 'demonstration' method of teaching and its merits and demerits.
3. What is team-teaching? How could it be organized in schools?
4. Explain the concept of flipped classroom?
5. What are the different ways of organizing the laboratory method of teaching? State their relative merits and demerits.
6. Define 'Project Method' of teaching. Explain briefly the various steps involved in it. Mention its merits and demerits.
7. What are the different ways of organizing the problem-solving method of teaching?
8. How a seminar is conducted? Mention its advantages and limitations.
9. Define 'Group Discussion' of teaching. Explain briefly the various steps involved in it
10. What are the different ways of the problem-based learning?

Unit V: Resources for Teaching Biological Science

Objectives:

- To obtain knowledge on the Print resources in teaching of biological science.

- To understand the audio resources in teaching of biological science.

- To analyse the visual resources in teaching of biological science.

- To explore the ICT resources in teaching of biological science

PRINT RESOURCES:

Newspaper: A newspaper is a serial publication containing news, other informative articles (listed below), and advertising. A newspaper is usually but not exclusively printed on relatively inexpensive, low-grade paper such as newsprint. Newspapers are typically published daily or weekly.

Magazines: Magazines are publications; usually periodical publications that are printed or electronically published they are generally published on a regular schedule and contain a variety of content. In the case of written publication, it is a collection of written articles. A "magazine" is a periodical with a popular focus, i.e. aimed at the general public, and containing news, personal narratives, and opinion. Articles are often written by professional writers with or without expertise in the subject; they contain "secondary" discussion of events, usually with little documentation.

Journal: A "journal" is a scholarly periodical aimed at specialists and researchers. Articles are generally written by experts in the subject, using more technical language. They contain original research, conclusions based on data, footnotes or endnotes, and often an abstract or bibliography. The Journal of Physical Chemistry, The Chaucer Review, The Milbank Quarterly, and Labor History are examples of journals.

Science Encyclopedias: Science Encyclopedias is, any system of knowledge that is concerned with the physical world and its phenomena and that entails unbiased observations and systematic experimentation. In general, a science involves a pursuit of knowledge covering general truths or the operations of fundamental laws. An encyclopedia or encyclopedia is a type of reference or compendium holding a comprehensive summary of information from either all branches of knowledge or a particular branch of knowledge. Encyclopedias are divided into articles or entries, which are usually accessed alphabetically by article name. Encyclopedia entries are longer and more detailed than those in most dictionaries. Generally speaking, unlike dictionary entries, which focus

on linguistic information about words, encyclopedia articles focus on factual information concerning the subject for which the article is named.

AUDIO RESOURCES: An audio tape recorder, tape deck or tape machine is an analog audio storage device that records and plays back sounds, including articulated voices, usually using magnetic tape, either wound on a reel or in a cassette, for storage. In its present-day form, it records a fluctuating signal by moving the tape across a tape head that polarizes the magnetic in the tape in proportion to the audio signal. Tape-recording devices include reel-to-reel tape deck and the cassette deck. Talk radio is a radio format containing discussion about topical issues. Most shows are regularly hosted by a single individual, and often feature interviews with a number of different guests. A talk show or chat show is a television programming or radio programming genre in which one person discusses various topics put forth by a talk show host.

DVDs/CDs: A compact disc (**CD)** is a small, portable, round medium made of molded polymer (close in size to the floppy disk) for electronically recording, storing, and playing back audio, video, text, and other information in digital form. Tape cartridges and CDs generally replaced the phonograph record for playing back music. At home, CDs have tended to replace the tape cartridge although the latter is still widely used in cars and portable playback devices.

DVD is an optical disc technology with a 4.7 gigabyte storage capacity on a single-sided, one-layered disk, which is enough for a 133-minute movie. DVDs can be single- or double-sided, and can have two layers on each side; a double-sided, two-layered DVD will hold up to 17 gigabytes of video, audio, or other information. This compares to 650 megabytes (.65 gigabyte) of storage for a CD-ROM disk.

VISUAL RESOURCES

Pictures: Pictures are kinds of visual instruction materials might be used more effectively to develop and sustain motivation in producing positive attitudes towards English and to teach or reinforce language skills. Pictures attract children and motivate them like to learn English so pictures are unlikable things to teach and learn English. Picture is visual presentation of human, places, or things. The use pictures are more effective than the use words because they are easier to remember and retell. Children can see pictures, recall and retell or describe a human, a place, a thing or a specific situation that is shown in picture. It is much clearer than remembering boring words.

Flashcard: A flashcard or flash card is a set of cards bearing information, as words or numbers, on either or both sides, used in classroom drills or in private study. One writes a question on a card and an answer overleaf. Flashcards can bear vocabulary, historical dates, formulas or any subject matter that can be learned via a question-and-answer format. Flashcards are widely used as a learning drill to aid memorization by way of spaced repetition. Flashcards exercise the mental process of active recall: given a prompt, one produces the answer. Beyond the content of cards, which are collected index, there is the question of *use* – how does one use the cards, in particular, how frequently does one and how does one react to errors, either complete failures to recall or mistakes? Various systems have been developed, with the main principle being spaced repetition increasing the review interval whenever a card is recalled correctly.

Charts : A chart, also called a graph, is a graphical representation of data, in which "the data is represented by symbols, such as bars in a bar chart, lines in a line chart, or slices in a pie chart". A chart can represent tabular numeric data, functions or some kinds of qualitative structure and provides different info. The term "chart" as a graphical representation of data has multiple meanings. Charts are often used to ease understanding of large quantities of data and the relationships between parts of the data. Charts can usually be read more quickly than the raw data. They are used in a wide variety of fields, and can be created by hand or by computer using a charting application. Certain types of charts are more useful for presenting a given data set than others. For example, data that presents percentages in different groups are often displayed in a pie chart, but may be more easily understood when presented in a horizontal bar chart. On the other hand, data that represents numbers that change over a period of time might be best shown as a line chart.

Posters: There are many teaching aids available to help improve your student's learning. Educational posters are an excellent teaching aid that can help children with spelling & comprehension, mathematics, language, geography, science, history and many more subjects. Educational posters are an excellent source for students to read and learn from when focusing on a specific subject. It is proven that visual learning is one of the most popular methods of learning that people find most effective. At Teach Starter, we have used this knowledge and developed a number of educational posters that help children learn through the use of visual aids. Educational posters are eye catching and visually appealing. The use of bright colours and bold text is helpful for getting the attention of children and adults. There are many benefits of having educational posters in your

classroom or at home. Posters can be interactive as laminating certain posters means that students can write on them and then reuse them in the future.

Photograph: A Photograph is worth a thousand words through which a complex idea can be conveyed with just a single still image. Pictures make it possible to absorb large amounts of data quickly. Using photographs for explaining complex phenomena is one of the teaching aids of modern education system all over the world. As the world is changing day by day so are the methods of instructions as the modern curriculum requires conceptual elaborations. Visual aids have the tendency to materialize the thoughts of students in the form of graphics to give thoughts a concrete frame of reference. Use of photographs is important for students because they are more likely to believe findings when the findings are paired with colored images describing complex situations during learning as opposed to other representational data such as complex book text.

Models: Many researchers have tried to put together classroom- or school-based models that describe the teaching-learning process. A model is a visual aid or picture which highlights the main ideas and variables in a process or a system.

ICT RESOURCES:

Radio: Radio is a powerful mass medium used in education for disseminating information, imparting instruction and giving entertainment. It serves with equal ease in both developed and developing countries. It spreads information to a greater group of population thereby saving time, energy, money and man-power in an effective way. Radio is a simple and cheap medium readily available as a small toy. Now small and handy transistors are available with even poorest of people. A small transistor can carry the message to any place on - the earth. It needs very little for maintenance and cheaper production can be taken up with more and more resources. Radio speaks to an individual so also to millions at a time. Hence, any listener can think the broadcast is meant for him whereas when listened in group all think the massage directed towards them. Each student takes the broadcast as very intimate to him. Due to its portability and easy accessibility radio could found its place everywhere whether it was a field, a school, a kitchen or a study room. Radio is a blind man's medium and is meant for ears only. It plays with sound and silence where the sound can be anything like voice or word, music and effect. When one hears radio, simultaneously one can imagine happenings in his/her mind. So it is called as theatre of blind or   a stage for the mind. Radio can be listened to simultaneously along with another work like reading also.

Television: Television or Learning show is the use of television programs in the   field of distance education. It may be in the form of individual television programs or dedicated specialty channels that is often associated with cable television in the United States as Public, educational, and government access (PEG) channel providers. There are also adult education programs for an older audience; many of these are instructional television or "tele course" services that can be taken for college credit Many children's television series are educational, ranging from dedicated learning programs to those that indirectly teach the viewers. Some series are written to have a specific moral behind every episode, often explained at the end by the character that learned the lesson. In the social aspects of television, several studies have found that educational television has many advantages.

Internet: Teachers whose lesson plans were discussed here engage students in meaningful learning activities that are of high relevance to students. The Internet is serving as a solution to engage students and teachers as equal partners in an educational journey in these electronic settings. Computers and the Internet are a great resource for classroom teachers! Teachers can find suggestions, lesson plans, practical support, information, and materials through the Internet. In fact, using a computer can make a teacher's life easier and more efficient. The LEADERS website provides an extensive list of Internet links designed to help teachers of reading and writing. This list of links covers most of the types of websites discussed below. Here are some of the many ways in which teachers can make computer and Internet technology work for them.

Multimedia: Multimedia is content that uses a combination of different content forms such as text, audio, images, animations, video and interactive content. Multimedia contrasts with media that use only rudimentary computer displays such as text-only or traditional forms of printed or hand-produced material. Multimedia can be recorded and played, displayed, interacted with or accessed by information content processing devices, such as computerized and electronic devices, but can also be part of a live performance. Multimedia devices are electronic media devices used to store and experience multimedia content. Multimedia is distinguished from mixed media in fine art; by including audio, for example, it has a broader scope. The term "rich media" is synonymous for multimedia. Hypermedia scales up the amount of media content in multimedia application.

Interactive whiteboard   : An interactive whiteboard is a large interactive display in the form factor of a whiteboard. It can either be a standalone touch screen computer used independently to perform tasks and operations, or a connectable apparatus used as a touchpad to control computers

from a projector. They are used in a variety of settings, including classrooms at all levels of education, in corporate board rooms and work groups, in training rooms for professional sports coaching, in broadcasting studios, and others. The first interactive whiteboards were designed and manufactured for use in the office. This board was used in small group meetings and round-tables.

COMMUNITY RESOURCES

Zoological gardens: A zoo (short for zoological garden or zoological park, and also called an animal park or menagerie) is a facility in which animals are confined within enclosures, displayed to the public, and in which they may also breed. The term "zoological garden" refers to zoology, the study of animals, and a term deriving from the Greek word. . The abbreviation 'zoo' was first used of the *London Zoological Gardens*, which was opened for scientific study in 1828 and to the public in 1857.

Botanical garden: A botanical garden or botanic garden is a garden dedicated to the collection, cultivation and display of a wide range of plants labeled with their botanical names. It may contain specialist plant collections such as cacti and other plants, herb, plants from particular parts of the world, and so on; there may be greenhouses, shade houses, again with special collections such as tropical plants, alpine plants, or other exotic plants. Visitor services at a botanical garden might include tours, educational displays, art exhibitions, book rooms, open-air theatrical and musical performances, and other entertainment. Botanical gardens are often run by universities or other scientific research organizations, and often have associated herbaria and research programmes in plant taxonomy or some other aspect of botanical science. In principle, their role is to maintain documented collections of living plants for the purposes of scientific research, conservation, display, and education, although this will depend on the resources available and the special interests pursued at each particular garden.

Eco-Park: Eco-park is an eco-industrial park or estate is a community of manufacturing and service businesses located together on a common property. Member businesses seek enhanced environmental, economic, and social performance through collaboration in managing environmental and resource issues. By working together, the community of businesses seeks a collective benefit that is greater than the sum of individual benefits each company would realize by only optimizing its individual performance. The goal of an EIP is to improve the economic performance of the participating companies while minimizing their environmental impacts. Components of this approach

include green design of park infrastructure and plants cleaner production, pollution prevention; energy efficiency; and inter-company partnering.

Aquarium: An aquarium (plural: aquariums or aquaria) is a vivarium of any size having at least one transparent side in which water-dwelling plants or animals are kept and displayed. Fish keepers use aquaria to keep fish, invertebrates, amphibians, aquatic reptiles such as turtles, and aquatic plants. The term, coined by English naturalist Philip Henry Gosse, combines the Latin root aqua, meaning water, with the suffix -arium, meaning "a place for relating to". An aquarist owns fish or maintains an aquarium, typically constructed of glass or high-strength acrylic. Cuboid aquaria are also known as fish tanks or simply tanks, while bowl-shaped aquaria are also known as fish bowls. Size can range from a small glass bowl to immense public aquaria. Specialized equipment maintains appropriate water quality and other characteristics suitable for the aquarium's residents.

Science exhibition/fair: A science fair experiment is generally a competition where contestants present their science project, results in the form of a report, display board, and/or models that they have created. Science fairs allow students in elementary, middle and high schools to compete in science and/or technology activities. A science fair experiment is generally a competition where contestants present their science project, results in the form of a report, display board, and/or models that they have created. Science fairs allow students in elementary, middle and high schools to compete in science and or technology activities. The main motive of a science fair is for students to answer a question or task, not from a textbook but found out themselves by conducting a range of experiments and ongoing research in the short amount of time allocated to them. In order that the questions or tasks spark a true interest in the student they should be able to have an interesting, eye catching project. Science fairs also provide a mechanism for students with intense interest in the sciences to be paired with mentors from nearby colleges and universities, so that they can access to instruction and equipment that the local schools cannot provide.

Fieldtrip: A field trip or excursion is a journey by a group of people to a place away from their normal environment. The purpose of the trip is usually observation for education, non-experimental research or to provide students with experiences outside their everyday activities, such as going camping with teachers and their classmates. The aim of this research is to observe the subject in its natural state and possibly collect samples. Field trips are also used to produce civilized young men and women who appreciate culture and the arts. It is seen that more-advantaged children may have already experienced cultural institutions outside of school, and field trips provide a

common ground with more-advantaged and less-advantaged children to have some of the same cultural experiences in the arts.

Qualities of a good biology textbook: Text books are the most widely used of all instructional materials. Now a day's text book has become a course of study. A set of unit plans and a learning guide as well. A text book should really design for the pupils rather than the teacher. Text book should stimulate reflective thinking and cultivate in students the scientific attitude. In the teaching-learning process, the text-book occupies an important place. There is a saying "As is the text-book, so is the teaching and learning". A good text-book can even replace class-room teaching. The science text-book should aim at aiding the pupils in the development of their personalities, in developing open mindedness, developing appreciation and understanding of nature and not merely stuffing their minds with facts.

The opportunity of this analysis has been offered to students, future teachers of biology, around the time when they will directly use the textbooks for preparing and teaching the lessons. The main objective of this coordinated exercise of exploring the quality of the alternative biology textbooks is the development of the students' abilities to critically analyze the textbooks which they will use in the near future and for which they will have to express alternative options. The interests of the authors are also focused on the role of the textbooks in the learning process, on the analysis of their contribution to the students' progress in the scientific knowledge but also to their personal development. The textbook, as a source of the basic knowledge of biology as a school subject, but also as a collector of methodological ideas, is a „territory" that is insufficiently explored by students in the initial teaching preparation.

Qualities of a Biology teacher: Biology teachers need characteristics that are common to all good teachers, but, in addition, they need additional qualities specific to their chosen subject area. General Characteristics. Good teachers are dynamic, patient, understanding and caring. Knowledge, Personality and Physical Attributes.

Teaching Style/Approach:

An excellent Biology teacher:

1. Enthusiastic about teaching students the subject matter
2. Treats students with respect and designs curricula to meet the needs of all students, regardless of level of instruction

3. Relates subject matter to students' lives, explaining how they are an integral part of the entire ecosystem

4. Sets an example of integrity inside and outside the classroom and teaches students responsibility and high standards

5. Plans lessons well in advance, gives adequate time for each topic, and integrates subjects

6. Teaches well organized concepts in a conceptually concise fashion

7. Stresses concept learning rather than rote memory

8. Continually reassesses approaches, lectures and tests to insure a fresh, relevant curriculum

9. Exhibits inquiring behavior typical of scientists.

Subject Expertise/Teaching Techniques

An excellent teacher:

1. Teaches students how to learn, analyze and think critically, emphasizing good scientific methodology and problem solving skills

2. Prepares lessons that will enhance problem solving ability

3. Develops hands-on activities to illustrate concepts and uses a variety of approaches to assist the learning processes lectures, discussions, laboratories, demonstrations, field trips, guest speakers, student presentations, films and slide shows

4. keeps up-to-date in the subject matter

5. Maintains competence in the life science fields

6. Teaches useful lab techniques and lab safety

7. Stresses the fragility of life on the planet and the importance of maintaining well managed ecosystems.

Teaching Environment

An excellent teacher:

1. Creates an exciting classroom atmosphere with as many living things as possible to enhance learning (e.g. well maintained plants and animals, which may include fish tanks, gerbils/mice, and reptiles/amphibians)

2. Acquires up-to-date equipment for laboratory work

3. Joins committees to improve the school, department, himself/herself

4. Generates new and exciting ideas for students to think about

5. Encourages students to ask questions about the lesson

6. Maintains a safe and clean classroom laboratory

7. Knows how to administer first aid in case of accidents.

Community Involvement

An excellent teacher:

1. Will use the community resources by inviting guest speakers from nearby institutions

And conduct field trips to laboratories, nature reserves, museums, local water plants, etc.

2. Develops and promotes advanced and/or continuing education courses in the school district, if possible

3. Attends other activities in which students are involved such as musicals, sports, art exhibits, etc.

4. Takes an interest in and gets involved in community activities

5. Solicits support from community businesses to improve facilities and programs in the schools.

Professional Development

An excellent teacher:

1. Continually updates his/her knowledge by

   ❖ Reading the literature (e.g. journals such as The American Biology Teacher, Scientific American, Science, Science News, etc.)

   ❖ Attending conferences, conventions, workshops and seminars

   ❖ Taking college or in-service courses

   ❖ Visiting local laboratories, nature reserves, etc.

2. Becomes active in a professional organization and encourages colleagues to join as well

3. Seeks grant support to purchase equipment, to organize or attend meetings or conferences, and to fund special educational projects.

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Questions for Discussion and Reflection

11. Write short notes on the audio resources in teaching of biological science.

12. Give the need for professional development of a biology teacher.

13. Write an essay on the ICT resources for teaching of biological science in detail.

14. Enumerate the qualities of good biology textbook.

15. Critically analyse the community resources for teaching of biological science.

TAMIL NADU TEACHERS EDUCATION UNIVERSITY

Chennai – 600 097

Course Material for B.Ed.(First Year)

(2016-2017)

Course 1: Childhood and Growing Up

Prepared By

Unit VI   :   Marginalized children: issues and concerns

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UNIT VI: MARGINALIZED CHILDREN: ISSUES AND CONCERNS

Objectives:

After completion of the unit, the learner will be able to:

1. learn the meaning of marginalized children
2. understand the issues of slum children, street children, abused child
3. analyse the measures to promote the status of marginalized children

Introduction

Marginality is an experience that affects millions of people throughout the world. People who are marginalized have relatively little control over their lives, and the resources available to them. This results in making them handicapped in delving contribution to society. A vicious circle is set up whereby their lack of positive and supportive relationships means that they are prevented from participating in local life, which in turn leads to further isolation. This has a tremendous impact on development of human beings, as well as on society at large. As the objective of development is to create an enabling environment for people to enjoy a productive, healthy, and creative life, it is important to address the issue of marginalization. Development is always broadly conceived in terms of mass participation. Marginalization deprives a large majority of people across the globe from participating in the development. It is a complex problem, and there are many factors that cause marginalization. This complex and serious problem need to be addressed at the policy level. This project deals with the problems associated with the groups suffering from marginalization and the ways to reduce them.

Meaning

Amarginalized children is a group of children that's confined to the lower or peripheral edge of the society. Such a group is denied involvement in mainstream economic, political, cultural and social activities.

Concept

The process whereby something or someone is pushed to the edge of a group and accorded lesser importance. This is predominantly a social phenomenon by which a minority or sub-group is excluded, and their needs or desires ignored.

In general, the term 'marginalization' describes the overt actions or tendencies of human societies, where people who they perceive to undesirable or without useful function, are excluded, i.e., marginalized. These people, who are marginalized, from a group or community for their protection and integration and are known as 'marginalized groups'. This limits their opportunities and means for survival. Peter Leonard defines marginality as, being outside the mainstream of productive activity and/or social reproductive activity".

Characteristics of marginalized groups:

Usually a minority group has the following characteristics

1) It suffers from discrimination and subordination.

2) They have physical and/or cultural traits that set them apart, and which are disapproved of, by a dominant group.

3) They share a sense of collective identity and common burdens.

4) They have shared social rules about who belongs, and who does not.

5) They have a tendency to marry within the group.

CHILDREN LIVING IN URBAN SLUM:

Issues of children living in urban slum:

1. Children were defined more by their behavior than by their age

2. Aside from poverty or health problems, the top rated harms to children were:
• being out of school
• sexual exploitation and abuse
• drug and alcohol abuse
• early pregnancy.

Drug and alcohol abuse were rated as a much more serious forms of harm to children in one slum than in the other. Also, socio-economic status influenced the relative rankings.

3. Primary causes of children being out of school were:
• inability to pay school fees
• family demands that children work
• parental neglect
• pregnancy
• discrimination against non-biological children within the household
• negative peer influences
• beatings by teachers.

4. Sexual abuse and exploitation of children was reportedly rampant in both slums, and the perpetrators frequently included people in positions of power and authority, such as teachers and elders. Teenage girls were more likely than any other sub-group to rate this as the top harm to children. Women frequently used their daughters to attract male customers, who became drunk and abused the girls. Sexual abuse also occurred frequently at funerals, disco dances, and video halls. Men frequently gave fried potatoes to girls as young as six years of age as a means of enticing them to have sex. Pre-teenage and teenage girls were sexually active; many traded sex for desired objects or benefits.

5. Early pregnancy was widespread; significant numbers of girls reportedly became pregnant in their early teens. Contributing factors were children regularly watching their parents have sex and then imitating them, parental neglect, and alcohol and drug use. Whatever the causes, early pregnancy served as a gateway to sexual exploitation.

6. Alcohol and drug use were pervasive. Adults attributed the use of alcohol and drugs to children's disobedience, bad behavior, and bad peer group influences, while teenagers attributed the problems mostly to the stresses of living in the slums.

7. Children aged 5–12 years frequently had different views from teenagers and adults of the main kinds of harm they face. Younger children did not like getting hit, seeing parents fight, or seeing people who had been burned, stabbed, or killed.

8. For the most part, the pathways of response to these and other problems were through the extended family and community groups, such as religious groups, women's groups, and youth groups.

9. Chiefs, elders, police and others were connectors who linked communities with the formal system. The formal child protection system was used in situations such as the rape of a child by someone from outside the child's family. Such an offence was sometimes reported to the police, who arrested the perpetrator, took the child for medical treatment, and conducted an investigation. Nearly two-thirds of the participants said people were unwilling to report such offences to the authorities.

10. Aside from the family, religion emerged as one of the most important preventive factors. For both Christians and Muslims, religion was seen as fundamental in moral education and teaching children good values. Also, Muslim and Christian organizations helped to keep children in school by raising funds to pay school fees. Youth groups were particularly important preventive factors in regard to the use of drugs.

Concerns for Children Living in Urban Slum

1   The 74th Constitutional Amendment of 1992, which proposes that urban local bodies (ULBs) should have a direct stake in urban poverty alleviation and slum improvement and upgrading, with participation of citizens

2   The Jawaharlal Nehru National Urban Renewal Mission (JNNURM), launched in December 2005, which embodies the principles of the 74th Constitutional Amendment. Jnnurm outlines a vision for improving quality of life in cities and promoting inclusive growth, through substantial central financial

assistance to cities for infrastructure and capacity development for improved governance and slum development through Basic Services to the Urban Poor. These include security of tenure at affordable prices, improved housing, water supply, sanitation, education, health and social security.

DEPRIVED CHILDREN

Deprivation is the reduction or prevention of culturally normal interaction between an individual and the rest of society. This social deprivation is included in a broad network of correlated factors that contribute to social exclusion; these factors include mental illness, poverty, poor education, and low socioeconomic status.

Social deprivation may be correlated with or contribute to social exclusion, which is when a member in a particular society is ostracized by other members of the society. The excluded member is denied access to the resources that allow for healthy social, economic, and political interaction. Pierson has identified five key factors that set social exclusion in motion – poverty, lack of access to jobs, denial of social supports or peer networks, exclusion from services; and negative attitude of the local neighbourhood. It is also associated with abusive caretaking, developmental delay, mental illness and subsequent suicide.

DALIT

The word "dalit" is derived from the Sanskrit (dalita), and means divided, split, broken, scattered, derived from the meaning of the verbal root - to divide.The caste system is a strict hierarchical social system based on underlying notions of purity and pollution. Brahmins are on the top of the hierarchy and Shudras or Dalits constitute the bottom of the hierarchy. The marginalization of Dalits influences all spheres of their life, violating basic human rights such as civil, political, social, economic and cultural rights. A major proportion of the lower castes and Dalits are still dependent on others for their livelihood. They have meager purchasing power and have poor housing conditions as well as have low access to resources and entitlements. Structural discrimination against these groups takes place in the form of physical, psychological, emotional and cultural abuse which receives legitimacy from the social structure and the social system. Physical segregation of their settlements is common in the villages forcing them to live in the most unhygienic and inhabitable conditions. All these factors affect their health status, access to healthcare and quality of life. There are high rates of malnutrition reported among the marginalized groups resulting in mortality, morbidity and anemia. Access to and utilization

of healthcare among the marginalized groups is influenced by their socio-economic status within the society.

Concerns for Dalit Improvement

Steps are taken

1. To adopt special measures in favor of descent based groups and communities in order to ensure their enjoyment of human rights and fundamental freedoms, in particular concerning access to public functions, employment and education.

2. To take effective measures to reduce dropout rates and increase enrolment rates among children of affected communities at all levels of public and private schooling.

3. To eradicate the existing prevalence of caste-based discrimination in schools, including stereotypical and demeaning references in e.g. school books; ensure inclusion of children of affected communities in schools; and disseminate general information about the importance of non-discrimination and respect for affected communities in the entire education system.

4. To remove obstacles, including child labor, which keep children from regular full time education. Governments should also pay particular attention to the need of providing adequate education to illiterate children and adults who have not had any formal education.

5. To improve educational and professional training for Dalit girls and boys so they can move to other professions of their own choice.

6. To raise awareness both among the public and among government officials, teachers, and media practitioners on discrimination based on work and descent. Areas of attention should not only include the print and broadcasting media but also alternative avenues of information dissemination, such as local oral information through theatre, songs, etc. as well as information via the internet.

TRIBE

A tribe is viewed, developmentally or historically, as a social group existing before the development of, or outside, states. A tribe is a group of distinct people, dependent on their land for their livelihood, who are largely self-sufficient, and not integrated into the national society. It is perhaps the term most

readily understood and used by the general public. The world's only organisation dedicated to indigenous rights, has defined tribal people as "those which have followed ways of life for many generations that are largely self-sufficient, and are clearly different from the mainstream and dominant society".

Tribals are still devoid of modern facilities like education, electricity, proper drinking water health care, ample transportation, etc. problems associated with education of tribal women needs immediate attention and early resolution. Tribal women need to face lots of challenges in the society. Skills training, increased growth, productivity and innovation, in particular for the informal sector are linked with poverty re-education. The first and foremost challenge to the tribal is that they are still not much exposed to the outside world and are confined to their community only.

Most of the primitive tribes still live in hills, dense forest with difficult terrain and many a times, it is difficult to reach them because of lack of road and transport facilities. It is a challenge to provide education to tribals and setting up school and institutions in small, scattered and remote tribal habitations. High school drop-out rate among tribals is another reason for their lagging behind in education. The external constraints are related to issues at levels of policy, planning, and implementation while internal constraints are with respect to education system, content, curriculum, pedagogy, and medium of instruction, etc. The third set of problems relates to social, economic, and cultural background of tribals and psychological aspects of first generation learners.

Improvement for tribal children

Measures are to be taken to provide educational facilities on vocational and technical training. According to these measures, concessions, stipends, scholarships, books, stationery and other equipments are provided.

Children Mortality and morbidity among children are caused and compounded by poverty, their sex and caste position in society.

All these have consequences on their nutrition intake, access to healthcare, environment and education. Poverty has a direct impact on the mortality and morbidity among children. In India, a girl child faces discrimination and differential access to nutritious food and gender based violence is evident from the falling sex ratio and the use of technologies to eliminate the girl child.

ABUSED CHILD:

Child abuse or child maltreatment is physical, sexual, or psychological mistreatment or neglect of a child or children, especially by a parent or other caregiver. It may include any act or failure to act by a parent or other caregiver that results in actual or potential harm to a child, and can occur in a child's home, or in the organizations, schools or communities the child interacts with.

Types

The World Health Organization distinguishes four types of child maltreatment:

- •physical abuse
- •sexual abuse
- •emotional abuse
- •psychological abuse

Physical abuse

Among professionals and the general public, people often do not agree on what behaviors constitute physical abuse of a child. Physical abuse often does not occur in isolation, but as part of a constellation of behaviors including authoritarian control, anxiety-provoking behavior, and a lack of parental warmth.

This includes hitting, beating, kicking, shaking, biting, strangling, scalding, burning, poisoning and suffocating.

Sexual abuse

Child Sexual Abuse (CSA) is a form of child abuse in which an adult or older adolescent abuses a child for sexual stimulation. Forms of CSA include asking or pressuring a child to engage in sexual activities (regardless of the outcome), indecent exposure of the genitals to a child, displaying pornography to a child, actual sexual contact with a child, physical contact with the child's genitals, viewing of the child's genitalia without physical contact, or using a child to produce child pornography.

Effects of child sexual abuse on the victim(s) include guilt and self-blame, flashbacks, nightmares, insomnia, fear of things associated with the abuse (including objects, smells, places, doctor's visits, etc.), self-esteem difficulties, sexual dysfunction, chronic pain, addiction, self-injury, suicidal ideation, somatic complaints, depression, post-traumatic stress disorder, anxiety, other mental illnesses including borderline personality disorderand dissociative

identity disorder, propensity to re-victimization in adulthood, bulimia nervosa and physical injury to the child, among other problems.

Psychological abuse

Psychological abuse is defined as: spurning, terrorizing, isolating, exploiting, corrupting, denying emotional responsiveness, or neglect" or "A repeated pattern of caregiver behavior or extreme incident(s) that convey to children that they are worthless, flawed, unloved, unwanted, endangered, or only of value in meeting another's needs"

- Some have defined it as the production of psychological and social defects in the growth of a child as a result of behavior such as loud yelling, coarse and rude attitude, inattention, harsh criticism, and denigration of the child's personality.

CHILDREN GROWING UP IN POVERTY

Poverty refers to a situation when people's basic needs are not fulfilled. When people doesn't have the necessary food to eat or clothes to wear or shelter to stay then it is called poverty. Life becomes very difficult for people with income are below the poverty line (BPL).

The causes, effects and solutions for poverty in India are discussed below:

Causes: The major reasons or causes of poverty are:

- People don't get proper education which leads to poverty. People are poor because they are illiterate, because they cannot afford education. Illiteracy and poverty stays side-by-side. They both are the cause and effect of each other.
- In case where the resources and opportunities are limited and the population is high, there arises a situation of joblessness which ultimately leads to poverty.
- When a large number of people live in poverty, there is limited scope for the development of country's economy.
- Some natural and environmental problems such as lack of rainfall, drought, etc. often lead to poverty. There are many other reasons also like caste system, unemployment, etc.

Effects: The negative effects of poverty are mentioned below:

- Poor people will always have to depend on others to survive.

- Low quality foods may leads to bad nutrition.
- Poor people have less liberty for the choice of profession.
- Poverty may affect the moral and self-esteem of people living in extreme hardship.
- Poverty also results in building stress which ultimately affects the relationship of people.
- The low standard of living prevails among poor people.

Solutions: The solutions for poverty are discussed below:

- Poverty can be checked by increasing job opportunities. It will decrease the rate of unemployment which ultimately results in decrease of poverty in economy.
- Government should take more steps towards charity, trusts and also have some transparency while spending money in those social institutions.
- There is a need for initiatives of paid leave to the workers.
- The education system should be reformed and initiatives should be taken to bring more children to schools.

STREET CHILDREN

Street children are a term for children experiencing <u>homelessness</u> who are living on the streets of a city, town, or village. Homeless youth are often called street kids and street youth;

The causes of street children are:
- Poverty
- Religion
- Poor family planning
- Child trafficking
- Wars
- Illiteracy

The solutions to children street children are:
- Implementation of Child's Right Act;
- Construction of Orphanage Homes;
- Reaching out to the Poor; and
- Amendment of Some Religious Practices

HIV AFFECTED CHILDREN

Human immunodeficiency virus infection and acquired immune deficiency syndrome (HIV/AIDS) is a spectrum of conditions caused by infection with the human immunodeficiency (HIV). it interferes more with the immune system, increasing the risk of common infections like tuberculosis, as well as other opportunistic infections, and tumors that rarely affect people who have working immune systems. These late symptoms of infection are referred to as AIDS. This stage is often also associated with weightless.

HIV and AIDS profoundly affect children at many levels. A child's family and community can be hard struck by the effects of AIDS as parents get sick, are not able to work or are not there to protect their children. The results of this can disrupt children's lives and put their health and security at risk.

Solution

Economic support and social care are both important for reducing the impacts of HIV on children and families, new infections in adolescent girls, as well as for supporting the uptake of and retention in services. Social protection, care and support works at all levels – from local and community to national - to improve health, maintain continuity in education, prevent marginalization through stigma and discrimination, and reinforce and support families in the face of poverty and illness. Social protection has the potential to play a key role in reducing an individual's chance of becoming infected with HIV, improving treatment access and adherence, and reducing the likelihood that HIV will have a damaging effect on individuals, households and communities.

CHILDREN WORKING IN UNORGANIZED SECTOR

The unorganized labour is overwhelming in terms of its number range and therefore they are omnipresent throughout India.

As the unorganized sector suffers from cycles of excessive seasonality of employment, majorityof the unorganized workers does not have stable durable avenues of employment. Even those who appear to be visibly employed are not gainfully and substantially employed, indicating the existence of disguised unemployment.

The workplace is scattered and fragmented.

There is no formal employer – employee relationship

In rural areas, the unorganized labour force is highly stratified on caste and community considerations. In urban areas while such considerations are much less, it cannot be said that it is altogether absent as the bulk of the unorganized workers in urban areas are basically migrant workers from rural areas.

Workers in the unorganized sector are usually subject to indebtedness and bondage as their meager income cannot meet with their livelihood needs.

The unorganized workers are subject to exploitation significantly by the rest of the society. They receive poor working conditions especially wages much below that in the formal sector, even for closely comparable jobs, i.e., where labour productivity are no different. The work status is of inferior quality of work and inferior terms of employment, both remuneration and employment.

Primitive production technologies and feudal production relations are rampant in the unorganized sector, and they do not permit or encourage the workmen to imbibe and assimilate higher technologies and better production relations. Large scale ignorance and illiteracy and limited exposure to the outside world are also responsible for such poor absorption.

The unorganized workers do not receive sufficient attention from the trade unions.

Inadequate and ineffective labour laws and standards relating to the unorganized sector.

CHILD LABOUR

Child labour is a system of involving children in any economic activity. Children at the age of playing engage themselves into economic activity for their family. Child labour can be seen throughout the country in a wide way.

The causes, effects and solution of Child labour are briefly mentioned below:

Causes: The major causes of child labour in India are:

- Unemployment,
- Poverty,
- Illiteracy, and
- Low standard of living.

If the above problems can be resolved from the Indian society, then the country will have less social issues.

Due to unemployment of the parents, children do not get proper education and are forced to get involved in child labour. Educated people are less likely to engage their child as child labours. In general, educated people want to maintain a certain level of standard and live a respectable life. On the contrary, poor and illiterate people are not even aware of the evil effects of child labour.

Effects: The negative effects or major disadvantages of child labour include:

• Child labour is an inhuman practice. The mental growth of the children engaged in child labour is checked.
• Children get less time and opportunity to go to school. They are deprived from education which makes them illiterate.
• Child labour obstructs individual growth. The standard of living of people remains low.
• Child labour destroys their childhood.
• Children are the future pillars of the economy and involving them into child labour will only make those pillars weak. Ultimately, child labour affects the country's growth.

Solution: The main solution to child labour is:

• Imparting education and knowledge to children.
• If incomes of the parents can be increased then it is possible for the children's to get education.
• Government will have to take more steps towards proper enforcement of labour laws.
• People who are employed and are above the poverty line should take steps towards replacing child workers with adult workers. It will benefit not only the society, but the country at large.

MEASURES TO PROMOTE MARGINALIZED CHILDREN

➤Elimination of school fees that reflect obstacles for the poorest children
➤Implementation of an enriched and adaptable curriculum
➤Developing strategies to support lower-performing students
➤Enhancing community dialogue and participation in planning and programdesign, including data collection efforts
➤Providing adequate and healthy school infrastructure and guaranteeing child rights and protection

➢Improving teacher quality and teacher motivation

➢Establishing community schools

➢Providing bilingual education

Conclusion

The pertinent question therefore is where do the marginalized groups stand today? Though there has been some improvement in certain spheres and despite some positive changes, the standard of living for the marginalized communities has not improved. Therefore, what Minimum needs are like access to Agricultural Land , providing adequate capital, information, technology and access to markets , Improved Employment in Public and Private Sectors arranged for them.

Questions for Discussion and Reflection

1. Who are marginalized children? Discuss briefly the remedial measures to promote the status of marginalized children in India.

2.Explain the issue related to children in urban and slum areas

3.Exam the measures taken by the Govt. of India for abolishing the child labour.

UNIT VII: UNDERSTANDING ADOLESCENCE

Introduction

Adolescence is a most important period of human life. It is an age of transition from childhood to adulthood. As a result, lot of physical changes takes place in the human body during this period. Physical changes are accompanied by changes in behavior and attitudes. Educators and psychologists have pointed out different ways of describing the stages of development in the life span of an individual, how an individual reacts to events, the mannerism, talents, interests, intelligence, aptitude and other aspects of personality.

Meaning of adolescence

Etymological the term adolescence comes from the Latin word Adolescere' which means to grow or to grow to maturity. It emerges from the later childhood stage and merges into adulthood during which the child develops into a man or woman. Adolescence is the period of transition from childhood to adulthood. It is the most crucial and significant period of an individual's life. It is a period of rapid evolutionary changes in the individual's physical, mental, moral, spiritual, sexual and social outlook.

Definition

Adolescence has been defined and explained differently by educators and psychologists.

1. According to Jean Piaget, adolescence as "the age of great ideas and the beginning of theories as well as the time of simple adaptation of life".
2. According to Stanley Hall, the period of adolescence as "a period of great stress and strain, storm and strife.
3. According to Dorathy Rogers, Adolescence is a "process, rather than a period, a process of achieving the attitudes and beliefs needed for effective participation in the society".

Study of adolescent behavior in their natural settings

Behaviour was defined by Watson as an action, which can be seen and observed in an objective way. This means behaviour is the way in which an individual carries out his activities. Behaviour of an individual is influenced by the internal body environment as well as external environment around him. Adolescent behaviour has been studied from very early times. Plato characterized the adolescents to be

argumentative and easily excitable while Aristotle described them as impulsive, prone to excess and exaggeration and lacking self-restraint.

Adolescents are characterized by

1. **Anxiety**: It is an uneasy mental state concerning impending or anticipated ill. According to Hurlock, anxiety is marked by apprehension, uneasiness and foreboding from which the individual cannot escape; it is accompanied by a feeling of helplessness because the anxious person feels blocked unable to find a solution to problems.

2. **Mood swings**: The adolescents are characterized as moody. Sometimes they feel pleasant and on the other times they are depressed. This is due to their disturbed physiological condition because of effect of hormones.

3. **Confusion/Indecision**: Erickson characterizes the adolescents with identity vs confusion crisis. The physical and intellectual changes during adolescence disrupt their sense of continuity and personal wholeness. They pay great attention on how other people view them. Their choices are usually supported by the reactions of parents and other people. They are not able to make decisions and keep on changing their roles. So they are said to be in a state of confusion/ indecision.

4. **Lethargy:** Adolescents tend not to eat properly and rapid pace of their growth makes them undernourished. As a result they become weak and lethargic. Adolescents are greatly influenced by peers and they enjoy doing things with their group. Since they are growing up they want to take decisions themselves and want to do things their way, while adults (parents and teachers) want them to behave like mature individuals. This leads to arguments between them.

5. **Anger/irritability**: In adolescents, thwarting of desires, interruption of activities in progress, constant fault finding, teasing, lecturing, or making unfavorable comparisons with other children lead to anger. Older children when fail to realize their goals, they become angry at themselves or at the people they believe have stood in their way.

6. **Experimentation:** Adolescents show risk taking behaviour. They want to try doing different things. They are greatly influenced by their peer group. They want to be viewed as adults and tend to indulge in alcoholism and even drug abuse. They may even want to indulge in sexual activity, which make them prone to STD and AIDS.

Understanding the anxiety in society as parent and citizen

No matter how old people are, they are still like emotional children, as long as they continue to run only to their parents for assistance and understanding. The true adult loves his parents, respects their desires, yet makes his own decisions and lives his own life. For an adolescent to become free of his childhood attachments to parental authority, parents must learn to give up the control. Attempts to resist will produce either childish or rebellious adults. There are few main areas in which parents can help their adolescent children to progress towards mature independence.

❖ Build a close relationship by conversing with the adolescent and try to understand his/her point of view.

❖ Try to make him/her aware of the implications of peer pressure and how to deal with the same tactfully.

❖ Help the adolescent appreciate socio-cultural values and keep him away from social evils.

❖ With no alcohol and drug taking habits, parents can become role model for them.

Understanding the anxiety in schools as a teacher and facilitator

Whenever the teacher get appropriate time, while teaching or through informal contacts discuss with students the problems they are facing. Keep a close watch on the students' activities and their interests. It will be helpful in understanding their behaviour. Encourage discussion among them on the socio-cultural value-based issues. Juvenile delinquency, drug abuse and sex related problems could be discussed with a positive attitude. But be careful in advising them and give them space for their own value judgment. Help them examine their career options and encourage them to set goals and achieve those goals.

An approach to interviewing adolescents

Adolescents obtain their health information from a number of sources. Health care providers are high on the list of the most valued of these sources. Therefore, clinicians need to continue to develop their approach and communication skills with their adolescent patients. One of the challenges of adolescent medicine is helping the patients in finding a path to a healthy lifestyle they are comfortable with. It is essential to get the information to need to assess and diagnose health issues, and for the patient to get the information he needs to deal effectively with health issues.

The Home, Education Employment, Activities, Drugs, Sexuality, Safety, and Suicide mnemonic (HEADSSS) are very useful to remind us of important information we need to obtain from adolescent patients. This approach starts with nonthreatening, open-ended, nonjudgmental questions and progresses to more sensitive areas such as sexuality, feelings of depression and thoughts of suicide.

The discussion of the presenting complaint or reason for the visit should be addressed at some time during the visit even if other important issues are brought forward.

This HEADSSS approach has been found to help uncover areas of concern or distress and allows us to identify protective factors and support systems that may be used to foster resiliency and health-promoting practices for youth. It also allows for the clinician to provide accurate and important information to the adolescent even if certain risk behaviours are denied. Helping the adolescent give up risky behaviours or choose healthy ones is a very important role for the clinician. Building decision-making skills is the cornerstone of this task. The PASTE mnemonic is useful in teaching these skills and may be demonstrated with a number of problems that the adolescent may be facing.

P problem – define the problem, **A** alternatives – list possible alternative solutions and list their pros and cons, **S** select an alternative, **T** try it, **E** evaluate your choice and modify it as needed, or even reselect.

Many adolescents make the transition to adulthood without a lot of stress or turmoil. However, it is important for the health care professional to identify problems and develop an approach to treatment for those patients who need help during this time. It is important not to pass up problems as issues that the youth 'will grow out of it'. It is important to identify the adolescent's strengths and support system. Learning and using a few special techniques to communicate with youth make this medical intervention easier and often more successful.

Important Problems of Adolescents in Educational Institutions:

I.**Delinquency in Adolescence**:

Delinquency in adolescence is not the predominant phase of adolescence. It is improper to assert that juvenile delinquency is at its peak in adolescence. To say that there is a spurt in this period of manifestation delinquency before he engages himself in stealing or other violent crimes, before he enters up on destruction of property, and before he becomes surely at home and in school. He disobeys rules and regulations. He gives danger signals. He becomes maladjusted. Pre delinquent behavior is shown in defying instructions from the parents, teachers and school authorities.

a) Day- dreaming:

All normal adolescents indulge in day-dreams and those who do not are generally below average in intelligence, their day-dreams are submerged. He gets in to different kinds of day-dreams which are related to the taste. The adolescents make castles in air regarding their future in these day-dreams. This

holds well with both boys and girls. The day-dreams are both happy and unhappy according to their ideas. Day-dreams consume much of adolescent's time. He is so engrossed in day-dreams that he forgets many things. However, it will not be correct to consider day-dreams as harmful. They are a source of inspiration to adolescents.

II.**Scholastic backwardness of Adolescence**:

Education is considered as the key to a successful life. We hear parents complaining that their wards are not studying properly and that they are not using their full potential to come up in life. Many a time, problems arise due to the over expectation of the parents and the inability of the child to come up to their expectations. The majority of these children are penalized for no fault of their own as their real talents lie hidden and never get used. Scholastic backwardness is diagnosed when an adolescent:

> 1) is not able to perform tasks according to his/her ability
> 2) finds it difficult to follow a particular type of syllabus.
> 3) loses interest in studies due to other pre-occupations. Scholastic backwardness or poor academic performance in students may be due to poor study habits, low intelligence, impaired vision/hearing, physical disability/chronic illness, psychological/emotional problems, specific learning disabilities

III.**Ragging:**

The word 'Ragging' means, the act of teasing, taunting, playing practical jokes or prank up on someone or holding of comic parades and other activities during a certain period of college term. A healthy interaction of fresh students with their seniors is necessary and should be promoted for the good of the students themselves and for the good of the institution. Ragging has both positive and negative manifestation. Ragging could be considered positive, when it is done with in decent limits and if it aims at raising funds for charity. The fun quotient in earlier forms of ragging has got replaced by sadism. In such cases the ragging has degenerated into plain harassment both physical and mental even an excuse for sexual misbehavior and violence. Cases were often reported of students being tortured, forced to run away from hostels and in a few extreme cases even to commit suicide.

IV.**Examination fear**:

Fear about examination is universal and natural. Fear makes the students to become serious, avoid all other activities and start studying. That is why teachers and parents try to induce some fear in the students when examination is in the corner. But excess fear is counterproductive. It decreases the

efficiency of the student. He or she cannot study, learn, recall and perform well. In severe cases, the student can develop and suffer from fever, vomiting and diarrhea, breathing difficulties, severe restlessness, shivering, and increased frequency of maturation, mind becomes confused and blank resulting in unable to think and write.

V. **Self pride**- **Inferiority complex**:

Self-pride gives self-confidence and helps to compete with other, face problems and take assignments. However, large number of people lack self pride and suffer from inferiority feelings. They become anxious to meet people who are better placed. They are afraid to interact with seniors, superiors and any authority figure. Thus feelings of inferiority become a hurdle in the path of progress and achievement.

VI. **Teenage identity crisis**:

Adolescence is a phase of multiple identity crises. They always try to impress others and make others acknowledge that they also are grown ups and more like adults. Hence they try to move out from the control of the parents to become more independent and get involved with their peers. Adolescents often complain that they are misunderstood, unduly restricted and unfairly treated by their parents. Parents or elders usually fail to understand the emotional changes taking place in the adolescent and complain that the adolescents either fail to communicate or communicate their feelings in a hostile manner.

VII. **Adolescent suicide**:

Suicide is the first leading cause of adolescent death in many countries. Stress of study and examination is a major cause for suicide, parental loss, parental divorce or separation, family disharmony, love failure, an alcoholic father, alcohol and drug abuse, and low self esteem, break down of joint family, consumerism, lack of support, loss of a loved one, substance abuse, child abuse, problems in the school psychiatric illness etc, are some of the common causes of suicide. Educational stress is an important factor in adolescent life. The expectations of parents are usually too high in comparison to actual academic performance and sometimes beyond the child's ability.

VIII. **Adolescent depression**:

Depression is equally common among young adults, adolescents, children and even infants, though the symptom picture differs from age group to age group. In depressed infants, the most striking 30 and alarming sign is failure to eat. In older children, depression may manifest itself primarily as apathy and inactivity. In adolescents, the most prominent symptoms may be negativism, withdrawal, complaints of not being understood or appreciated, and perhaps antisocial behavior and drug abuse.

 IX.**Substance related problems**:

Substance related disorders involve psychoactive substances that affect thought, emotions and behavior. Among the drug addicts, behavior patterns vary depending on the type, amount and duration of drug use; the physiological and psychological makeup of the individual and in some instance the social setting in which the drug experience occurs. The major problems, very common among adolescents, are drug addiction, alcohol and cigarette smoking.

a)**Drug addiction**: The wide spread use of drugs in our society today is readily apparent in our vast consumption of alcohol, cigarettes, coffee, medically prescribed tranquilizers and such illegal drugs as cocaine, marijuana and heroin. The substance use disorders are differentiated from each other depending on the actual substance used and patterns of use i.e. substance abuse and substance dependence.

b)**Alcohol:** Alcoholism causes impairment of the individual's physical, mental and social health. It not only damages the individual but also his family and society. Alcohol plays an important part in group culture of children and adolescents. Alcohol is a depressant that affects the higher brain centers thereby lowering one's self control. The drinker experiences a sense of warmth and well-being. In such a mood unpleasant realities enter a generally pleasant world of unreality in which worries are temporarily left behind. Many adolescents seem to believe that it is fashionable to consume alcohol. This is because they tend to blindly follow the lifestyle of some adults they admire.

c)**Cigarette Smoking**: Smoking is the fastest way to feel the drug's effect. When the smoke is inhaled, it is spread across the surface of the lungs, quickly absorbed into the blood stream and carried into the brain in a few seconds. Smoking usually begins during adolescence. To an adolescent smoking is a symbol of maturity. Smoking is a difficult habit to give up, may be due to the unpleasant nature of the withdrawal experience.

Guidance needed for Adolescents:

Guidance involves personal help given by someone, it is designed to assist a person in deciding where he can best accomplish his purpose, and it assists him in solving problems that arise in his life. It does not solve problems for the individual but helps him to solve them.

The focus of guidance is the individual, not the problem; its purpose is to promote the growth of the individual in self direction. Guidance is the systematic professional process of helping the individual through education and interpretative procedures to gain a better understanding of his/her own characteristics and potentialities and to relate himself more satisfactory to social requirements and opportunities, in accordance with social and moral values

As the life is getting complex day by day, the problems for which expert help is needed are rapidly increasing. The scope of guidance is extending horizontally too much of the social context, to matters of prestige in occupations, to the broad field of social trends and economic development. Educational, vocational, social, personal, moral, physical and even material problems of individuals are the concerns of guidance. Its scope is indeed vast

Objectives of Guidance:

❖ To help in the total development of the student.
❖ To enable students to make proper choices at various stages of their educational career.
❖ To help students choose, prepare for, enter upon and progress in a career. To help the students in vocational development.
❖ To help students make the best possible adjustments to the situations in the school as well as in the home.
❖ To supplement the efforts of home.
❖ To minimize the mismatching between education and employment and help in the deficient use of man-power.
❖ To identify and motivate the students from weaker sections of society.
❖ To help in checking wastage and stagnation.
❖ To identify and help students in need of special help. To ensure the proper utilization of time in non-class rooms
❖ To increase the holding power of schools.
❖ To make secondary and higher secondary education successful.
❖ To minimize the incidence of indiscipline.

Guidance services to the Adolescents: To achieve these objectives an effective guidance programme extending the following specific services can be organized in schools and colleges.

1. **The Pre-admission Service**: The pre admission service helps the students to get admission in the right course after completing high school education; students aspiring for higher education join colleges or universities. This service may be arranged in collaboration with the employment exchanges, university employment information and guidance bureau, student advisory bureau, and local resource persons,

2. **The Admission Service**: The admission service is one of the important links in the chain of guidance services. This service is given to admit the right persons for the right course for the maximum advantage both to the individual and the society. This service was given to select those 34 candidates most likely to succeed to keep wastage figure and dropout rate at the minimum level. Admission service, to be effective, will comprise a carefully framed criterion of admission to all colleges and universities

3. **The Orientation Service**: The orientation service has to be a continuous service in an institution. It provides adequate information to new entrants about physical facilities offered by the institution, its rules and regulations, expectations and standards. Later, the emphasis may shift to study habits, library orientation, and information regarding new policies and circulars

4. **The Student information Service**: The student information service is intended to assist the student to obtain a realistic picture of his abilities, interests, personality characteristics, achievement in different subjects and activities, level of aspiration and state of health. It enables the student to know himself on a socio – comparative basis, to provide a record of the student's progress, and help the guidance workers and others to understand him-more adequately

5. **The Information Service**: The information service assists the students in making better choices or helping them in better adjustment or optimum development. Information provided by this service through group guidance activities such as educational and career conferences, work experience seminars, discussion groups and individual interviews constitute the main media for implementing the information service.

6. **The Counseling Service**: This service is intended to establish a relationship between the guidance worker and the student in which the former attempts to assist the latter in achieving optimum educational, vocational, personal-social development and adjustment. The service may be performed by the counsellor, teacher or the administrator, provided they are adequately trained. This service involves helping the student to

a) Understand what he can do and what he should do,

b) Understand the choices he faces, the opportunities open to him and the qualifications he possesses for the goal he has chosen.

c) Handle his difficulties in a rational way and strengthen his attributes.

d) Makes his own decisions and plans on the basis of self-understanding, accept responsibility for his decisions and take action on the plans developed

X. **The Placement Service**: This is an important service in the guidance programme and is intended to help the student in situating himself in the right scholastic track, suitable place in the post-school environment, selection of suitable co-curricular activities and job oriented courses. This service help and guide the student in getting part-time jobs during working session and whole time jobs during vacation and after getting education and training.

XI. **The Referral Service**: A teacher or even a counsellor recommends and indicates to the student a more specialized person or agency which can give him better help when they need in special circumstance. The teacher/counselor follows up a student whom he has referred for more specialized treatment and also maintains a close working relationship with referral persons and referral agencies so that he can utilize them optimally.

XII. **The Remedial Service**: The defects in speech, hearing, reading and study habits can seriously impede the functioning of many able students and restrict the contributions. The remedial services in schools and colleges help the students in these defects and similar other areas when they are needed. Almost all students could profit by these services through some training in study skills and special education.

XIII. **The Follow-up Service**: Follow-up is the review or systematic evaluation carried out to ascertain whether guidance in general satisfies the needs of the students. The typical follow-up method employs the techniques of interview, post card survey or questionnaire. Information obtained through follow-up techniques can be used for improving the curriculum, stimulating better teaching, increasing the value of the guidance service and establishing better school-community relationships.

XIV. **The Research Service**: Research is one of the most important guidance services. It is needed for a better understanding of students and school resources and for evaluation of achievement in relation to goals. Research can give the guidance staff greater psychological security because of knowledge of effectiveness of its efforts. It can also provide a basis for guidance development programme.

XV. **The Evaluation Service**: The evaluation service completes the entire process of guidance. It is essential to evaluate the use and application of information to establish activities in order to determine their efficiency that is how time, money and personnel are utilized.

Developments in Adolescence:

Adolescence in human life is the stage when rapid changes take place. The individual's physical, mental, social, moral and spiritual out looks undergo revolutionary changes. Such changes during adolescence are more rapid than during infancy and childhood. Due to these various changes his personality develops new dimensions.

Physical development:

In adolescence certain in born maturational processes lead to various physical changes; growth is accelerated; bodily shape changes; primary and secondary sexual characteristics become marked; and hormonal level alters. Each of these physical changes produces psychological effects. The beginning of adolescence is signaled by a sudden increase in the rate of physical growth. While this growth spurt occurs for both sexes, it starts earlier for girls (at about age ten or eleven) than for boys (about age twelve or thirteen). Before this spurt, boys and girls are similar in height; in its early phases, girls are often taller than boys; after it is over, males become several inches taller, on average than females. This growth spurt is just one aspect of puberty, the change during which individuals of both genders reach sexual maturity.

Cognitive development:

The cognitive development takes place mainly in areas of perception, memory, generalization and categorization of concepts, handling of logical problem & reasoning, meta cognition and social cognition. Intellectual powers like logical thinking, abstract reasoning and concentration are almost developed. Hero worship is the most prominent in this period. The memory in adolescence develops tremendously with the growth in vocabulary.

The adolescents can imagine about a situation which is not physically present before them and their long-term memory increases. They can retain facts for a longer period, anticipate future needs and plan for it. The idea of historical past can be grasped by adolescents and the idea of time concepts becomes clear to them. The ability to solve problems increases in adolescence with the help of symbols. He is now able to deal with ideas that do not represent something in which a person is definitely involved. The adolescents solve and talk about national and international problems. They are able mentally to

deal with events in a world that extend far beyond their own immediate sphere of activity. The adolescents on roads, in coffee houses, and tea stalls can be seen arguing for hours on topics of their interest.

One noticeable characteristic of mental operations in adolescence is increased ability to generalize the facts. Children usually generalize in relation to concrete objects. The intellectual development in childhood operates on perceptual level but in adolescence the ability to generalize on conceptual level develops. The adolescent can generalize in an abstract way. There is an increase in the ability to see relationships and solve problems of increasing complexity and difficulty. His depth of understanding develops.

The adolescent can think the solution of more difficult problems. Adolescents become capable of logical thinking. However, this does not mean that they necessarily demonstrate such thinking. In fact, only about 40 percent of adolescents can solve the kind of problems used by Piaget to test for formal operational thinking (e.g., Stanovich, 1993). Moreover, if they do show such logical thinking, it may be restricted to topics or types of problems with which they have had direct experience (Rogoff & Chavajay, 1995). In addition, adolescents' theory of mind – their understanding of how they and others think – continues to change and develop. Younger children take what has been described as a realist approach to knowledge.

Moral development:

The formation of strong sentiments during this period intensifies the moral development. The impact of religion and religious practices is also felt for the first time at this stage. According to Kohlberg, the third level of moral development, post conventional morality, should be reached during adolescence.

This is the level of self accepted principles and it consists of two stages. In the first stage the individual believes that there should be a flexibility in moral beliefs to make it possible to modify and change moral standards, if this will be advantageous to group members as a whole In the second stage individuals conform to both social standards and to internalized ideals to avoid self condemnation rather than to avoid social censure.

In this stage, morality is based on respect for others rather than on personal desires. Even with the best foundations, the three major tasks in achieving adult morality-replacing specific concepts with general moral concepts, formulating these newly developed concepts into a moral code as a guideline 11 for behavior and assuming control over one's own behavior are difficult for many adolescents. Some fail to make the shift to adult morality during adolescence and must finish this task in early adulthood.

Others not only fail to make the shift but they build a moral code on socially unacceptable moral concepts.

Social development:

Erik Erikson in his theory of 'psychosocial development' places adolescent in the fifth stage, which is a transitional stage from childhood to adulthood. Like any other stage of psychosocial development, psychological development of individual (their personalities and view of themselves) proceeds hand in hand with the social relations they establish as they go through life. During adolescence individuals face a crisis of identity & role confusion. They pay great attention on how other people view them. They experiment with roles. They attempt to find out what kind of person they are and they adapt the characteristics of other people to see if their characteristics fit them. Adolescent behaviour is characterized by egocentrism and autonomy. The physical changes coupled with the new thinking abilities, make them over conscious and they tend to become self-centered. As the adolescents begin to socialize, they desire autonomy that should be emotional, behavioural and of values.

According to Erikson if an individual is able to come out of crisis successfully he sees himself as an unique and integrated person i.e. he visualizes himself in high self-esteem and is better adjusted to his environment. If he fails to come over the crisis he is in a state of confusion over whom and what he really is. He may develop what is called maladjusted personality.

 The most important and in many respects the most difficult of which are those to the increased influence of the peer group, changes in social behavior, new social groupings, new values in friendship selection, new values in social acceptance and rejection and new values in the selection of leaders. Of all the changes that take place in social attitude and behaviour, the most pronounced is in the area of hetero sexual relationships. Whether prejudice and discrimination will increase or decrease during adolescence will be greatly influenced by the environment in which adolescents find themselves and by the attitudes and behavior of their friends and associates. Because adolescents, as a group tend to be choosier in the selection of associates and friends than they were as children, they find adolescents of different racial, religious or socioeconomic backgrounds less congenial than those with similar backgrounds.

However, they are more likely to ignore those they find uncongenial than to treat them in a way that expresses their feelings of superiority as older children do. 13 The adolescent had a much firmer and more mature grasp of society's rules and regulations. Hall observed, with the dawn of adolescence at the age of twelve or shortly after comes the recognition of a larger life, a life to be lived in common

with others, and with this recognition the desire to sustain the social code made for the common welfare.

Emotional development:

During adolescence the individual wants to take independent decisions in different situations of his experiences. However, the adolescent starts to control his desires according to standards set by the society and also begins to realize his social responsibilities. If he fails in this attempt, he develops many defects in his personality. From the very start of adolescence sexual curiosities appear in boys and girls. During adolescence there is a kind of mental tension or conflict going on in the individual.

Their emotions fluctuate very frequently and quickly. It is widely believed that adolescents are highly emotional—that they experience huge swings in mood and turbulent outbursts of emotion. In several studies on this issue, large numbers of teenager were weepers and were signaled at random times thoughts and feelings in a diary. Results indicated that they did show more frequent and larger swings in mood than those shown by older persons.

Questions for Discussion and Reflection:

      1.Characterize the Adolescents.

      2.What are the important problems of Adolescents in Educational Institutions?

      3.What are the Developments in Adolescence?

      4.What are the Guidance services to the Adolescents?

UNIT VIII: PLAY AND CHILD DEVELOPMENT

Objectives:

After completion of the unit, the learner will be able to:

1. explain play and characteristics of play.
2. understand the types of social participation
3. describe the functions of play
4. understand the functions of play

Introduction

In few area of development has more radical change in attitude towards its importance to children's personal and social adjustments than in play. Since the turn of the present centenary, there has been a radical shift in attitudes toward play as the result of scientific studies of what play can do for the child's development. Instead of regarding play as a waste of time, scientists been having pointed out that it is a valuable learning experience.

Play is the most natural of childhood activities and one of the most frequently observed. Three criteria that may help to define play: freedom of choice, personal enjoyment, and focus is on the activity itself rather than its outcomes. Just as the adult works, so does the child play; it is the business of the child. Through the play, the child grows, develops, learns, and ultimately matures.

PLAY

Play is needed for healthy development for your child. Research shows that 75 percent of brain development occurs after birth. Play helps with that development by stimulating the brain through the formation of connections between nerve cells. This process helps with the development of fine and gross motor skills. Fine motor skills are actions such as being able to hold a crayon or pencil. Gross motor skills are actions such as jumping or running. Play helps the child to develop language and socialization skills. Play allows children to learn to communicate emotions, to think, be creative and solve problems.

CONCEPT OF PLAY

❖ Play is critical to the healthy growth and development of children
❖ One of the ways children learn about themselves, the people around them, their environment, and their community.

❖ By playing, a child will then learn how to process and make sense of what sensations he/she receives whether it's by sight, sound, taste, smell, or touch.

❖ Play relieves stress and boredom, connects people in a positive way, stimulates, creative thinking and exploration, regulates emotions, and boosts confidence.

Meaning of Play

"Play" is a term to loosely use that its real significance is apt to be lost. In its strictest sense it means any activity engaged in for the enjoyment it gives, without consideration of the end result.

Definition of Play

According to Bettelheim, play activities are those "having no rules other than those the player himself imposes and no indented end result is external reality".

CHARACTERISTICS OF PLAY:

Self-directed - self-selected
Open-ended - voluntary
Enjoyable - flexible

Motivating individual or group

FUNCTIONS OF PLAY

❖ make sense of their world,

❖ expand social and cultural understandings

❖ express personal thoughts and feelings

❖ Practice flexible and divergent thinking encounter

❖ solve real problems

❖ learn to consider other people's perspectives

❖ plans and develop self control

❖ extend language and literacy skills and

❖ enhance brain and motor development.

Types of Play

The child grows and develops, his or her play evolves. Certain types of play are associated with, but not restricted to, specific age groups.

1) **Unoccupied play**: In the early months of infancy, from birth to about three months, the child is busy in unoccupied play. Children seem to be making random movements with no clear purpose, but this is the initial form of playing.

2) **Solitary play**: From 3 to 18 months, babies will spend much of their time playing on their own. During solitary play, children are very busy with play and they may not seem to notice other children sitting or playing nearby. They are exploring their world by watching, grabbing and rattling objects.

3) **Onlooker play**. Onlooker play happens most often during the toddler years. This is where the child watches other children play. Children are learning how to relate to others and learning language. Although children may ask questions of other children, there is no effort to join the play. This type of play usually starts during toddler years but can take place at any age.

4) **Parallel play**: From the age of 18 months to two years, children begin to play alongside other children without any interaction. This is called parallel play. Parallel play provides your toddler with opportunities for role-playing such as dressing up and pretending. It also helps children gain the understanding of the idea of property right such as "mine." They begin to show their need of being with other children their own age. Parallel play is usually found with toddlers, although it happens in any age group.

5) **Associative play**: Associative play helps the preschooler learn the do's and don'ts of getting along with others. Associative play teaches the art of sharing, encourages language development, problem-solving skills and cooperation. In associative play, groups of children have similar goals. They do not set rules, although they all want to be playing with the same types of toys and may even trade toys. There is no formal organization.

6) **Social play**: Children around the age of three are beginning to socialize with other children. By interacting with other children in play settings, child learns social rules such as give and take and cooperation. Children are able to share toys and ideas. They are beginning to learn to use moral reasoning to develop a sense of values. To be prepared to function in the adult world, children need to experience a variety of social situations.

7) **Motor - Physical Play**: When children run, jump, and play games such as hide and seek and tag they engage in physical play. Physical play offers a chance for children to exercise and develop

muscle strength. Physically playing with child teaches social skills while enjoying good exercise. The child will learn to take turns and accept winning or losing.

8)**Constructive Play**: In this type of play, children create things. Constructive play starts in infancy and becomes more complex as the child grows. This type of play starts with your baby putting things in his/her mouth to see how they feel and taste. As a toddler, children begin building with blocks, playing in sand, and drawing. Constructive play allows children to explore objects and discover patterns to find what works and what does not work. Children gain pride when accomplishing a task during constructive play.

9)**Expressive Play**. Some types of play help children learn to express feelings. The parents can use many different materials. Materials may include paints, crayons, colored pencils and markers for drawing pictures or writing. It can also include such items as clay, water, and sponges to experience different textures. Beanbags, pounding benches, and rhythm instruments are other sources of toys for expressive play.

10) **Fantasy Play**: Children learn to try new roles and situations, experiment with languages and emotions with fantasy play. Children learn to think and create beyond their world. They assume adult roles and learn to think in abstract methods. Children stretch their imaginations and use new words and numbers to express concepts, dreams and history.

11**Cooperative play**: Cooperative play begins in the late preschool period. The play is organized by group goals. There is at least one leader, and children are definitely in or out of the group. When children move from a self-centered world to an understanding of the importance of social contracts and rules, they begin to play games with rules. Part of this development occurs when they learn games such as follow the leader, Siman Says Games with rules teach children the concept that life has rules that everyone must follow

COGNITIVE THEORY OF PLAY

Every act of intelligence is characterized by equilibrium between two polar tendencies. i.e assimilation and accommodation (Piaget). In Assimilation, the subjects incorporates events, objects, situation into existing ways of thinking (Organized mental structures). In accommodation, incorporation of new aspects of external environment Intelligence: Subjects adapts to the requirements external environment reality, while at the same time, maintaining mental structures intact.

PAIGET'S THOUGHTS ON PLAY

Paiget's three stages of practice characterized by the primacy of assimilation over accommodation the subject incorporates events and objects into existing mental structures.

CONSTRUCTIVE PLAY: Use of blocks or materials to make something dramatic/pretend play: use of imagination and role play games with rules: accepts predetermined rules, to play games such as Cricket/ football. Knowledge helps educators provide appropriate environments that support children's development. It enables them to enjoy, encourage, and appreciate age-appropriate play behaviour.

SYMBOLIC PLAY: Through pretence, make or believe, identification of one object with another .A banana is telephone Uses' words for objects It lasts 02 to 03 years, Body parts as other things (after 03 Y), Not for practical or instrumental purpose, but for pleasure derived from motor skills mastery symbolic play relates to their verbal abilities. Children with visual impairments demonstrate similar level of sophistication Low in quantity

PURPOSIVE PLAY: when practice play becomes less numerous and diminish child passes from mere reputation to fortuitous and then purposes combination of actions and manipulations, set goals and transfer to constructions, elaborate sequences of scio- dramatic play, rules spontaneously created rigidity, language development engage them in verbal games. Play with rules and activities become collective standardized activities under the age of 10, children believe that rules are created by an authority, unchangeable. After the age of 10, children understand that rules are created to make the game playable by all, and that they could be changed by mutual agreement. Play is inextricably linked to children's cognitive abilities

SOCIO-DRAMATIC PLAY: Relates strongly to children's cognitive and social abilities. It offers rich opportunities for children to: develop abstract thinking (Piaget, 1962) refine their understandings about the world solve problems in a safe context.

SOCIAL ASPECT OF PLAY: Play results from interaction with other peoples helps to develop their cognitive abilities. In infancy babies tend to be played to by adult's passive role After 12 months, able to imitate actions more active role

PRETEND PLAY: A sophisticated activity. Integrate different representations of objects and events. Seeing its mother pretending that a banana is telephone. True identity of banana is different from pretend identity as telephone

SOCIAL PLAY: It is characterized by playful interactions with parents (up to age 2) and/or other children (from two years onwards) parallel Play. In spite of being around other children of their age, children between 2 to 3 years old commonly play next to each other without much interaction socio-dramatic play: As their cognitive skills develop, including their ability to imagine, imitate and understand other's beliefs and intents, children start to get fully involved in it.

PHYSICAL LOCO MOTOR PLAY: While interacting with same age peers, children develops narrative thinking, problem solving skills (e.g., when negotiating roles), and a general understanding of the building blocks of story. Around the same time, physical/locomotors play also increases in frequency. Running and climbing, play fighting (three to six)

GENDER DIFFERENCES : Boys & Girls Play differently socio-cultural theorists suggest play useful way of practicing in a non-threatening environment. Students have opportunity to learn relationships, roles, and conventional pattern of behavior. Strengthen the distinction between appearance (pretend) and reality Provide social interaction, basis for cognitive

FREUD'S VIEW ON PLAY: Play is a means by which children could compensate for the anxieties and frustrations that they experiences in everyday life. Desire to mastery, to emulate their parents by staying up late, safe, stress free environment. Anxiety to go to the doctor. Play is an outlet for creativity. Function is equally important. Imaginary companions

THE BOUNDARY BETWEEN PLAY AND AGGRESSION

Children disturb others if they themselves or poor players. Popular player are those with positive and happy disposition, show high level of cooperative play, little aggression unpopular children

a) **rejected:** disruptive, argumentative, extremely active, talkative, unwillingness to share and solitary behavior as consequence

b) **Neglected:** shy, rarely aggressive, antisocial, avoid interaction, bullying: laughter and smiling, restraint, it is different from fighting, rough, tumble play.

c) **Object play** refers to playful use of objects such as building blocks, cars, dolls, etc allows children to try out new combinations of actions, free of external constraint, and may help develop problem solving skills.

d) **Pretend play:** involves pretending an object or an action is something else than it really is. A banana is a telephone, 15 months of age with simple actions, such as pretending to sleep or putting dolly to bed,

Contribution of play to child development

There are many benefits of play. Children gain knowledge through their play. They learn to think, remember, and solve problems. Play gives children the opportunity to test their beliefs about the world. Children increase their problem-solving abilities through games and puzzles. Children involved in make-believe play can stimulate several types of learning.

Children can strengthen their language skills by modeling other children and adults. Playing house helps children create stories about their roles, such as "I am the Mom." They also imitate their own family experiences. This helps children learn about the different roles of family members. Children gain an understanding of size, shape, and texture through play. It helps them learn relationships as they try to put a square object in a round opening or a large object in a small space. Books, games, and toys that show pictures and matching words add to a child's vocabulary.

It also helps a child's understanding of the world. Play allows children to be creative while developing their own imaginations. It is important to healthy brain development. Play is the first opportunity for the child to discover the world in which he lives. Play offers a child the ability to master skills that will help develop self-confidence and the ability to recover quickly from setbacks.

Play is important when the child enters school. Play can assist children in adjusting to a school setting. It enhances children's learning readiness and their cognitive development by allowing them to move from subject and area without of the fear of failure. Playtime in school such as recess time, allows learning and practicing of basic social skills. Children develop a sense of self, learn to interact with other children, how to make friends, and the importance of role-playing. Exploratory play in school allows children time to discover and manipulate their surroundings.

VALUES OF PLAY

1. **PHYSICAL VALUE:** Muscular & sensory abilities are developed. Infants & young children develop their sensory abilities through the tactile, visual and auditory sensations derived from playing with rattles balls & other toys. Toddlers & preschool children enjoy large muscle activity such as running, climbing & exploring the environment. School age children organize their movements into more complex forms like bicycle riding, racing.

2. **INTELLECTUAL VALUE:** Children learn the differences in sizes, shape, colors, textures, numbers, & names of the objects. They learn to understand special relationships, to do abstract thinking, & to engage in problem solving activities. Distinguished what is real & what is unreal/ fantasy.

3.**MORAL VALUE**: Cultural values like honesty, integrity, sportsmanship, & compassion are learned. They assumes responsibility for their own actions and should adhere to the group values & can be expelled if they don't.

4.**CREATIVE VALUE :** Playing with materials like clay, paper & finger prints. Children are most creative when they are playing alone. They carry their new discoveries to the outside world of play

5.**THERAPEUTIC VALUE**: Play provides the release of stress and tension. Children express their emotions and test out frightening situations in a way that peers and adults can accept. They reveal themselves through play. Nurses can carefully observe the play of children & determine needs, concerns & feelings that cannot be put in to words. Children should be protected if they become aggressive & should be guided into less aggressive type of play.

6.**SOCIALIZATION:** Social & emotional development is enhanced through play. When they play with adults, parents and peers they develop social relationship.

Conclusion

Play is an essential and critical part of all children's development. Play starts in the child's infancy and ideally, continues throughout his or her life. Play is how children learn to socialize, to think, to solve problems, to mature and most importantly, to have fun. Play connects children with their imagination, their environment, their parents and family and the world. Parental involvement in a child's world of play is not only beneficial for the child but is extremely beneficial to the parent. Playing with children establishes and strengthens bonds that will last forever. Parent-child play opens doors for the sharing of values, increases communication, allows for teachable moments and assists in problem solving. Playtime provides opportunities for the parent and child to confront and resolve individual differences, as well as family related concerns and issues. Finally, it allows the parent to view the world through the eyes of a child once again.

Questions for Discussion and Reflection:

1.Concept, meaning and definition of play.

2.Describe the types of functions of play.

3.Explain the theories of play.

4.Discuss the contributions of play to child development.

5.What are the values of play?

<div align="center">**UNIT IX: MEDIA AND CHILD DEVELOPMENT**</div>

Objectives:

After completion of the unit, the learner will be able to:

1. gain knowledge about the role of media in the development of children and adolescents
2. analyse the factors for the harmful effects of media on children and adolescents
3. realize the impact of media violence on children and adolescents
4. study the role and contribution of media on racial and gender stereotyping and
5. explore various ways and means for healthy media usage.

I - MEDIA AND CHILD DEVELOPMENT

Introduction

As 21st Century is being noted as the boon in the development of science and technology, the impact of media goes in line with the top priority in the techno-revolution. As a result of this rapid development, most of developing countries, in particular, India have been emerged as an inevitable socio-economic power not only in Asia, but also compatible in the world arena. For the sub-continent, the human resource becomes the big boon as 25% below 18 age group and more than 65% of its population between the age group of 18 - 35. Nowadays the electronic gadgets like mobile phones, tablets, iPads, laptops and etc. becomes the part and parcel of the youngsters' life, and so the impact of media on younger generation is abundant. This, chapter, henceforth, deals with how the media influence on youngster in different perspectives, in terms of their childhood experiences and adolescence development.

Definition and Meaning

Media:

1.Communication channels through which news, entertainment, education, data, or promotional messages are disseminated. Media includes every broadcasting and narrowcasting medium such

as newspapers, magazines, TV, radio, billboards, direct mail, telephone, fax, and internet. Media is the plural of medium and can take a plural or singular verb, depending on the sense intended.

2. Data storage material divided into three broad categories according to the recording method:

(i) Magnetic, such as diskettes, disks and tapes

(ii) Optical, such as microfiche and

(iii) Magneto-Optical, such as CDs and DVDs.

Mass Media: Mass media is communication - whether written, broadcast, or spoken - that reaches a large audience. This also includes television, radio, advertising, movies, the Internet, newspapers, magazines, and so forth.

Social Media: It refers to the means of interactions among people in which they create, share and exchange information and ideas in virtual communities and networks. The Office of Digital Communications manages the main Facebook, Twitter, Instagram, WhatsApp, YouTube and Video accounts.

Influence of Children Media

According to the American Academy of Pediatrics (AAP), "Children are influenced by media -they learn by observing, imitating, and making behaviors their own". The influence of media on children has been the subject of increased attention among parents, educators, and health care professionals. The significance of this issue becomes major concern in the diverse Indian culture. Media influence on children has steadily increased as new one and more sophisticated types of media have been developed and made available to the Indian public. Though the availability and the greater affordability of media for Indian families, has provided easier access to media for children, whereas the beneficial effects of media are plentiful such as, early readiness for learning, educational enrichment, opportunities to participate in discussions of social issues, exposure to the arts through music and performance and entertainment. Harmful effects may result from sensationalization of violent behavior, exposure to subtle or explicit sexual content, promotion of unrealistic body images, presentation of poor health habits as desirable practices, and exposure to persuasive advertising target children.

History of Media for Children

The 20th century was a time of phenomenal growth and development of new kinds of media. In the early twentieth century, film, radio and newspapers were the media forms to which children had access, though limited. Beginning in the early 1940s, children's media experiences expanded into

television, recorded music, videotapes, electronic games, interactive computer software, and the Internet. Print media, such as comic books and children's magazines, also expanded during this period, though not at the same accelerated rate as the visual electronic media.

Factors for General Media Considerations

There are two important factors that must be included in the discussion of media influence on children. The first factor, called *media literacy,* was addressed by Renee Hobbs. Hobbs contended that: Just because the students can use media and technology doesn't mean they are effective at critically analyzing and evaluating the messages they receive. Students need a set of skills to ask important questions about what they watch, see, listen to and read. Later it was called as media literacy, these skills include the ability to critically analyze media messages and the ability to use different kinds of communication technologies for self-expression and communication. A child, provided who is media illiterate, it is more vulnerable to being influenced by messages in all kinds of media. The second factor that can affect how children are influenced by media is the amount of parental involvement in supervising media exposure of children. Parental monitoring is a key factor, since the research studies show that increasing guidance from parents is at least, as important as simply reducing media violence. Children may learn negative behavior patterns and values from many other experiences by TV programmes, so parental guidance is needed to help children to sort out these influences and develop the ability to make sound decisions on their own.

An important media literacy skill, which can be developed through parental guidance, as it is a child's ability to distinguish between reality and fantasy in media messages. Children would not be capable of making this distinction without an adult's help, resulting in a child's confused perception of fantasy as reality. But with proper adult guidance, they can learn to critique what they view and become more discriminating consumers of media.

Studies of Media Influence

Violence in interactive media forms (Internet, computer and video games) as opposed to passive media forms (television, movies, videos) may have even stronger effects on children and, as a result, has become a focus of new research. According to the Office of the Surgeon General, "children are theoretically more susceptible to behavioural influences when they are active participants than when they are observers." To further legitimize these concerns, the AAP reported that initial studies of interactive media show that the element of child-initiated virtual violence may result in even more significant effects than those of passive media. Because research has already shown that passive media

violence has significant influence on children, the implications of increased effects from interactive media are troublesome. Despite the research reports, there was debate between television broadcasters and scientists regarding the harmful effects of television violence on children. Broadcasters asserted that there was not enough evidence to link viewing television violence to children's aggressive behavior.

II - HARMFUL EFFECTS OF MEDIA ON CHILDREN AND ADOLESCENTS

Children and adolescents are spent a considerable portion of their time watching television, movies, playing videogames and on the internet. Media has proved to be a very useful tool in the fields of education, arts, science, sports, and culture. Over the past few decades, there has been a surge in the use of media by the younger generations and concern has been raised about the impact of media on children because of research reports of long term harmful effects. Media use is a double edged sword with both merits and demerits and it is therefore imperative for parents to understand the effect of media exposure on children in order to understand and handle problems resulting from this exposure better.

Extent of Media use by Children and Adolescents

Today's children had been growing up in a world saturated with media use. A national survey in the US found that children aged 8 to 18 years had an average media usage time of 7 hours and 38 minutes every day. The average of youngsters spend one-third of each day with some form of electronic media. There are not many studies on media exposure in Indian children and adolescents, but the scenario in India shows a similar trend with Indian children spending more than two hours of their time on the television daily. This increased exposure to the media has profound effects on the development and functioning of children and adolescents today. Media has been found to have a negative impact on the physical, psychological and social development of children. In particular, the effect of media in the areas of violence and aggression, obesity, nutrition and eating disorders, substance use and early sexual initiation, which have to be taken into special consideration.

Media and Violence

The national television violence study, carried out to understand the content of American television, showed that there was an alarming amount of violence present in the programs watched by children and adolescents. Young people view an average of 10,000 acts of violence per year with 61% of the

shows containing violence of some kind. In general, violence on television and in movies often conveys a model of conflict resolution. It is efficient, frequent and inconsequential. Among violent programs only 15% carried any sort of advisory/content code. The study concluded that television violence contributes to antisocial effects on viewers. The prime effects of the study had seen as follow,

1. Learning aggressive behaviour and attitudes
2. Desensitization to violence and
3. Fear of being victimized by violence.

Children cannot discriminate between reality and fantasy. They lack adult reasoning abilities and may perceive TV shows as being realistic and shape their behaviours accordingly. Media violence cannot be considered a lone cause of violence in the youths of today. But the use of violence to achieve goals and to settle conflicts is learned behaviour. Adolescents who are exposed to violence or are victims of violence in their homes or communities are more likely to use violence themselves. This goes to show that witnessing of violence is an important factor of violent behaviour and media violence represents the witnessing of violence in a very explicit and graphic fashion.

Media and Substance abuse

Studies have examined the relationship between TV advertising of alcohol and drinking knowledge, beliefs and intention to later drinking in children. The results showed that children with more exposure to advertisements of alcohol held more favourable beliefs about drinking and more frequently intended to drink as adults. The positive effects attributed to drinking included romance, sociability and relaxation. Recent studies have also shown that exposure to alcohol advertising and TV programming is associated with positive beliefs about alcohol consumption. A content analysis of music videos showed that one fourth of music videos commonly broadcast on television contain alcohol or tobacco use. Research has revealed an association between exposure to certain mass media messages and smoking in adolescents. For instance, more than half of adolescent smoking initiation has been linked to watching smoking in movies.

Media and Risk of early Sexual initiation and Sexual promiscuity

A very important factor contributing to early sexual initiation in adolescents is exposure to sexually explicit content in the media. Over the past few decades, there is an increased and more explicit portrayal of sexual material in the media. There is however very little information about the risks

associated with early sexual initiation and indiscriminate sexual behaviour like unwanted pregnancies and the risk of contracting sexually transmitted diseases. Content analysis of sexually explicit material on television showed that more than 50% of shows and 66% of prime time shows contain sexual content, only 9% contain any reference to possible risk or responsibilities of sexual activity or any reference to contraception or safer sex. A study examining the relationships between amount of television viewing and parental regulation of content on sexual initiation observed that watching two or more hours of television per day and lack of parental regulation of television programming were each associated with increased risk of initiating sexual intercourse within a year. The Internet offers easy and private access to very sexually explicit content with just a few keystrokes. The internet also poses other sexual risks to adolescents like risks from stalkers, lack of privacy, sharing too much information, or posting inappropriate photos of themselves on the net especially on social networking sites. Swift, widespread distribution of such photos via cell phones and computers may result in dire, unforeseen consequences.

Media and Obesity

Children today tend to spend their leisure time on the television, computer or video games rather than playing or indulging in other physical activities. Studies have reported a strong causal link between television viewing and the risk of developing obesity. There is a significant association between playing electronic video games and obesity with a twofold increased risk of obesity for every hour spent playing electronic games daily. Studies have also shown an inverse relationship between the hours spent using video games and daily physical activity. The mechanism of effect of media exposure on obesity may also operate through the extensive advertising messages for unhealthy foods targeting children.

Media and Other behavioural problems

The time spent on the television and other forms of entertainment media significantly reduce a child's time for activities necessary for the physical and mental development like playing, reading, storytelling and spending time with peers and family. Studies have revealed a harmful effect of watching more than one to two hours of television per day on academic performance. Excess television viewing causes poor peer relationships and thereby increases the risk of social isolation, anxiety disorder and agoraphobia. Studies have also shown that TV viewing may play an intensifying, if not causal, role in the development of attention-deficit/hyperactivity disorder and that excessive TV viewing in adolescence is a risk factor for development of depression in young adulthood.

Domains of Influence

Research studies have identified the following domains of influence in which media content has been shown to have negative effects on children like as, violence and aggressive behavior, sexual content, body image and self-esteem, and physical health and school performance.

1. **Violence and aggressive behvior:** The question of violence in the media and its influence on children is probably the most widely researched domain of media influence. Studies over a span of three decades, beginning in the early 1970s, have shown that significant exposure to media violence increases the risk of aggressive behavior in certain children and adolescents. Other effects on children include desensitization to others' pain and suffering and the tendency to be fearful of the world around them, viewing it as a dangerous place. Research has also shown that news reports of violent crimes can traumatize young children.

2. **Sexual content:** Increased attention has been given to the second domain, sexual content in the media. According to studies commissioned by the Kaiser Family Foundation collectively labeled "Sex, Kids, and the Family Hour," there was a 400 percent increase from 1976 to 1996 in sexual references during the evening television viewing time period commonly referred to as "family hour." It was determined that by 1996 children were exposed to about eight sexual references per hour during this time slot. In *Media, Children, and the Family,* Jennings Bryant and Steven Rockwell reported the results of their studies that investigated the effects of exposure to sexual content on television. They found that such exposure affected adolescents' moral judgment. They qualified the results, however, by saying that parental discussion and clear expression of personal values mitigated the effects on adolescents.

3. **Body image and self-esteem:** The third domain, body image and self-esteem, is widely affected by advertising in the media. Researchers have suggested that media may influence the development of self-esteem in adolescents through messages about body image. Television, movies, magazines, and advertisements present images that promote unrealistic expectations of beauty, body weight, and acceptable physical appearance. Efforts to sell an image that adheres to certain standards of body weight and size may be a catalyst for eating disorders suffered by some adolescents. And, when adolescents fall short of their own expectations based on media images, self-esteem can suffer. Media theorists and researchers have determined that the effects of this trend are being seen in both boys and girls, with negative psychological effects.

Advertisement of appealing, but often financially unaffordable, clothing and promotion of negative gender stereotypes are other areas of concern.

4.Physical health and School performance: The fourth domain involves the amount of time that children spend to get engaged with media activities. The average of a child or adolescent spends more than twenty hours per week viewing television. Additional time is often spent watching movies, listening to music, watching music videos, playing video or computer games, or spending computer time on the Internet. This increase in time, spent by children using media for recreation has been shown to be a significant factor in childhood obesity due to associated physical inactivity. School achievement may also be affected as a result of decreased time spent on homework or school assignments. And parents often unintentionally contribute to this negative influence by using the television as a way to occupy their children's attention - as a babysitter of sorts. Educators have expressed concerns that the passive nature of media exposure undermines the ability of students to be active learners. On the contrary, there have been concerns that overstimulation due to excessive media use might be related to attention deficit disorder or hyperactivity. There has been no research to date that indicates a clear relationship. Increasingly, tobacco, alcohol, and illicit drugs have been glamorized in the media. Tobacco manufacturers spend 6 billion dollars per year and alcohol manufacturers spend 2 billion dollars per year in advertising that appeals to children. Movies and television programs often show the lead character or likeable characters using and enjoying tobacco and alcohol products. On the other hand, media also provide factual information and venues for discussion, typically through public service announcements or through public programming, informing children and warning them of the dangers of addictions to these substances. These educational messages, however, are on a much smaller scale and are much less appealing in their presentation.

Educational Implications and Recommendations

The AAP, the Office of the Surgeon General, and the APA have offered recommendations to address the issues of media influence on children. Included in these recommendations are suggestions for parents, educators, and health care professionals to advocate for a safer media environment for children through media literacy. They urge media producers to be more responsible in their portrayal of violence. They advocate for more useful and effective media ratings. A consistent recommendation in studies, however, is proactive parental involvement in children's media experiences. By monitoring what children hear and see, discussing issues that emerge, and sharing media time with their children,

parents can moderate the negative influences as well as increase the positive effects of media in the lives of their children.

Conclusion

Considering the profound role of the media on various facets of a child's development, the need of the hour is to find ways to promote the healthy use of the media in the community. This requires the solidarity efforts of physicians, educators, parents and policy makers. Physicians, in their role as health promoters, should become more active in sensitizing the media to its impact on youth. Programming decisions should be made with potential consequences to the viewing audience kept in mind. Physicians should make parents and schools "media literate," meaning they should understand the risks of exposure to violence and other inappropriate sexual content. The parents should also monitor what sort of programmes their children are viewing and should also limit the time spent watching the same. Children should be taught how to interpret what they see on television and in the movies, including the intent and content of commercials without blindly copying or imitating the same. In doing so, children may be increasingly able to discern which media messages are suitable. Research in ways to maximize the positive use of the media and minimize its harmful effects will help in its optimal use.

III - INFLUENCE OF MEDIA VIOLENCE ON CHILDREN'S AND ADOLESCENT'S BEHAVIOUR

Introduction

Radio, television (TV), movies, video games, cell phones, and computer networks have assumed central roles in our children's daily lives. The media has demonstrated potentially profound effects, both positive and negative, on children's cognitive, social, and behavioral development. Considering the increasing exposure of children to newer forms of media, we could review the current literature on the effects of media on child health in contrast with both in the Western countries and India. It is widely accepted that media has profound influence on child health, including violence, obesity, tobacco and alcohol use, and risky sexual behaviors. Simultaneously, media may have some positive effects on child health. We are now in much need of finding ways and means to optimize the role of media in our society, taking advantage of their positive attributes and minimizing their negative ones. In other words, it becomes the need of hour to sensitize in better ways how to reverse the negative impact of media and make it more positive.

Effect of Electronic Media on Children

One of the notable changes in our social environment in the 21st century has been the saturation of our culture and daily lives by the mass media. Unfortunately, the consequences of one particular common element of the electronic mass media have a particularly detrimental effect on children's well-being. It is now not just kids in bad neighborhoods or with "bad" friends who are likely to be exposed to bad things when they go out on the street. A "virtual" bad street is easily available to most youth now in their very homes.

Effect of Media on Children and Adolescents

Effects of the mass media have been found to be far-reaching and potentially harmful in influencing the health-related behaviors of children and adolescents, many of whom are not yet mature enough to distinguish fantasy from reality, particularly when it is presented as "real life." This is particularly important for very young children who develop mentally to think concretely and are unable to distinguish fantasy from reality. Furthermore, time spent with media decreases the amount of time available for pursuing other more healthy activities such as sports, physical activity, community service, cultural pursuits, and family time etc.

Media and Behavioral Problems

Children, who observe (in the media or in the environment around them) others exhibiting a specific aggressive behavior, e.g. hitting, are more likely to perform the same aggressive behavior immediately. Exposure to media violence has been positively related to subsequent aggressive behavior, ideas, arousal, and anger. Additionally, there is a significant negative effect of exposure to violence on subsequent helping behavior. Infrequent exposure is not likely to produce lasting consequences, but parents, particularly need to be urged to protect their children against the kinds of repeated exposures that excessive play with violent video games or immersion in violent TV programs is likely to produce. The studies from India (Ray, et al.) reported that children having exposure to violence through media had poorer school performance and its impact on their psychosocial adjustments was detrimental. Another study from India showed that vivid display of violence through media (9/11 terrorist attack) caused stress in adolescents. The study (Yama, et al.) has also described that some of the fears, tensions, bad dreams and tendencies towards delinquencies of children are a result of frequent and a regular exposure to murder-mystery movies, and stories filled with violence and torture that children view on TV and movies. Association between TV viewing and suicidal

behavior has also been reported from India. Both content exposure and screen time of media had independent detrimental associations with school performance in children and adolescents. The findings of a study (Hopf, et al.) showed that the more frequently children view horror and violent films during childhood, and the more frequently they play violent electronic games at the beginning of adolescence, the higher will these students' violence and delinquency be at the age of 14. Furthermore, the study (Primack, et al.) reveled that excessive TV viewing in adolescence is a risk factor for development of depression in young adulthood. TV viewing may play an exacerbating, if not causal, role in the development of attention-deficit/hyperactivity disorder (ADHD). Thus, a more careful examination of the relation between television viewing and children's cognitive abilities are needed.

Television Viewing and Social Isolation

As children spend more total time watching TV, they spend a significantly shorter amount of time with friends as compared to those who don't. Thus, viewing television causes poor peer relationships and thereby increases the risk for social isolation, anxiety disorder, agoraphobia, and antisocial behavior, including aggression and gang involvement. Some authors found that the more time children spent watching TV, the less time they spent with their families. While TV may isolate children, the reverse causal direction is also plausible – lonely children may turn to TV for entertainment and companionship. Children who are marginalized by their peers use TV to escape the stresses of their lives and meet their social needs. Conversely, children who are socially integrated spend less time watching TV. Thus, it can be argued that it is social isolation that motivates excessive media use. Overall, it is most likely that both effects occur - children who watch more TV become more socially isolated, which leads them to spend more time watching TV. While TV viewing is often perceived as an isolating activity, it frequently occurs in the company of friends. Because socializing builds interpersonal skills, TV viewing with friends may provide a venue for these skills to develop. It is important to consider content whenever investigating the relationships between media use and behaviors. Violent television viewing may influence younger children to be more anti-social; resulting in their becoming socially isolated which, in turn, attracts them to more violent media. To optimize children's social development and long term mental health, parents, teachers, and pediatricians should discourage the viewing of violent television programs.

Media and Childhood Obesity

The mechanism of effect of TV exposure on overweight risk is undoubtedly multifactorial. It appears to operate independently from reduced physical activity. Excessive TV exposure may instead operate

through the extensive advertising messages for unhealthy foods targeted at very young children or from a tendency of children to snack while watching TV. A randomized controlled trial found that increasing screen time resulted in reduced energy expenditure and increased energy intake. There is association between exposure to advertisements and children's requests for specific foods, food purchasing, and food consumption. Indeed, studies show that TV viewing is inversely associated with intake of fruits and vegetables, which receive little air time despite their potential to promote health in various ways and protect against weight gain. Reducing television viewing and computer use may have an important role in preventing obesity and in lowering BMI in young children, and these changes may be related more to changes in energy intake than to changes in physical activity. In the absence of regulations restricting food advertising aimed at children, reduction in television viewing is a promising approach to reducing excess energy intake.

Media and Eating Disorders

The print media promotes an unrealistically thin body ideal that, in turn, is at least partially responsible for promoting eating disorders. One prospective study of thin ideal-promoting media use in young adolescent girls found that decreases in magazine reading over 16 months was associated with decrease in eating disordered symptoms. Van den Berg, et al. found that frequent reading of magazine articles about dieting/weight loss strongly predicted unhealthy weight control behaviors in adolescent girls, but not boys, 5 years later. (Field, et al.) observed that the majority of the preadolescent and adolescent girls in their school- based study were unhappy with their body weight and shape. This discontentment was strongly related to the frequency of reading fashion magazines. The frequency of reading fashion magazines was positively associated with the prevalence of having dieted and exercised to lose weight and to improve body shape. The results suggest that the print media aimed at young girls could serve a public health role by refraining from relying on models that are severely underweight and printing more articles on the benefits of physical activity.

Media and Smoking

Research has demonstrated a strong association between exposure to certain mass media messages and smoking in adolescents. For instance, more than half of adolescent smoking initiation has been linked to watching smoking in movies. Acknowledging the effects of mass media on attitudes and behavior, media literacy may teach youth to understand, analyze, and evaluate advertising and other mass media messages, enabling them to actively process media messages rather than passively remaining targets of mass media. India faced a lot of controversy with the ban on on-screen smoking in films and television

programs. Initially, ban was imposed from January 1, 2006 and then on January 23, 2009, Delhi High Court lifted the smoking ban in films and TV. There is a need for evidence based guidelines for such issues.

Media and Alcohol Drinking

It has been shown that exposure to alcohol advertising and TV programming is associated with positive beliefs about alcohol consumption. Although such cross-sectional studies do not prove causation (only association), it is of interest that in a 1990 study, 56% of students in grades 5 to 12 said that alcohol advertising encourages them to drink. Findings showed that girls who had watched more hours of TV at ages 13 and 15 drank more wine and spirits at age 18 than those who had watched fewer hours of TV. One study suggested independent associations between marijuana and alcohol use, and media exposure. In particular, music exposure is associated with marijuana use while movie exposure is related to alcohol use.

Media and Risk of Sexual Initiation

Initiation of sexual intercourse by younger adolescents is associated with risky sexual behaviors and increased risk of multiple partners, unwanted pregnancy, sexually transmitted infections, and pelvic inflammatory disease. In the US, approximately 47% of high school students have had sexual intercourse. One potential but largely unexplored factor that may contribute to sexual activity among adolescents is exposure to sexual content in the mass media. In India, there are reports of messaging of sexual contents through mobiles among school- going adolescents. The TV programs watched by adolescents contains high levels of sexual content, include little information about sexual risks, and are an important source of information about sex. Almost 75% of 15 to 17 year olds believe that sexual content on TV influences the behavior of their peers 'somewhat' or 'a lot'. (Collins, et al.) reported that the amount of sexual content viewed, but not hours of television watched, was a significant one year risk factor for sexual initiation. (Ashby, et al.) examined the relationships between amount of television viewing and parental regulation of content on sexual initiation and observed that watching television 2 or more hours per day and lack of parental regulation of television programming were each associated with increased risk of initiating sexual intercourse within a year. (Peterson, et al.) found that co-viewing television and discussing television with parents were related to decrease sexual initiation in certain adolescents.

What can be done to pacify Impact of Media on Children and Adolescents?

Given the enormous influence that media in all forms exerts on the lives of children, it is astonishing how little parents, researchers, and policymakers have been prompted to action. First, the media needs to be recognized as a major public health issue rather than as a series of commercial endeavors in need of regulation, as they are among the most profound influences on children. This intersects with many other issues that are critically important to child health, including violence, obesity, tobacco and alcohol use, and risky sexual behaviors. Television and other media must be viewed as more than sources of evil or mere idle pleasures; their potential to enrich the lives of our children are, in fact, enormous, and that potential needs to be explored and actualized. Recently, (Moreno, et al.) reported that a brief e-mail intervention using social networking sites shows promise in reducing sexual references in the online profiles of at-risk adolescents. There is a need to decide, how to cover a tragedy in a way that will communicate the necessary information and minimize the detrimental effects on the developing brains. Thus, we need to find ways to optimize the role of media in our society, taking advantage of their positive attributes and minimizing their negative ones. Media should deliver positive messages e.g. program to address childhood obesity, to encourage parents to talk to their pre-adolescent and adolescent children "early and often" about delaying the onset of sexual activity, anti - tobacco message etc. Indian literature also states that with media's cooperation, it is possible to take important health messages to the community and to screen out images that legitimize practices harmful to child health. Finally, a better evidence base is needed. In India, there are limited studies on effect of media, especially newer media items, on child health and about interventions to improve role of media in child health. The American Academy of Pediatrics (AAP) has recommended guidelines, which has been revised recently, for use of media in children:

1. Not allowing the bedroom to be a media center with TV, video games, and Internet access

2. Limiting media time to 1 to 2 hours of quality programming

3. Discouraging TV viewing for children younger than 2 years

4. Viewing and discussing content together

5. Turning off the TV when no one is watching and during meals, and

6. Being a good media role model.

Pediatricians must become cognizant of the pervasive influence that the wide and expanding variety of entertainment media has on the physical and mental health of children and adolescents. The AAP also makes recommendations to the entertainment industry to avoid violent content. Pediatricians should advocate for a simplified, universal, content-based media-rating system to help parents guide their

children to make healthy media choices. Just as it is important that parents know the ingredients in food they may feed to their children, they should be fully informed about the content of the media their children may use. No such guidelines exist in India. The Indian Academy of Pediatrics should take the lead in formulating and implementing the guidelines to help parents and children to develop healthy media using habits.

Conclusion

The media has a disturbing potential to negatively affect many aspects of children's healthy development, including weight status, sexual initiation, aggressive feelings and beliefs, consumerism and social isolation. Media also has potential for positive effects on child health. We need to find ways to optimize the role of media in our society, taking advantage of their positive attributes and minimizing their negative ones. The ultimate goal is to reach youth with positive messaging. Embracing media rather than trying to counteract it promises to be an effective tool in shaping the behavior of children and adolescents.

IV - MEDIA ON RACIAL AND GENDER STEREOTYPING

Introduction

Media's role in a democracy is to bring mass awareness on political, social and economic issues. However, media channels tend to give preference to political and economic news items over social issues, especially the issue of women. This has led to the issues on women take a backseat Media can play a significant role in sensitizing the society about gender issues. But, before that, the media itself needs to be sensitized in covering women issues. The distribution of power between the two sexes – both physical and economic- is unequal, leading to discrimination against women. Media exerts immense influential power on the masses; this cannot be undermined. Portrayal of women as equal has not been given the priority it deserves by the media. Women issues should be dealt in a sensitive, responsible way by the media. Declining sex ratio, rape, workplace sexual harassment, dowry-related crimes domestic violence molestation, eve-teasing and honour killings are some of the issues that the media needs to sensitize the society about. Total women empowerment can come about only if it includes political, social, cultural and other dimensions of human life. This happens only if development includes women participation and control over resources of power. The electronic media and particularly TV has become the most influential medium of mass communication. It is a disturbing trend when media negatively portrays women as "the weaker sex" who should remain subservient. Most disturbing, however, is the disproportionate coverage of sensationalized violence. Sexual brutalization of women has remained a highly marketable commodity. "Commodification" of women

as "sexual objects" in advertisements should be stopped. Media can either be an accomplice to gender based discrimination or it can challenge the gender bias by providing balanced coverage.

Media in India

Media is the fourth pillar of democracy as immense power to act as the watchdog of the society. It is the mirror of society and reflects of happenings in the society. It can influence the masses and the convergence of the media has further enhanced its potential as a tool of creating public opinions and values. Television which has become the most important medium of mass communication in India pays an important role in creating public opinion. Mass awareness by using the media on issues of political, social and economic importance holds the foundation of any democracy. In fact, communication has developed as a discipline wherein media play its role in the development of the nation. It is mostly observed that news on political and economic issues dominate over social issues. Social issues are not given the kind of importance or platform of communication that it deserves. Issues of violence against women and other discrimination against women which basically stems from inequality - both in terms physical and economic power -between men and women is rarely given the importance it deserves.

The Gender Stereotype

By 'Gender' it can mean the roles and responsibilities that have been constructed by the society, in a given culture or location. These roles have political, cultural environmental, economic, social, and religious factors influencing them. Custom, law, class, ethnicity, and individual or institutional bias also influence 'gender stereotype'. Within the above framework, Gender attitudes and behaviours can be learned and can also be changed.

According to Gender stereotypical perceptions, women are supposed to be dependent, weak, incompetent, emotional, fearful, flexible, passive, modest, soft-spoken, gentle, care takers while men are powerful, competent, important, logical, decision-makers, aggressive, focused, strong and assertive particularly in the context of India.

In India where a patriarchal society flourishes, 'son preference' is an age-old gender bias, in which the male of the family bears the responsibility of 'carrying forward' the family's name. He is supposed to support his parents in old age and also perform their last rites when they die. The fact that daughters are generally regarded as 'somebody else's wealth' and the giving away as dowry to the groom ensure that daughters are often seen as an 'economic liability'.

A United Nations statistics shows Gender inequality very blatantly: Women perform two-third of the world's work but earn only one-tenth of the world's income. They comprise two-third of the world's illiterates and own less than one-hundredth of the world's property. A gross discrimination stands out.

Gender Differences seen in Some Situations

1. **Social situations:** The social roles demand that the head of the family is always a male. He is also the main bread-winner while the woman is usually seen as a house-maker, a nurturer and care-giver.

2. **Political situations:** Power sharing between men and women is biased. Men are seen mostly at higher level of political field - the national, while women are expected to be at the local level.

3. **Educational situations:** There is a definite gender bias in educational opportunities and expectations. It is the boy in the family who gets the resources for higher education. Girls are usually expected to go to less-challenging academic fields.

4. **Economic situations:** There is a wide gap between access to lucrative careers and finance between men and women. Credit and loans; land ownership policies etc. are more biased towards men.

Women and Media

1. **Representation in the Media:** It has long been recognized by Feminists all over the world that there is a significant and long lasting influence of the media in either challenging or perpetrating existing constructions of gender. In a broad-ranging analysis, Feminist Media Studies, Liesbet van Zoonen explores the ways, in which feminist theory for the fuller understanding of the multiple roles of the media in gender construction in contemporary societies. The book analyses media representations through content analysis and semiotics. Media as a tool for gender sensitization can only be utilized when the full influence of media on gender construction is understood.

2. **The Fourth Global Media Monitoring Project (GMMP 2009 - 2010):** Which is the most extensive research on gender bias and subsequent initiatives in the news media, shows women representation in the media. The GMMP, after gathering insights and information through media monitoring aims to promote a balanced gender representation in and through the news media. It involves voluntary participation of women from grassroots communities to university students and researchers to media practitioners. It was astonishing, as the report shows that less

than one fourth (24 percent) of the people made visible or heard or read about on Television and print news worldwide is female. Women were represented only in four percent of 'politics and government' stories and just one percent in 'economy' stories.

3.**Women professionals in the Media:** The GMMP report shows women's participation and contribution as in the media profession. Although in the print media the percentage of stories by female reporters has increased since 2005 (to 35 percent) and news television (to 44 percent), it has decreased in radio newscasts (27 percent). Men reporters however continue to surpass female reporters while reporting in all media forms. Men overwhelmingly continue to report 'hard news', like politics and economics while women are restricted mostly to the 'soft' areas of arts, entertainment and lifestyle coverage. Women reporters tend to cover more female-oriented news subjects (26%) while male reporters have only 19% female oriented stories. Female reporters challenge gender stereotypes twice more than male reporters (eleven per cent by the former compared to six per cent by the latter). Only twelve per cent of news stories were found to highlight issues of gender equality or inequality.

4.**Media Content and Gender Identity:** Deodrin Correa. (2011) in 'The Construction of gender identity in India through television advertisements: A semiotic analysis', investigates how television advertisements in India construct gender identity. Advertisements that appeared during popular Indian television serials were obtained from a local video rental outlet and recorded on a weekly basis for a period of six months. A representative sample was then screened and used for analysis. This study employed semiotics as a method for analysing the ideological messages of Indian television advertisements. Interestingly, Correa found out that all the advertisements involving domesticity emphasised the traditional role of women - as a wife and mother. Through the ideologically constructed messages of the advertisements, the domestic roles of women were made to appear normal while highlighting their traditional bearings. This study is one of the first major studies of the nexus between the media, and the construction of gender-identity in India today. Therefore, this study will be repeatedly referred by the policy makers as well as educators for developing and implementing a media literacy programs which aim at developing students' critical thinking and their capacity to evaluate the role and power of the media in lives.

5. **Disproportionate Media Coverage of Women Issues:** Media's agenda setting role ensures that we get to see, read or hear what the media deems important. Very often, lack of

appropriate media coverage or under-coverage implies that the issue is unimportant. If a story is not reported or not significantly reported, public awareness is significantly lessened. The consequence of media ignorance and bias against women is a global pandemic and is horrific. Disproportionate coverage of sensationalized violence is perhaps the most disturbing. Rape stories, perhaps it focuses on one individual, gets far more coverage than domestic violence stories. Also, a women becomes 'a marketable victim item' if she happens to be attractive. Sexual brutalization of women is a highly marketable business and a profitable story for the news media. For voyeuristic reasons that soar up the TRPs, the Indian media, be it press or the broadcasters, usually chooses to highlight the rape and murder rather than to report about the success of women in the local elections. The actual problems plaguing the real India, its culture, traditions, faiths and facets of 'development communication' usually take a back seat. When compared to men, the overall media coverage of women is much less. Men have more opportunities to present their opinions and are shown in a wide spectrum of professions. Women, however, are either under-represented or totally excluded. Interviews of women are limited to certain accepted professions such as educationists or doctors. Women who have achieved success in a 'male domain' go to great pains to point out her 'feminism'.

6. **Media coverage of women and the Concept of 'Symbolic Annihilation':** The concept of 'symbolic annihilation' was introduced by George Gerbner (1972). He first briefly referenced the concept without elaboration as: "representation in the fictional world signifies social existence; absence means symbolic annihilation." Gerbner used this concept to reveal how representations (including omissions), in the media cultivate dominant assumptions about how the world works and, as a result, where power resides.

Indian media gives low priority to the subject of portraying women as equals in the society. The message and content of television programmes and commercial films is loud and clear as one flips through the pages of popular magazines and newspapers - The Indian media likes nothing better than to see their womenfolk as home-makers and a compulsive buyer who buys the latest dress, shoes, accessories, cosmetics, mostly at the expense of her husband's money. Although it purports to show them as independent characters, the media actually portrays them as consumers rather than as modern, liberated women. Television, which is a pervasive and powerful medium of communication in India, the portrayal of Indian women is superficial and is rarely linked with their real concerns. Women have to consistently make adjustments at home, carry the entire burden of household chore and provide constant care as wives and mothers.

How women bias is formed

1. **The Cultivation Theory:** Cultivation theory was an approach developed by Professor George Gerbner. He began a research project in the mid-1960s called the 'Cultural Indicators' in which he studied and how watching television influences viewers' ideas and their perception of how the world is or ought to be. Cultivation theorists argue that television has long-term effects which are small, gradual, indirect but cumulative and significant. According to Gerbner, mass media cultivate attitudes and values which are already present in a culture. These values are propagated by the media, binding members of a culture. Television primarily maintains, stabilizes and reinforces attitudes, conventional beliefs and behaviours already present in a society, rather than later, threaten or weaken. A 'resonance' or a 'double dose' effect boosts cultivation of values and attitudes. If the viewer's everyday life experiences are in congruence with those depicted in television, he experiences a resonance effect which further strengthens his beliefs and attitude.

2. **Distorted portrayals and their impact:** Distorted images of women by the media have a negative effect on the society and its development: The perpetuation of inequalities at home: According to studies and statistics, women and girls are more likely to be undernourished and uncared for than men and boys.

3. **Creating a distorted self-image:** Media influences the social image and the self-image of women. Media affects the choices they make, what they eat and what they wear. It influences their behavioral attitude, their learning process, and ultimately what they become. Media has clearly discouraged the emergence of a new confident, assertive woman. Such differential media treatment increases their isolation, disempowers them and weakens them. They remain unheard, unrepresented and 'incommunicable.'

4. **Reinforcing biases in development plans:** In its conservative way, Media ignores economic participation and contribution made by women, especially rural women. Instead of challenging the obscure view that women are inferior, subservient, unimportant, media has reinforced it. The man is always the opinionated, active doer. Women's needs and concerns are either not articulated publicly or just plain neglected. Public thinking, discourse or debates on the real concerns of women are not encouraged. Development plans take a back seat mainly because the needs and concerns about women issues remain unheard and unarticulated.

5.The importance of media literacy: The greatest fear in today's world of information explosion is that we are imbibing all the gender biases subconsciously and reinforcing existing inequality without even being aware of it. The way and the lengths to which we interact with the media no doubt that it affects us in knowing and unknowing ways. This affect is dangerous because very often the many media images and messages play on our subconscious mind. That amounts to passive retention and processing of information.

6.Media as a tool: Some examples of media's role as 'perpetrator' and 'challenger' of gender bias.

The following examples will highlight the two sides of the same coin:

1. Newsletters in UP that began as development efforts to help women communicate among themselves have evolved as a forum for addressing problems that are relevant to whole communities instead. Newsletter Khabar Lehariya has even won the prestigious Chameli Devi Jain award.

2. In 1981, Ashwini Sarin, who was then with the Indian Express newspaper broke the law to expose how poor women were being trafficked by actually going ahead and "purchasing" a woman named Kamala. It was later made into a feature film which received national and international awards.

3. In 2007, a Delhi school teacher (Uma Khurana) was duped by a television journalist Prakash Singh who conducted a sting operation on her using a hidden camera and claimed that she was luring her students into commercial sex work (Hindustan Times, 31 August 2007; Daily News and Analysis, 9 September, 2007). She had to spend time behind bars and lost her job. It was later found that the case was false and that the journalist had sought to malign her reputation.

4. The way in which the press covered the still unresolved ArushiTalwar murder case of 2008 has been criticized from several quarters. Not only did it show gender insensitivity, but also put her parents through a 'trial by media.

5. The media has played a positive role in the criminal cases related to Jessica Lall and PriyadarshiniMattoo.

6. In July 2007, The Information and Broadcast Ministry banned advertisement of two underwear brands on the ground that these were 'indecent, vulgar, suggestive and demeaned women.' The Amul macho advertisement showed a newly-wed woman suggestively washing her husband's underwear.

7. More recently in the Nirbhaya gang rape case, some news channel went overboard by calling her a Jinda Lash (living corpse) even before she had died. It was a case of gender insensitivity. Even if she had survived, would she have been able to live through the stigma?

8. Tucked away in Pastapur in Medak district of Andhra Pradesh is Sangham Radio, a unique community radio experiment run by two Dalit women since 2008. These days, when the villagers tune

in to this radio station, they hear their voices, concerns, songs, and solutions to everyday problems. This new-found thrill of liberation, however, is rooted in nothing less than a decade of passion, pursuit, and perseverance.

Educational Implications

It is necessary that public should be motivated and sensitized to the issue of criminalization, politicization, and commercialization of women vis-à-vis their projection in the media in a healthy manner. Print and broadcast media reinforce the stereotype and traditional roles of women in society. Women need to be portrayed in 'empowered' roles in their career, leadership so that the status and position of women in society is truly represents Indian culture and ethos.

'Sexual objectification' and constant glorifying of stereotypical roles of motherhood and wifehood shackle women to the fetters of these prescribed roles. They just cannot break free. The sex equality and equal participation that our Constitution guarantees remain questionable because of such conservative depictions. A sweeping change in the social outlook is required. The cumulative and unconscious impact of media messages encourages gender discrimination. The mass media possesses the power to influence and can help in removing such prejudice.

Conclusion

For India is well known for its "Unity in Diversity" consisting different kinds of culture, language, religion and creed, majority of women are still subjected to discrimination and harassments in all spheres, though there is an exposure of media that women are experiencing freedom. In spite, they proved themselves as having potential to carry out any tasks and ready to discharge the duties assigned to them even at risky, they have been shackled by various taboos in terms of race, gender, religion, culture and creed etc. In this way, this chapter deals with the media (including mass media and social media) in gender bias in brief.

V - REGULATING HEALTHY MEDIA USE

Children and Healthy Media Use - Guidelines for Parents

The following health and safety tips are from the American Academy of Pediatrics (AAP). Feel free to excerpt these tips or use them in their entirety in any print or broadcast story, with acknowledgment of source. In a world, where children are "growing up digital," it's important to help them learn healthy concepts of digital use and citizenship. Parents play an important role in teaching these skills. Here are

a few tips from the AAP to help parents manage the digital landscape they're exploring with their children.

Treat media as you would any other environment in your child's life: The same parenting guidelines apply in both real and virtual environments. Set limits, kids need and expect them. Know your children's friends, both online and off. Know what platforms, software, and apps your children are using, where they are going on the web, and what they are doing online.

Set limits and encourage playtime: Tech use, like all other activities, should have reasonable limits. Unstructured and offline play stimulates creativity. Make unplugged playtime a daily priority, especially for very young children. And don't forget to join your children in unplugged play whenever you're able.

Families who play together, learn together: Family participation is also great for media activities - it encourages social interactions, bonding, and learning. Play a video game with your kids. It's a good way to demonstrate good sportsmanship and gaming etiquette. And, you can introduce and share your own life experiences and perspectives - and guidance - as you play the game.

Be a good role model: Teach and model kindness and good manners online. And, because children are great mimics, limit your own media use. In fact, you'll be more available for and connected with your children if you're interacting, hugging and playing with them rather than simply staring at a screen.

Know the value of face-to-face communication: Very young children learn best through two-way communication. Engaging in back-and-forth "talk time" is critical for language development. Conversations can be face-to-face or, if necessary, by video chat, with a traveling parent or faraway grandparent. Research has shown that it's that "back-and-forth conversation" that improves language skills - much more so than "passive" listening or one-way interaction with a screen.

Create tech free zones: Keep family mealtimes and other family and social gatherings tech free. Recharge devices overnight - outside your child's bedroom to help children avoid the temptation to use them when they should be sleeping. These changes encourage more family time, healthier eating habits, and better sleep, all critical for children's wellness.

Don't use technology as an emotional pacifier: Media can be very effective in keeping kids calm and quiet, but it should not be the only way they learn to calm down. Children need to be taught how to identify and handle strong emotions, come up with activities to manage boredom, or calm down through breathing, talking about ways to solve the problem, and finding other strategies for channeling emotions.

Apps for kids and do your homework: More than 80,000 apps are labeled as educational, but little research has demonstrated their actual quality. Products pitched as "interactive" should require more than "pushing and swiping."

It's OK for your teen to be online: Online relationships are part of typical adolescent development. Social media can support teens as they explore and discover more about themselves and their place in the grownup world. Just be sure your teen is behaving appropriately in both the real and online worlds. Many teens need to be reminded that a platform's privacy settings do not make things actually "private" and that images, thoughts, and behaviors teens share online will instantly become a part of their digital footprint indefinitely. Keep lines of communication open and let them know you're there if they have questions or concerns.

Remember that Kids will be kids: Kids will make mistakes using media. Try to handle errors with empathy and turn a mistake into a teachable moment. But some indiscretions, such as sexting, bullying, or posting self-harm images, may be a red flag that hints at trouble ahead. Parents should take a closer look at your child's behaviors and, if needed, enlist supportive professional help, including from your pediatrician.

Media and digital devices are an integral part of our world today. The benefits of these devices, if used moderately and appropriately, can be great. But, research has shown that face-to-face time with family, friends, and teachers, plays a pivotal and even more important role in promoting children's learning and healthy development. Keep the face-to-face up front, and don't let it get lost behind a stream of media and tech.

Conclusion:

In this way, this chapter deals with the media and child development, impact of media on children's and adolescent's experience, behavoiur and development, media on racial and gender stereotyping and regulating healthy media use in detail.

Questions for Discussion and Reflection:

1. Discuss the development of media in Pre and Post-Independent India.

2. Examine the impact of media in violence on children and adolescents in India.

3. Examine the role of media on racial and gender stereotyping.

4. Write a report on the regulatory steps and measurements to be taken by Govt. on healthy media use.

UNIT X: URBANISATION AND ECONOMIC CHANGE ON CHILD DEVELOPMENT

Objectives:

After completion of the unit, the learner will be able to:

1. grasp the meanings, definitions and concepts of urbanization, economic change and child development

2. realize the impact of migration of family on child development

3. analyse the factors of environmental pollution and its effects on child development

4. get knowledge about the consequences of libralisation, privatization and globalization

I - URBANISATION ON CHILD DEVELOPMENT

Introduction

Any consideration of the impact of urbanism must take into account many variables. The behaviour and values of persons who may be affected by urban influence the geographical location of the persons, whether residing in cities or the hinterlands: the effects on the political, economic and occupational organization of the cities or the hinterlands, the health, education and general welfare of individuals involved. It must also be kept in mind that the social and cultural systems of societies differ and that these differences invariably have a bearing on the interaction between a city and its hinterland.

Determinants of Urbanization

The impact of urbanization can be seen as societies become increasingly urbanized, social emphasis is placed on achievement rather than on ascription. Urbanization has brought about many changes in various spheres of urban life, namely physical, social, psychological and cultural aspects. These aspects are elaborated as follow,

I - Physical

a. Growth of cities

b. Homelessness

c. Suburbanization

II - Social

a. Family

b. Crimes

c. Unemployment

d. Poverty

e. Prostitution

f. Gambling

g. Beggary

h. Conflicts

III - Psychological

a. Alcoholism

b. Stresses

IV - Cultural

a. Impersonality of relations

b. Mechanical way of life

c. Urban outlook

V - Economical

a. Industrialization

b. Migration

VI - Political

VII - Environmental.

II - MIGRATION OF FAMILY

Introduction

Geographical mobility or migration of people within a country is a demographic response to disparities in the regional levels of socioeconomic development. Regions of higher economic development with higher incomes and wages tend to attract people and particularly economically active population from regions with relatively lower levels of development and consequently lower rates of wages and incomes. Migration constitutes the very foundation of the process of urbanization and is recognized as the chief mechanism by which urban areas continue to grow.

Meaning and Definition of Migration

Significance of Migration

Migration has led to a massive movement of people from areas of low economic opportunities, concentrated in rural areas and in smaller sized urban settlements to the centres of high economic opportunities, which are hyper-concentrated in the metropolitan cities with population exceeding 1 million. Sometimes, this uncontrolled influx of migrants into the metropolitan cities is fraught with disastrous consequences. It has resulted in a number of jobless or underemployed people, which is one reason why a number of people are living in slums or as squatter settlements or on pavements as houseless population and decline in providing the basic amenities like water supply, sanitation and health.

Consequences of Migration

The consequences of migration can be seen in the rural areas also. The impact is more if one male or female member of the family has migrated. These working males or females send money to their families living in rural areas and also visit them often. This results not only in the flow of wealth from urban centres to rural areas, but also the flow of urban culture to rural areas and vice versa. If a person has migrated with his/her nuclear family to the city, but the remaining members of his/her family are still residing in rural areas, then the migrated family may not visit their rural relatives so often, but the impact of urbanization is felt on such facilities also. In such cases, usually money is sent to the rural relatives once in a month or when it is needed. Along with money, the urban way of living is also transferred to the rural relatives whenever the family visits the rural centres. Therefore, migration will not only bring about changes in urban centres, but will also bring about changes in rural areas.

Factors of Migration

1. Political:

In urban areas, one can find many new immigrants. These new comers do not have the same social connections as the original inhabitants, so they increasingly resort to developing informal social networks for their survival. In the process, some rural traditional forms of organizations are formed. Various forces try to exploit these organizations for personal or political gain. Once the members of the organizations start understanding their importance, they start exercising authority collectively. In course of time, these organizations may take the form of political parties. Sometimes, the urban people may only influence the existing political party's future in a democratic country.

2. Environment

Today's urban environment is not a natural environment. It is an artificial environment created by man. The high density of population and rapid industrialization have polluted the urban environment to a great extent. The problem of environmental pollution has become a serious threat to the urban environment. The unhygienic conditions in which majority of the urban people are living because of the high cost of installing pollution control devices are expected to bring the paradoxical trap of poverty and pollution in the long run.

III - ENVIRONMENTAL EFFECTS ON CHILD DEVELOPMENT

Introduction

Overall child mortality declined significantly in the 1990s, but environmental hazards still kill at least 3 million children under age 5 every year. Such young children make up roughly 10 percent of the world's population, but comprise more than 40 percent of the population suffering from health problems related to the environment. Children worldwide require special protection from longstanding risks such as smoke from traditional fuels and from emerging risks such as exposure to an increasing number of hazardous chemicals. Although new regulatory standards and greater awareness of children's vulnerability to such hazards have improved children's situation in a number of more developed countries, many children, especially in less developed countries, continue to be exposed to toxins. Their vulnerability is exacerbated by the lack of protective policies, medical and public health interventions. Short-term curative responses can save some lives, but addressing underlying risk factors is key for long-term change. Efforts to measure children's environmental health risks, develop policies and programs to mitigate such exposures worldwide, and strengthen efforts to address the problem at all levels are needed. This policy brief, part of PRB's **Emerging Policy Issues in Population, Health and Environment** series,

explores children's special vulnerability, outlines the risks and the conditions that increase such risks, and highlights what is being done to address the problem.

Children's Vulnerability

Due to their size, physiology and behavior, children are more vulnerable than adults to environmental hazards. Children are more heavily exposed to toxins in proportion to their body weight, and have more years of life ahead of them in which they may suffer long-term effects from early exposure. Perinatal conditions, which can be influenced by environmental conditions, cause 20 percent of deaths worldwide in children under age 5. Furthermore, fetal exposure to chemicals such as lead increases a child's chances of having brain damage or developmental problems. Children at all ages, not just the very young, are at greater risk than adults. Children under age of 5 breathe more air, drink more water and eat more food per unit of body weight than adults do, so they may experience higher rates of exposure to pathogens and pollutants. Typical childhood behaviours, such as crawling and putting objects in the mouth, can also lead to increased risks. Children between ages 5 and 18 may face higher risks of injuries, including exposure to hazardous chemicals, due to their growing participation in household chores and work outside of the home. Many school-age children attend schools without sanitation facilities, making them more likely to contract various diseases and less likely to go to school. According to UNICEF, about 10 percent of school-age African girls either do not attend school during menstruation or drop out at puberty because of the lack of sanitary facilities.

Environmental Risks to Children's Health

Indoor Air Pollution

Half of the world's households use biomass fuels, including wood, animal dung, or crop residues, that produce particularly, carbon monoxide, and other indoor pollutants. The World Health Organization (WHO) has determined that as many as 1 billion people, mostly women and children, are regularly exposed to levels of indoor air pollution that are up to 100 times those considered acceptable. Young children, who spend more time indoors, are more exposed to the noxious byproducts of cooking and heating. In India, where 80 percent of households use biomass fuel, estimates show that nearly 500,000 women and children under age 5 die every year from indoor pollution, largely from acute respiratory infections (ARIs). The figure for other less developed countries is similar.

Exposure to indoor pollutants can cause or aggravate ARIs, including upper respiratory infections such as colds and sore throats, and lower respiratory infections such as pneumonia. Acute lower respiratory infections are one of the primary causes of child mortality in developing countries, and lead to 2.2 million deaths in children under age 5 in 2001. ARIs can also increase mortality from measles, malaria, and other diseases. Other factors that can worsen ARIs include low birth weight, poor nutrition, inadequate housing and poor hygiene conditions, overcrowding, and reduced access to health care.

The strongest risk factors for development of asthma appear to be exposure to indoor allergens and a family history of asthma or allergies. Exposure to environmental tobacco smoke (ETS, or secondhand smoke), chemical irritants, air pollutants, and cold weather are also risk factors for the disease, as are low birth weight, respiratory infections, and physical exercise. Children whose mothers smoke, have 70 percent more respiratory problems and middle-ear infections than children of nonsmokers. Studies show that asthmatic children's condition is significantly likely to be worsened by ETS.

Outdoor Air Pollution

Data suggest that over 60 percent of the diseases associated with respiratory infections are linked to exposure to air pollution. Outdoor pollutants such as sulfur dioxide, ozone, nitrogen oxide, carbon monoxide, and volatile organic compounds come mainly from motor vehicle exhaust, power plant emissions, open burning of solid waste, and construction and related activities. According to one report, children in cities with populations greater than 10 million are exposed to levels of air pollution two times to eight times higher than the level WHO considers acceptable.

Unsafe Drinking Water and Poor Sanitation

Contaminated water and inadequate sanitation cause a range of diseases, many of which are life-threatening. The most deadly are diarrheal diseases, 80 percent to 90 percent of which result from environmental factors. In 2001, diarrheal infections caused nearly 2 million deaths in children under age 5, primarily due to dehydration; many more children suffer from nonfatal diarrhea that leaves them underweight, physically stunted, vulnerable to disease, and drained of energy. Poor sanitation conditions and inadequate personal, household, and community hygiene are responsible for most diarrheal infections.

Despite significant investments in improving water supplies and sanitation over the last 20 years, about 18 percent of the world's population still lacks access to safe drinking water, and nearly 40 percent have no access to sanitation. At present, people in rural areas are the most affected,

although continual urbanization means that increasing numbers of people live in densely populated cities, where they face shortages of potable water supplies and sanitation systems, as well as growing pollution. More than 1 billion people, mostly in Africa, Asia, and Latin America, currently live in slums or as squatters.

Infectious Disease Vectors

Vector-borne diseases, such as malaria, represent an international public health problem, particularly in tropical areas of Africa, Asia, and Latin America. Approximately 1 million children under age 5 in sub-Saharan Africa die of malaria each year; malaria causes about 25 percent of all deaths among children in the region, especially among children living in remote rural areas with poor access to health services. Malaria also contributes to low birth weight, one of the leading risk factors for infant mortality, because pregnant women are more susceptible to both malaria and anemia. The prevalence of malaria is strongly related to environmental factors such as irrigation and other agricultural practices, land clearing, and changing demographic patterns. Higher temperatures, heavier rainfall, and other changes in climate, as well as deforestation, increase the risk of malaria and related epidemics.

Exposure to Hazardous Chemicals

As countries pursue economic development, the increased risk of exposure to chemical hazards may worsen other risks to children's health, such as unsafe water and poor hygiene. Industrialization and modernized agriculture have many benefits, but they have often been accompanied by problems, such as exposure to pesticides, that disproportionately affect children. Other potential toxins include lead discharged from battery-recycling operations; mercury in fish; and nitrates, arsenic, and fluoride in drinking water.

In many countries, children are exposed to toxic chemicals in the workplace. According to the International Labour Organization (ILO), more than 352 million children ages 5 to 17 engage in "economic activity," an internationally accepted standard that includes unpaid and illegal work and work in the informal sector. Of those children, about 50 percent work in hazardous occupations or situations, defined as those "likely to have adverse effects on the health, safety, or moral development of children." The ILO has classified mining, construction, manufacturing, retail, personal service, transportation, and agriculture, as well as any work where a child works more than 43 hours per week, as being hazardous. Hazardous labour is often informal. Some

children scavenge rubbish dumps, where they may be exposed to discarded batteries, medical waste, and pesticides.

1. **Lead:** Exposure to lead remains the main environmental problem for young children in developing countries, according to Environmental Defense and the Alliance to End Childhood Lead Poisoning. Even small amounts of lead can be dangerous, especially for the development of the brain. Studies have shown that IQ falls by up to six points for every 10 micrograms of lead per deciliter of blood (µg/dl). Lead exposure can also cause anemia, kidney disease, hearing damage, and impaired fertility; at high levels, it can result in coma or death. Leaded gasoline accounts for 80 percent to 90 percent of airborne lead pollution in some large cities, elevating the blood lead levels of people living in the area. Lead can contaminate soil, air, drinking water, and food, thereby posing a significant threat to young children, whose digestive systems absorb lead at significantly higher rates than do those of adults.

2. **Pesticides:** Pesticides, including some that have been banned in more developed countries, are widely used in less developed countries. People who come into contact with pesticides that are being applied to crops or who consume food that is carrying pesticide residues can become ill. Pesticides can also seep into the ground and contaminate drinking water. Symptoms of pesticide poisoning in children resemble those in adults, and include eye, skin, and respiratory irritations and higher rates of long-term health problems such as cancer. But children are much more susceptible to these hazards, since they eat and drink more per unit of body weight, making them likely to absorb higher amounts of pesticides from food and water.

Taking Action against Risks

Environmental health risks to children are increasingly being recognized as an international problem. Although progress has been made in reducing mortality from environmentally mediated diseases, such as ARIs and diarrheal disease, more needs to be done to prevent these illnesses and to focus on new threats from increased industrialization, urbanization, and agricultural commercialization. Global environmental threats such as climate change may compound many of these issues, and efforts to mitigate certain hazards may create other problems. For instance, efforts to provide more drinking water in Bangladesh resulted in widespread poisoning, since the country's well water was heavily contaminated with arsenic. Experience and research suggest that

there are a number of actions that policymakers and planners can take to address environmental health threats to children.

Encourage the development and support of community-level initiatives to reduce environmental health threats to children

In many less developed countries, municipal governments are increasingly managing local resources, especially drinking water and firewood. Community and household-level interventions could also be adopted to reduce exposure to and transmission of ARIs, diarrheal disease, and malaria. For instance, numerous field studies have indicated that good personal and household hygiene practices can help reduce the occurrence of diarrheal disease, even when there is no access to safe water or modern sanitation.

Continue to raise awareness and provide education about children's environmental health issues

Since 1997, when the G-8 countries first declared their responsibility for children's environmental health, many international, regional, and national conferences have been held, and international organizations have developed special units to address environmental health concerns affecting children. In addition, several non-governmental organizations (NGOs), including the Children's Environmental Health Network and the International Research and Information Network on Children's Health, Environment and Safety (INCHES), have been created specifically to protect children from environmental hazards and to promote a healthy environment. At the local level, efforts need to be made to teach children, families, and communities to identify environmental threats to children, to adopt practices that reduce risks of exposure, and to work with local authorities and the private sector to develop prevention and intervention programs.

Promote the recognition, assessment, and study of environmental factors that affect children's health and development

Efforts to encourage research about environmental hazards might involve establishing research centers or multidisciplinary studies; incorporating material on children's environmental health into training for health care providers and other professionals; and promoting the collection and dissemination of harmonized data. Current multilateral efforts to advance international indicators for children's environmental health include collaboration between Physicians for Social Responsibility, INCHES, and the U.S. Environmental Protection Agency, based on previous work by WHO and other organizations.

Reduce children's exposure to pollutants through education, regulation, use of cleaner fuels, and reduction of environmental tobacco smoke

Strategies for reducing deaths from pneumonia and other respiratory conditions include cutting children's exposure to smoke from air pollution, cooking stoves, and cigarettes. Some national governments have reduced indoor pollution by promoting safer, more efficient, more durable cook stoves. International health experts recommend a combination of educational programs and legislative interventions to halt tobacco use in settings frequented by children. Regulations on air pollution need to be enforced in cities, and include phasing out leaded gasoline, reducing emissions from coal-fired plants, and replacing fossil fuels with cleaner energy sources.

Invest in programs to increase access to clean water and sanitation facilities and to promote better hygiene practices

While diarrhea-related deaths between 1990 and 2000 declined by 50 percent due to oral rehydration therapy, there is little evidence that the incidence of diarrheal disease has decreased. Efforts to combat diarrhea include combining appropriate drug therapy with optimal breastfeeding practices, improving nutrition, increasing access to clean water and sanitation facilities, and improving personal and domestic hygiene. Several studies have shown that improving water and sanitation can reduce the number of diarrheal episodes by between 20 percent and 26 percent. Furthermore, better hygiene practices, such as washing hands regularly, can reduce the number of diarrhea cases by up to 35 percent.

Strengthen interventions to prevent and treat malaria

While progress has been made in reducing ARIs and diarrheal disease, deaths from malaria have increased in the past 10 years, due in part to global climate change and in part to the emergence of antibiotic-resistant strains of the disease. Environmental improvements such as proper irrigation and drainage techniques, combined with the use of insecticide-treated bed nets and adequate medical treatment, could greatly reduce malaria's spread. Several international initiatives, such as the Roll Back Malaria (RBM) partnership, have also been instrumental in addressing the problem. RBM seeks to halve the global incidence of malaria by 2010, and focuses on early diagnosis and prompt treatment; vector control and use of insecticide-treated bed nets; malaria treatment for pregnant women; and prevention of and response to epidemics.

Reduce children's exposure to lead, and screen for lead poisoning

About 50 countries worldwide, including more than 20 less developed countries, have phased out leaded gasoline. Efforts to phase out leaded gasoline and to reduce or eliminate other sources of lead exposure include the Global Lead Initiative, sponsored by the Alliance to End Childhood Lead Poisoning, to develop national action plans, fund technical assistance projects, and encourage civic participation in exchanging best practices and coordinating efforts within regions.

Reduce exposure to harmful pesticides by banning the use of the most toxic chemicals, educating users, and encouraging the use of integrated pest management to minimize the use of pesticides

In order to reduce the threat from pesticide exposure, international organizations, national governments, and industry have stepped up efforts to limit the exportation of dangerous chemicals, help affected countries develop national action plans for handling and disposing of pesticides, and encourage the use of environmentally friendly alternatives. As of June 2002, more than 150 countries had signed (and 11 had ratified) the Stockholm Treaty on Persistent Organic Pollutants, which phases out or restricts the use of 12 chemicals, including nine pesticides that persist in the environment and accumulate in the food chain. The treaty will become legally binding once 50 countries have ratified it. National efforts are also being developed. Costa Rica, for example, is fostering pesticide-free, organic farming by devoting more than 9,000 hectares to organic cultivation of 30 crops.

Evaluate and address the plight of children employed at hazardous workplaces

Children are increasingly likely to be exposed to chemicals in the places where they live, play, and work. Much attention has been paid recently to mitigating environmental and other threats to children in all of these spheres, particularly at hazardous workplaces. As of May 2002, more than 120 countries had ratified the Convention on the Worst Forms of Child Labor, which calls for withdrawing children age 16 and younger from intolerable and hazardous work situations, by identifying hazards and developing effective monitoring systems.

Conclusion

While overall child mortality declined by 10 percent in the 1990s, much remains to be done to protect children from the myriad environmental threats to their health. Reducing long-term

threats requires that underlying risk factors be addressed. Over the past 15 years, international, regional, and national attention has focused on environmental hazards' effect on children's health. Efforts now need to be made to measure these risks; build and strengthen community, national, regional, and international coalitions to address the problem; and develop policies and programs to prevent and mitigate environmental hazards for children worldwide.

IV - LIBRALISATION, GLOBALISATION AND PRIVATISATION
Introduction

The term Globalization was first coined in 1980s. But even before this there were interactions among nations. But in the modern days Globalization has touched all spheres of life such as economy, education. Technology, cultural phenomenon, social aspects etc. The term "global village" is also frequently used to highlight the significance of globalization. This term signifies that revolution in electronic communication would unite the world. Undoubtedly, it can be accepted that globalization is not only the present trend but also future world order.

Effect of Globalization on India

Globalization has its impact on India which is a developing country. The impact of globalization can be analysed as follows:

1. Access to Technology:

Globalization has drastically, improved the access to technology. Internet facility has enabled India to gain access to knowledge and services from around the world. Use of Mobile telephone has revolution used communication with other countries.

2. Growth of international trade:

Tariff barriers have been removed which has resulted in the growth of trade among nations. Global trade has been facilitated by GATT, WTO etc.

3. Increase in production:

Globalization has resulted in increase in the production of a variety of goods. MNCs have established manufacturing plants all over the world.

4. Employment opportunities:

Establishment of MNCs have resulted in the increase of employment opportunities.

5. Free flow of foreign capital:

Globalization has encouraged free flow of capital which has improved the economy of developing countries to some extent. It has increased the capital formation.

Negative effect of globalization:

Globalization is not free from negative effects. They can be summed up as follows:

1. Inequalities within countries:

Globalisation has increased inequalities among the countries. Some of the policies of Globalization (Liberalization, WTO policies etc.) are more beneficial to developed countries. The countries which have adopted the free trade agenda have become highly successful, (e.g.) China is a classic example of success of globalization. But a country like India is not able to overcome the problem.

2. Financial Instability:

As a consequence of globalization there is free flow of foreign capital poured into developing countries. But the economy is subject to constant fluctuations. On account of variations in the flow of foreign capital.

3. Impact on workers:

Globalization has opened up employment opportunities. But there is no job security for employees. The nature of work has created new pressures on workers. Workers are not permitted to organise trade unions.

4. Impact on farmers:

Indian farmers are facing a lot of threat from global markets. They are facing a serious competition from powerful agricultural industries quite often cheaply produced agro products in developed countries are being dumped into India.

5. Impact on Environment:

Globalization has led to 50% rise in the volume of world trade. Mass movement of goods across the world has resulted in gas emission. Some of the projects financed by World Bank are potentially devastating to ecological balance. E.g.: Extensive import or export of meat.

6. Domination by MNCs:

MNCs are the driving force behind globalization. They are in a position to dictate powers. Multinational companies are emerging as growing corporate power. They are exploiting the cheap labour and natural resources of the host countries.

7. Threat to national sovereignty:

Globalizations results in shift of economic power from independent countries to international organisations like WTO United Nations etc. The sovereignty of the elected governments are naturally undermined, as the policies are formulated in favour of globalization. Thus globalization has its own positive and negative consequences. According to Peter F Drucker Globalization for better or worse has changed the way the world does business. It is unstoppable. Thus Globalization is inevitable, but India should acquire global competitiveness in all fields.

Liberalisation:

It is an immediate effect of globalization. Liberalisation is commonly known as free trade. It implies removal of restrictions and barriers to free trade. India has taken many efforts for liberalisation which are as follows:

New economic policy 1991.

Objectives of the new economic policy.

i. To achieve higher economic growth rate.

ii. To reduce inflation

iii. To rebuild foreign exchange reserves.

FEMA:

Foreign exchange Regulation Act 1973 was repealed and Foreign exchange Management Act was passed. The enactment has incorporated clauses which have facilitated easy entry of MNCs.

i. Joint ventures with foreign companies, (e.g.) TVS, Suzuki.

ii. Reduction of import tariffs.

iii. Removal of export subsidies.

iv. Full convertibility of Rupee on current account.

v. Encouraging foreign direct investments.

The effect of liberalisation is that the companies of developing countries are facing a tough competition from powerful corporations of developed countries.

The local communities are exploited by multinational companies on account of removal of regulations governing the activities of MNCs.

Privatisation:

In the event of globalization, privatisation has become an order of the day. Privatisation can be defined as the transfer of ownership and control of public sector units to private individuals or companies. It has become inevitable as a result of structural adjustment programmes imposed by IMF.

Objectives of Privatisation:

To strengthen the private sectors.

Government to concentrate on areas like education and infrastructure.

In the event of globalization the government felt that increasing inefficiency on the part of public sectors would not help in achieving global standards. Hence a decision was taken to privatise the Public Sectors.

Causes of Inefficiency of Public Sectors:

i. Bureaucratic administration

ii. Out dated Technology

iii. Corruption

iv. Lack of accountability.

v. Domination of trade unions

vi. Political interference.

vii. Lack of proper marketing activities.

Privatisation has its own advantages and disadvantages as follow,

Advantages:

i. Efficiency

ii. Absence of political interference

iii. Quality service.

iv. Systematic marketing

v. Use of modern Technology

vi. Accountability

vii. Creation of competitive environment.

viii. Innovations

ix. Research and development

x. Optimum utilisation of resources

xi. Infrastructure.

However, privatisation suffers from the following **defects**,

i. Exploitation of labour.

ii. Abuse of powers by executives.

iii. Unequal distribution of wealth and income.

iv. Lack of job security for employees.

Privatisation has become inevitable in the present scenario. But some control should be exercised by the government over private sectors.

Changes across Europe, Third World, USA and Their Impact on India: Changes across Europe and USA:

Significant changes have taken place across Euro and USA on account of globalization, particularly in the field of international business politics etc. Such changes have given rise to change in cultural and social aspects as well.

The economy of European countries and US are getting integrated with the global economy. Different arrangements have been made in this regard which are as follows:

1. Free Trade Area:

It is an agreement among a group of countries to abolish all trade restrictions and barriers, in carrying out international trade.

2. Customs Union:

The member countries abolish all the restrictions and barriers and adopt a uniform commercial policy.

3. European Economic Community:

It was initially formed by six countries such as, France, Federal Republic of Germany, Italy, Belgium, Netherlands and Luxembourg. It came into existence on 1.1.1958. The EEC has 15 members. In order to, become a member of EEC, a country must be European country and it must be democratic.

Activities of EEC:

i. Elimination of custom duties and quantity restrictions on export and import of goods.

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ii. Devising a common agricultural policy.

iii. Devising a common transport policy.

iv. To control disequilibrium in balance of payments.

v. Development of a common commercial policy.

4. North American Free Trade Agreement:

NAFTA

i. It came into being in 1994 Developed countries like US, Canada and a developing country Mexico became the members.

Objectives and Activities of NAFTA:

i. Removing barriers among the member countries to facilitate free trade.

ii. To enhance Industrial development.

iii. To enhance competition.

iv. To improve Political relationship among member countries.

v. To develop industries in Mexico the international market.

European Free Trade Association:

It was formed in 1959. The member countries are: Austria, Norway, Denmark, Sweden and Switzerland and Great Britain.

Objectives of EFTA

i. To eliminate trade barriers.

ii. To remove tariffs.

iii. To encourage free trade.

iv. To enhance economic development of member countries.

Changes in the Third World:

The concept of Third World does not have much significance in the present scenario. This term was popular prior to the disintegration of Soviet Union. USA and USSR were considered as super powers and the countries in the world were divided in supporting them. The countries which did not have an alliance with both the countries were considered as Third World countries. But with the disintegration of USSR the concept of Third World has almost disappeared. However changes in Asian countries and

other countries (other than Europe and USA) have affected India. Such changes can be discussed as follows:

Trade blocks in Asia:

South Asian Association for Regional Cooperation (SAARC)

It came into being in 1983 countries like India, Bangladesh, Bhutan, Pakistan, Maldives and Sri Lanka adopted a declaration on SAARC.

Objectives of SAARC:

i. To promote economic social and cultural development among member countries.

ii. To improve the life of people among member countries.

iii. To enhance cooperation with other developing economies.

iv. To liberalise trade among member countries.

v. To promote economic cooperation among member countries.

Changes in Asian Countries

Chinese Market:

China has introduced many economic reforms. It started privatisation in 1984. China has formed special economic Zones. It has attracted heavy foreign investments. It has also formed economic and Technical Development Zones in towns and cities. These zones are free zones which allow quick business operations.

Impact on India:

Changes across Europe, USA and Third World has its own impact on India which can be summarised as follows:

i. India's economic dependence on other countries has significantly increased.

ii. Extensive opportunities in the field of information technology.

iii. Extensive opportunities for India's Telecom sector.

iv. Strategic alliances. Joint ventures, mergers have become the order of the day.

v. Extensive research and development.

vi. Bilateral treaties to promote free trade.

vii. Membership of WTO.

viii. Amending the domestic laws to suit the liberalised economy. (e.g.) FEMA. Amendment of Patent Act

ix. Active participation in global politics.

x. Improvement in Productivity.

On the whole it can be concluded that changes across Euro, USA and other countries have significantly changed the Indian economy. India has realised that its business can't survive without focusing on changes in other countries. Indian economy has become a major economy of the world and a significant trading partner. In the new era, India is looking at the potentials of the new products.

Management Perspective:

Globalization has led to the practice of management across culture. Modern business organisations have adopted Global management practices. Efforts are being made by India to understand Japanese, Chinese style of management. Issues in Motivation, communication across culture has gained significance. Every functional area of management is being studied with a global perspective. E.g.: International HRM, International Financial management, International marketing etc.

Conclusion

Hence, this chapater deals with how the urbanization and economic change impact on child development in detail.

Questions for Discussion and Reflection:

1.Discuss the role of urbanization on child development.

2.Examine the pros and cons of the migration of family.

3.Explain the various factors for environmental degradation and its impact on child development.

4.Analyse the impact of liberalization, privatization and globalization on child development.

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TAMIL NADU TEACHERS EDUCATION UNIVERSITY
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Course Material for B.Ed. (First Year)
(2016-2017)

Course 7(a): Pedagogy of Computer Science (Part –I Methodology)

Prepared by

Unit I **AIMS AND OBJECTIVES OF TEACHING COMPUTER SCIENCE**

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COURSE 7(A): PEDAGOGY OF COMPUTER SCIENCE

(Part- I Methodology)

UNIT-I   AIMS AND OBJECTIVES OF TEACHING COMPUTER SCIENCE

Course Objectives

At the end of the course, the pre-service teachers will be able to:

1.   understand the aims and objectives of teaching computer science.
2.   analyze the need and significance of teaching Computer science.
3.   gain the values of teaching Computer science.

Introduction

Computer technology is used in almost every sector of everyday life, including business, laboratories, educational institutions, research etc. In the current world it is almost impossible to imagine that someone can live without computers. Today, everything related to your everyday life can be done using computers. As the 21st century looms ahead, it is clear to see that it has advancements that humanity may never have dreamed of and one of these shinning developments is the well-recognized "Computer"

Meaning

In the beginning computer was able to perform only mathematical calculation but now it can do variety of tasks. So we can say that computer is an electronic device, which works under a set of instructions automatically accepts the supplied data, process and analyses the data and produces the information.

Computer science deals with the theoretical foundations of information and computation, together with practical techniques for the implementation and application of these foundations.

Computer science is the study of the theory, experimentation, and engineering that form the basis for the design and use of computers. It is the scientific and practical approach to computation and its applications and the systematic study of the feasibility, structure, expression, and mechanization of the methodical procedures that underlie the acquisition, representation, processing, storage, communication of, and access to information.

Nature and Scope

Change is said to be the law of nature that is brought into practices through the services of science. As science remains constantly busy in bringing changes in its body of knowledge, ways of investigation and the fruits of its investigation. As a result, the nature and scope of computer science always remains in the state of flux. Therefore, it becomes imperative to have up to data knowledge about the evolving concept of the nature and scope of the computer sciences.

- What are major thrust areas at present in computer sciences?

- In what way, modern communities have been influenced by the ongoing development and progress in computer sciences?

- How the development in computer science has helped in globalization?

- What have been the various path tracking discoveries and landmark development in computer science?

- Who have been the men (scientists) behind the scientific progress both from India and abroad?

- What types of avenues and professions are said to be available through one or the other specialization in computer sciences?

Let us try to think over these issues for being acquainted with the nature of scope of computer sciences in modern context.

A. Trust Areas in computer sciences

Some of the major thrust areas in computer sciences at the present juncture may be named as below:

1. Alternate sources of Energy.
2. Water sources management.
3. Super conductivity, super fluidity and low temperature phenomena.
4. Plasma Physical and plasma diagnostic teaching.
5. Holography and optical information processing.
6. Applied optics.
7. Fusion reactors.
8. Thermo nuclear energy production.

9. The fiber optics communication technology.

10. Laser engineering.

11. Material science – development of non-load bearing and load bearing material.

12. Optical and IR Astronomy.

13. Middle Atmosphere Studies.

B. Impact of computer sciences on modern communities

Development and progress in the field of computer sciences has influenced the life and livings of the modern communities and society in so many ways like below:

1. Construction of Buildings and Residential Colonies

On account of the availability of a variety of load bearable and non-load bearable material through the development in computer sciences, the modern communities look modern in terms of the construction of their buildings in the form of business centers, offices and residential colonies.

2. Transportation and communication systems

Development in computer science has been able to provide the latest available transportation and communication systems to the modern communities. The distances are no more a barrier for the people living at the farthest distances of the globe.

3. Modernization of the systems of food production and its availability to the people

The development in the computer sciences have modernized the sources of availability of food stuff in the shape of modernization of the method of framing, poultry farming, cattle, fisheries, bee keeping etc. it has resulted in multiplying the production of the food stuff as well as reducing the complexities or manual labour. The food stuff cannot be better preserved through the modern technique available as a result of invention and discoveries in computer sciences.

4. Water sources management and its purification

Development in computer sciences is helping the modern communities to take care of their water resources. It has provided artificial irrigation means as well as availability of drinking water with the construction of big water reservoirs, dams and sophisticated distribution system. It has provided big plants and simple household gadgets for the arability   of pure drinking water to the

modern communities. It has also provided means to have artificial rains and cultivation of water for providing additional sources of water to the modern communities.

5. Modern means for the entertainment and leisure time hobbies

Development in computer science has provided modern and methods for the entertainment and uplifting of leisure to the modern communities. Radio, Television video, Films and computer services have taken a total command of providing entertainment and leisure time hobbies to the modern communities.

6. Health care and treatment of diseases

Development in computer sciences has helped much in taking care of the health including treatment of illness and diseases of the members of the modern communities. It has provided better knowledge and information for the prevention and care of the diseases as well maintenance of good physical and mental health through its wider network of information technology. With the vast discoveries and invention in the field of health and medical sciences as well as tremendous progress in chemical sciences. Modern communities can avail the latest treatment of the diseases and look after their health.

7. Development of inter-relationship and dependence

Development of computer sciences is responsible for making the modern communities too much inter-related and inter-dependent. It has given birth to the phenomenon of globalization in every aspect physical, mental, emotional, social and cultural of the behaviour person belonging to the modern communities of this globe.

With all what has been said above, we should not conclude the developments in computer sciences are always bound to cast positive and desirable impact wellbeing and progress of the modern communities. If handle improperly and utilized destructively these can yield bitter and horrifying results. Such negative impact of the development computer sciences on modern communities may be summarized as below:

- Too much urbanization of the communities.
- Causing heavy pollution of every sort like air pollution, water pollution, noise pollution, cultural pollution etc.
- Inequitable distribution of wealth and other material comforts in the population.

- Abolishment of the concept and existence of the harming of health and welfare of the people.

- Development of the weapons of destruction and their unmindful application.

- Side effects of the fertilizer, chemicals, pesticides insecticides used in growing foodstuff and killing harmful bio-stuff.

- Neglect of moral values and social responsibilities at the cost of material development and individualism.

C. Globalization and computer sciences:

The term globalization derived from the words 'globe' and 'signifies' the removal of barriers of distance or of other nature for bringing people of the world together in terms of their relationships of event. For the understanding of its meaning let us think over on a few definitions given below:

1. The sociologist, Anthony Giddens, defines globalization as a decoupling of space and time, emphasizing that with instantaneous communications, knowledge and culture can be shared around the world simultaneously.
2. The Dutch academician Rudd Lubbess defines it as process in which geographical distance become of diminishing importance in the establishment and maintenance of cross economic, political and socio-cultural relations.

- **Aims and Objectives of Teaching Computer Science in Schools**

Technology has struggled to find its way into the classroom in all sorts of ways, from projectors and Television to Computer labs and student laptops. Along with improving the way of the students are taught, it is also vitally important that students learn to use computers have become as common as the pencil and paper.Students who use computers have been shown to attend the school more steadily and perform better than students who do not use computers. Computer usage makes students to become more focused on their work on their work at home, in collaborative projects with other students and on their own. The following are some chief aims and objectives of teaching Computer Science

> ➢ Arousing and maintaining interest
> ➢ Developing the ability to reach generalizations and to apply them for solving everyday problems.
> ➢ Developing interest in hobbies related to computer's their generations and so on.
> ➢ To develop scientific attitude.

➢ To familiarize the student with the world in which he is living and to make them understand the impact of computer science on society, so as to enable them to adjust them self to the environment.

- **Need and significance of teaching Computer Science**

    The need to use computer and learn computer science in everyday life and in workplace has become very vital and important.

    Computer science for the scientific and technology purposes: The Digital age needs Computer Scientists. Modernizing Education has benefited from the inclusion of technology and computers by making it easier for Computer science is driving development from the sciences to expressions of the human experience. A gander at any significant news source uncovers the impact of Computer Science and innovation on the worldwide economy. Barely characterized, Computer science depends on a center arrangement of critical thinking ideas; it has been characterized as "the investigation of PCs and algorithmic procedures, including their standards, their equipment and programming outlines, their applications, and their effect on society" (Association of Computing Machinery, 2003). Be that as it may, it doesn't stop there. Computer science is a lens and passages into abilities in basic and intelligent believing that apply over all orders, including composing and the humanities (Carey, 2010).

    The contentions for Computer Science training fall into two primary classes: Learning key apparatuses for the web age, and figuring out how to comprehend the world by comprehension media.

    Today, in the period of web 2.0, we are very prone to consider online networking, messaging, and email as regular media you utilize as often as possible.

    Today PCs assume a crucial part in industry, business, government, research, training, prescription, correspondence frameworks, excitement and numerous different zones of our public. Experts who add to the configuration, improvement, investigation, detail, confirmation, support and assessment of the various uses of PC frameworks significantly affect society, making along these lines valuable commitments to society, additionally, conceivably, some less positive.

    To guarantee that their endeavors will be utilized for the general great, registering experts must submit themselves to making processing an advantageous and regarded calling, elevating a moral way to deal with their expert practice.

Today from cell phone alarm that wakes them to the tablets used to chat with friends and complete homework, today's students are surrounded by computer technology.

- ➢ Professional Development
- ➢ Career Education
- ➢ Student Incentives
- ➢ Mentor Programs
- ➢ Coding for Kids

Therefore, Computer is inseparable from the future of Our society.

Values of Teaching Computer Science

The real values of Teaching Computer Science in our modern world can be quite obvious from chief values which are described below.

Practical values

Utilization of the various facts drawn from the study of computer science in modern life has revolutionized our life. Today we cannot find even a single thing which is left untouched by the hands of computer. Uses of computers in transportation and communication have shortened the world.

Social values

Computers have achieved the best place in the society as well. They form the foundations of so many professions like medicines, Engineers,etc. Computers are highly helpful to the society. Lots and lots of social changes have taken place after the introduction of computers. The study of computers science develops in us honesty, truthfulness and critical reasoning, objective thinking and belief in basic facts.

Disciplinary value

The learning of computer science involves some scientific discipline and scientific attitudes which are transferable to our later life also. It involves self-expression, creativeness, open mindedness, critical thinking and observation suspended judgement which are free from superstitious and false beliefs etc. The good habits if they are once developed in a child can prove beneficial for their later life.

Cultural value

The role of computers in the development of modern civilization can be obvious just by our comparison with our ancestors. Our present culture and advancement in our standard of living gives a clear-cut picture of our cultural development and role of computers in this field for removing old traditional beliefs and superstitions. Computers have proved itself as in best helper in overhauling the consciousness of the universe.

So at the end, from the above mentioned values of computer science, we come to this conclusion that computer science has achieved a most important place in our place in our daily life as well as in the modern establishment of the whole world**.**

Conclusion

The computer is widely used in the field of education and computer science has developed which is very popular these days. At every stage computer is compulsory. The distance education is using computer for instructional purpose as multimedia approach. The computer makes teacher learning process effective by involving audio and visual sense of learners. So, this unit tells about the nature and scope of Computer Science, the need and significance of teaching Computer science. At last the values of teaching computer Science**.**

Questions for Discussions and Reflection

1. Explain the nature and scope of teaching computer science.
2. Explain the Objectives of teaching computer science.
3. List the values of teaching computer science.

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UNIT II: PLANNING FOR INSTRUCTION

</div>

Course Objectives

At the end of the course, the pre-service teachers will be able to:

1. understand the steps in planning a lesson plan.

2. formulate the educational objectives of Bloom's taxonomy.

3. analyze the structure of a lesson plan

4. gain the mastery of constructing test-item for formative evaluation.

Introduction

Every work requires a plan of action for its perfect completion. In the same way teaching process also requires a systematic plan. A lesson plan represents a single teaching unit for a class period. The teacher should know the objectives of teaching. Designing test is very important part of assessing students understanding of course content and their level of competency in applying what they are learning.

Steps in planning a lesson

Herbartian steps in Lesson Planning

Six formula involved in developing a lesson plan have been suggested by Herbart, J.F and thus, named after him as Herbartian steps in planning and are given below.

1. Introduction / Motivation

2. Presentation

3. Comparison or Association

4. Generalization

5. Application and

6. Recapitulation

Introduction/Motivation

This step is considered to the preparatory step, where in you are trying to prepare the minds of the students ready to receive the subject matter. One of the laws of learning given by Edward Lee Thorndike, the "law of readiness" emphasizes the need for the mental readiness. Unless the minds of the students are ready, learning will not take place. Hence this step, otherwise, identifies the mental readiness of the students. In general, with the help of this

step, the teacher can check the students' entering behavior before he starts teaching the lesson. Thus, testing students' previous knowledge (entering behavior), developing interest in the minds of students and maintaining curiosity of the student can be achieved with the help of this step.

Presentation

It is the key step and only through which the actual process of teaching is going to take place. Here the aims of the lesson should be stated clearly and the heading should be written on the blackboard. We have to provide situation for both the teacher and the students to participate in the process of teaching and learning. Our ultimate aim of the presentation is to make the concepts understandable to the students. Therefore use of simple language is recommended. Appropriate and specific example and illustrations of the concepts will make the understanding better. The interest of the students on the subject matter should be maintained continuously by the way of asking questions from time to time in this stage. For quick learning, more learning and for longer retention of the subject matter, use of instructional software in an appropriate manner is strongly recommended during presentation.

Comparison or Association

Due importance should be given in this stage to compare the facts observed by the students with another concept by way of giving examples. By making use of this comparison, the students can derive definitions or theories. The students are encouraged to give new suitable examples for the concepts instead of the examples given in the book to make them think in an innovative manner.

Generalization

While explaining the concepts in science, as far possible the teacher should try to get the answer from the students, which makes them understand the concept and through which generalizations are possible. Restating the concepts in a simpler from will be useful for the students to understand the concept very easily.

Application

In this stage, the teacher makes the students to use the understood knowledge in an unfamiliar situation. Unless the knowledge of science is applied in new situations or in our day-to-day life, the study of science will become meaningless. This application of scientific principles will strengthen learning and will make the learning permanent.

Recapitulation

This stage is meant for the teachers to know whether the students have grasped and understood the concepts taught or not. This can be achieved by reviewing a lesson or giving assignments to the students. Only through this step, achieving closure (in teaching) is possible.

Setting lesson goal

Goal are nothing but the destination or the target point. In other words , detailed explanation of aims is known as goals. Achieving goal is important and we will be trying to reach the same through an intermediate stage called "Aims".

It is important to know the purpose,

- **Designing a unit plan**

Unit Planning

A large segment of the subject matter with lessons possessing common features related to that area of study or with lessons under a common heading. For example optics is a unit in physics and under this unit, we have different topics life lens, mirrors, laws of reflection, refraction, Refractive index, etc. Therefore a unit consists of many lessons and a lesson consists of many topics. Also one should not think that a unit is a large block of subject matter alone. It is otherwise, consisting of both subject matter and method. According to Preston, a unit is as large a bock of related subject matter as can be over-viewed by the learner. Sam ford defines a unit is an outline of carefully selected subject matter which has been isolated because of its relationship to pupils needs and interests. According to bossing a unit consists of a comprehensive series of related and meaningful activities so as to achieve pupil's purpose provide significant educational experience, and results in appropriate behavioral changes.

In general a unit consists of well organized subject matter, appropriate learning experiences and method with enough provision for evaluation and follow up activities.

Important characteristics of a unit

- A unit must be flexible in such a way to cater to the needs of individual differences.

- A unit should contain subject matter and methods with respect to the students interest and abilities.

- The subject matter must be segmented and arranged according to the instructional objectives in a unit.

- It should contain the interrelated content.

- Proper evaluation and follow-up activities must find a place in a unit.

Factors of unit planning

A unit plan should contain the following factors.

➢ Content analysis
➢ Objectives & specifications
➢ Teaching learning activities
➢ Teaching learning resources
➢ Evaluation tools

Content Analysis

It refers to the actual subject matter segmented based on the objectives of teaching. Here the concepts with major importance should alone be written and not all the minute details, as the subject matter is voluminous. Then this content should be arranged in a sequential manner throughout the unit.

Objective and specifications

Objectives are the expired behavioral change of the students. The entire unit should have arrangement of the content based on the objectives. The objectives must be stated in terms of students behavioural outcomes and they are termed as specifications. Specifications are the behavioural verbs of the respective objectives.

Teaching and learning Activities

This factor suggests appropriate methods for appropriate content. For example preparation of hydrogen may be taught by using demonstration method than mere lecture method alone. On some occasions, the discussion method with help of small groups formed within the class may be used by the teacher as a suitable method. A lot of varieties of activities to student must be provided.

Teaching and learning Resources

A proper scheme of the available material for practical activities must be planned in order to ensure their availability at the time they are needed. Similarly, the required reference books useful for teaching and also for learning must be identified and a list needs to be prepared.

Evaluation Tools

Proper evaluation technique must be included throughout the study of the unit as a continuous process. Quiz assignments, unit tests and so on may be used as evaluation tools in the unit evaluation should be based on the objectives of the unit

Preparation of unit plan

A unit plan may be designed in the following steps:

A. Steps for the entire unit (Entire unit consists of several sub-units)
   - Subject: here one should mention the subject as physics , chemistry, biology or science.
   - Name of the unit: it should be the heading of the unit chosen
   - Class: to whom the unit is going to be taught.
   - Time: total number of class hours or periods
   - Instructional software: it is the list of teaching aids going to be used throughout the unit
   - Contend: it is the segmented subject matter of the syllabus to be covered
   - Sub-units: it indicates the number of lessons and their names
   - Objectives: these have to be achieved after completing the unit
B. Steps for each sub-unit
   - Sub-unit no. and name: it should contain the exact number of the sub-unit and its name.
   - Time: it indicates number of class period or hours
   - Teacher's Activities
   - Students Activities
   - Joint Activities (teacher and student)

- Assignment

- Follow-up Activities

- Evaluation

- References

  With the help of the steps mentioned above, one can prepare a unit plan for any subject in an easier manner.

User/Advantages of unit planning

- It makes the students work better, as the whole unit consists of small sub-units of content.

- It is very useful for the teachers to identify the general objectives and specifications, as they are clearly stated and differentiated in a unit.

- It gives an overall view of the subject matter well in advance and thus makes the teaching process systematic and smooth

- It require efficient, hard working and trained teachers

- If the sub-units are not properly arranged, the students may get confused.

- If the format is not followed systematically while preparing a unit plan, then it will be not useful in preparing a lesson plan

- Thus a unit plan is very useful for both teaching and learning process and has lot of advantages for teacher and students and if it is designed as per the format in a systematic way, then it will certainly bridge the gap, if any, between the teacher and the learner.

- **Bloom's Taxonomy of educational objectives**

Benjamin s. bloom and his associates have classified educational objectives into the following three broad categories or domains.

- Cognitive Domain (Thinking/Intellectual Operations)

- Affective Domain (Feelings, Attitudes and Values)

- Psychomotor Domain (Doing or Performing)

- Here is a comparison of the original and revised taxonomies:

Original 1956 Hierarchy   Revised 2001 Hierarchy
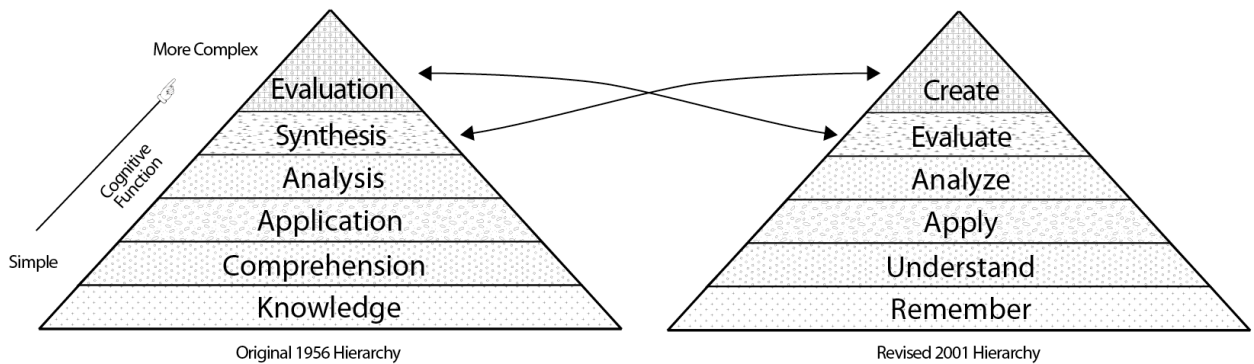
Each of the three domains mentioned above can further be split up into categories which are also in a hierarchical order.

Cognitive Domain (B.S.Bloom,1956)

- ❖ Knowledge
  - Remembering previously learned material
  - Knowledge of specifics
  - Knowledge of ways and means of dealing with specifics and
  - Knowledge of the universals and abstractions in a field.
- ❖ Comprehension
  - Grasping the meaning of material
  - Translation (Converting from one from to another)
  - Interpretation (explaining of summarizing materials) and
  - Extrapolation (extending the meaning beyond data)
- ❖ Application
  - This refers to the ability to use learned material in new and concrete situations. This may include the application of such things as rules, methods, concepts, principles, laws and theories.
- ❖ Analysis
  - Analysis of elements (identifying the parts)
  - Analysis of relationships, (identifying the relationship) and
  - Analysis of organizational principles (identifying he way the parts are organized)

❖   Synthesis

- (Putting parts together into a whole). Production of a unique communication or a plan.

❖   Evaluation

- Judging the value of a thing for a given purpose using define criteria.

The six categories listed above are arranged in order of increasing complexity. They begin with the relatively simple recall of factual information, go to the lowest level of understanding (comprehension) and then proceed through the increasingly complex levels of application, analysis, synthesis and evaluation. This scheme for classifying student behavior is, hierarchical in nature i.e. the more complex behaviors include the simple behavior in the lower categories.

Affective Domain

The affective domain concerns the attitudinal, emotional and valuing responses desired of the student. These are called interests; attitudes, appreciation and the like, while most teaches write instructional objectives in the cognitive and psychomotor domains, affective adjectives are seldom written out and included in instructional plans. Writing down affective objectives may increase the likelihood of their being achieved. Positive technique for teaching affective adjective involves differential reinforcements, modeling behavior and behavior modification techniques.

This domain includes the manner in which we deal with things emotionally, such as feelings, values, appreciation, enthusiasms, motivations, and attitudes. The five major categories listed in order are;

Receiving phenomena: Awareness, willingness to hear, selected attention.	Examples: Listen to others with respect. Listen for and remember the name of newly introduced people. Keywords: asks, chooses, describes, follows, gives, holds, identifies, locates, names, points to, selects, sits, erects, replies, uses.
Responding to phenomena: Active participation on the part of the learners.	Examples: participates in class discussions. Gives a presentation. Questions new ideals,

Attends and reacts to a particular phenomenon. Learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding (motivation)	concepts, models, etc. in order to fully understand them. Know the safety rules and practices them. Keywords: answer, assists, aids, complies, conforms, discusses, greets, helps, labels, performs, practices, presents, reads, recites, reports, selects , tells, writes.
Valuing: the worth or value a person attaches to a particular object, phenomenon, or behavior. This ranges from simple acceptance to the more complex state of commitment. Valuing is based on the internalization of a set of specified values, while clues to these values are expressed in the learner's overt behavior and are often identifiable.	Example: Demonstrates belief in the democratic process. Is sensitive towards individual and cultural differences (value diversity) shows the ability to solve problems. Proposes a plan to social improvement and follows through with commitment. Informs management on matters that one feels strongly about. Keywords: completes, demonstrates, differentiates, explains, follows, forms, initiates, invites, joins, justifies, proposes, reads, reports, selects, shares, studies, works.
Organization: Organizes values into priorities by contrasting different values, resolving conflicts between them, and creating a unique value system. The emphasis is on comparing, relating, and synthesizing values.	Example: Recognizes the need for balance between freedom and responsible behavior. Accepts responsibility for one's behavior. Explains the role of systematic planning in solving problems. Accepts professional ethical standards. Creates a life pla in harmony with abilities, interests, and beliefs. Prioritizes time effectively to meet the needs of the organization, family and self. Keywords: adheres, alters, arranges, combines, compares, completes, defends, explains, formulates, generalizes, identifies,

	integrates, modifies, orders, organizes, prepares, relates, synthesizes.
Internalizing values (characterization): has a value system that controls their behavior. The behavior is pervasive, consistent, predictable, and most importantly, characteristic of the learner. Instructional objectives are concerned With the student's general patterns of adjustment (personal, social, emotional)	Example: shows self-reliance when working independently. Cooperates in group activities (displays teamwork) Uses an objective approach in problem solving. Displays a professional commitment to ethical practice on a daily basis. Revises judgments and changes behavior in light of new evidence. Values people for what they are, not how they look. Keywords: acts, discriminates, displays, influences, listens, modifies, performs, practices, proposes, qualifies, questions, revises, services, solves, verifies.

Psychomotor domain

It comprises of physical or motor or manipulative skills which are involved in the performance of a task.

Example:

❖ Drawing a sketch

❖ Operating a machinery

❖ Constructing an object/model

❖ Using a tool

It has the following seven major categories given by Simpson (1972)

Perception: the ability to use sensory cues to guide motor activity. This ranges from sensory stimulation, through cue selection, to translation.	Examples: detects nonverbal communication cures. Estimate where a ball will land after it is thrown and then moving to the correct location to catch the ball. Adjusts heat of stove to correct temperature by smell and taste of food. Adjusts the height of the forks on a forklift by comparing where the forks

	are in relation to the pallet. Keywords: choose, describes, detects, differentiates, distinguishes, identifies, isolates, relates, selects.
Set: readiness to act it includes mental, physical, and emotional sets. These three sets are dispositions that predetermine a person's response to different situations (some-times called mindsets)	Examples: know and acts upon a sequence of steps in a manufacturing process. Recognize one's abilities and limitations. Show desire to learn a new process (motivation) Note: this subdivision of psychomotor is closely related with the responding to phenomena subdivision of the affective domain Keywords: begin, displays, explains, moves, proceeds, react, shows, states, volunteers.
Guided response: the early stages in learning a complex skill that includes imitation and trial and error. Adequacy of performance is achieved by practicing	Examples: performs a mathematical equation as demonstrated. Follows instructions to build a model. Responds hand-signals of instructor while learning to operate a forklift. Keywords: copies, traces, follows, react, reproduce, responds.
Mechanism: this is the intermediate stage in learning a complex skill. Learned responses have become habitual and the movements can be performed with some confidence and proficiency.	Example: Use a personal computer. Repair a leaking faucet. Drive a car. Keywords: assembles, calibrates, constructs, dismantles, displays, fattens, fixes, grinds, heats, manipulates, measures, mends, mixes, and organizes, sketches.
Complex overt Response: the skillful performance of motor acts that involve complex movement patterns. Proficiency is indicated by a quick, accurate, and highly coordinated performance, requiring a minimum of energy. This category includes	Examples: Maneuvers a car into a tight parallel parking spot. Operates a computer quickly and accurately. Displays competence while playing the piano. Keywords: assembles, builds, calibrates, constructs, dismantles, displays, fastens,

performing without hesitation, and automatic performance. For example players are often utter sounds of satisfaction or expletives as soon as they hit a tennis ball or throw a football, because they can tell by the feel of the act what the result will produce	fixes, grinds, heats, manipulates, measures, mends, mixes, and organizes, sketches. Note: the key words are the same as mechanism, but will have adverbs or adjectives that indicate that the performance is quicker, better, more accurate, etc.
Adaptation: skills are well developed and the individual can modify movement patterns to fit special requirements.	Examples: Responds effectively to unexpected experiences. Modifies instruction to meet the needs of the learners. Perform a task with a machine that it was not originally intended to do (machine is not damaged and there is no danger in performing the new task) Keywords: adapts, alters changes, rearranges, reorganizes, revises, and varies.
Origination: creating new movement pattern to fit a particular situation to fit a particular situation or specific problem. Learning outcomes emphasize creativity based upon highly developed skills.	Example: constructs a new theory. Develops a new and comprehensive training programming. Creates a new gymnastic routine. Keywords: arranges, builds, combines, composes, constructs, creates, designs, initiate, makes, originates

Structure of a four-fold lesson plan

Name of the pre-service teacher   :   **subject :**   **Date :**

Class /Section and Section   :   **Unit   :**

Name of the school   :   **Topic   :**

Instructional Objectives: The student

1. **acquires knowledge of ……………..**

2. **understands………………………….**

3. **applies the scientific knowledge……**

4. **develops skills……………………….**

5. **develops interest…………………….**

6. **develops attitude……………………**

7. **appreciates………………………..**

Instructional Resources Required

Required   : Chart, Model, Rotating disk.

Previous Knowledge of Learners:

Content/Concept	Specification of Behavioural Objectives	Learning Experiences (Teacher/Learner activities)	Evaluation

Follow up Activities (if any):

Signature of the Guide   **Signature of the pre-service-Teacher**

LESSON PLAN MODEL

Name of the Student- teacher:

Name of the School   :

Class/Section   :

Subject   : Computer Science

Unit   :

Topic   :

Number of Students   :

Instructional Objectives   : The Students

- ❖ recall the types of users.
- ❖ define about list command.
- ❖ discuss18 commands and options in linux.
- ❖ list the types of path names.
- ❖ explain cd directory and pwd command.
- ❖ explain the concept of cd command and pwd command with example.

Instructional resources required:

- ❖ Chart, flashcard

Previous Knowledge of learners

      The Teacher asks questions to the students to test previous knowledge.

      Mention the types of users. What is the role of file owner?

Content/Concept	Specifications of Behavioural objectives	Learning Experiences (Teacher/learner activities)	Evaluation
ls Command	define	The teacher explains, what list command (ls) is. The students understand the purpose of ls command and take notes.	Define ls command. Write an example for ls command.

Command, and argument in ls command:	discuss	The teacher explains the command and various options in ls command. The teacher asks the students to write an example for command and argument in ls command. The students discuss among themselves and write the ls command and argument in ls command in their note book.	What is the ls command? What is argument in ls command?
Path and types	List	The teacher explains path name, and the types of path name, with a chart. The teacher asks the students to write absolute and relative path with two examples. The students immediately write about absolute and relative path with examples in their note books.	List the path name. Define Absolute path.
cd directory pwdcommand:	explain	The teacher explains the cd directory and pwd command. The teacher asks the students to form small groups and write examples for pwd command.	Explain the use of cd directory. Expand pwd.

		The students form small groups and write examples for pwd command.	
Concept of cd command and pwd command.	explain	The teacher explains the concept of cd and pwd command. Teacher asks questions and clarifies the doubts of students. The teacher divided the students to small groups and asked them to write cd and pwd command concept with examples. The students write example for cd and pwd command.	Explain cd command. Why we use cd command?

Follow up activities:

1. Write an example for ls command?

2. What is cd directory?

3. Explain concept of cd command.

    Signature of the Guide   **Signature of the Student-teacher**

(This model Lesson plan is an example for 20 minutes and this can be continued &written for 45 minutes.)

  Types of test-items

Tests

There are several types of tests available. A few important types are listed below.

- Teacher-made tests
- Standardized tests
- Diagnostic tests and so on.

Teacher-made tests

These types of tests are prepared by the teacher for their classroom purposes, through which the conclusions suitable for that classroom alone may be drawn. General conclusions cannot be derived. For example, a teacher can prepare an achievement test to measure students achievement in the respective subjects.

Standardized Tests

Standardized tests are tests which have been carefully constructed by experts after try analysis and revision. They have explicit instructions for standard administration and tables of norms for score interpretation derived from administration of the test to a defined sample of students. Objective type questions are best suited for standardization. They are used for research purpose, as we can derive general conclusions based on these test results.

Diagnostic tests

Diagnostic tests are those tests used by the teacher to identify the students difficulties in the respective subject based on symptoms, Diagnostic tests help us to locate the areas of strength and areas of weakness of the pupils. If the students do not commit any mistakes in certain concepts then we can say that they are strong in that area. Similarly if they go wrong always or occasionally we can take a clue-they are not thorough in a select the unit for which the difficulties had to be located. Diagnostic test could be administered for the unit which the teacher handles also. For this, the teacher has to identify the areas where the pupils can have doubts. Then objective type questions alone should be asked in the diagnostic test; thereby we can identify the students difficulties. The main difference between the diagnostic test and the achievement test are given below.

❖ In an achievement test , marks are going to be given for the answers for the questions and diagnostic tests, correct answers are denoted with a tick mark and no marks are going to be awarded.

❖ Another difference is that in the achievement test, questions are not repeatedly asked for the same concepts whereas in the diagnostic test for each difficult concept fouror five questions are going to be asked, as the very purpose of the diagnostic test is to find out whether the pupils are strong in the concept or not and also we are not measuring their achievement.

Questionnaires

A questionnaire is a form prepared and distributed to secure responses to certain questions. It is a systematic compilation of questions that are submitted to a sampling of population from which information is desired. It is an important tool in normative survey research, used to gather information form widely scattered sources. Normally this can be used when one cannot readily see personally all of the people from who he needs responses or where there is no particular reason to monitor them personally. It has the following forms:

- Structured from
- Non-Structured from
- Closed form
- Open form

Structured form

It contains define, concrete and directed questions and the subject is going to give the responses directly with respect to the questions.

Non-structured form

It consists of partially completed questions or statements. it is often used as the interview guide, which is non-directive in nature.

Closed form

The questions that call for short check responses are known as restricted or closed from type. It restricts the choice of response for the respondent. One has to simply select a response out of supplied responses and has not to frame his response in his own way.

Open form

In this form, the person who responds to the questionnaire is given enough freedom. He can express his idea without any restriction and can frame his response in his own way.

Rating Scale

Many of the variables with which research is concerned cannot be measured directly and the degree of their existence has to be estimated on the basis of subjective judgment. At this stage the tool used to measure the degree of existence of variables is known as a rating scale. It will give the rate of our responses. For example you may agree with a statement and sometime you may strongly agree with a statement. This type of he difference in the response can be shown with the help of rating scales. Attitudes can be found with the help of rating scales.

Checklists

It is similar to that of the laundry list. It consists of a list of items with a place to check. Or to mark yes or no. the chief aim of the checklist is to call attention to overlooked. It an important tool used to gather facts in educational surveys. For example, to find out the availability of the equipments in a laboratory, a checklist can be used and thereby one can verify the equipments available in a laboratory.

Schedules

They are also of great use in gathering information through surveys. It is nothing but a list of questions to which responses are obtained from the respondent by the investigator in a face-to-face contact. I is also applied to a set of questions which are asked by the interview from the interview. A schedule is different from a questionnaire in that it is administered personally to respondent or a group of respondents while the questionnaire is usually sent by mail expecting return of response by mail.

Constructing test-items for formative evaluation in class

Evaluating instruments or tools depend mainly on the purpose for which the evaluation is going to be carried out. For example, if you want to evaluate a particular model of car, you can go for a test drive and thus the performance of the vehicle will be analyzed. Here test drive of the vehicle is considered to be best evaluating tools. In the same way, one can make use of several evaluating tools

with respect to the purpose of evaluation. But in the teaching and learning process, the commonly used evaluating tools are testing and questioning. The teacher may administer several tests or may ask questions and thereby evaluate the students learning.

Principles of test construction and Administration of an Achievement Test

One the important duties of a teacher is to observe the student in the classroom, laboratory and in other settings. He may also make use of test in his classroom. Some of the objectives of his teaching can be measured efficiently, realistically and completely by tests given in the classroom; some may be measured partially by such tests, and some may not be measured at all in this way. Anyhow tests have their own place in the educational setting. The main purpose of examination and assessment is to find out how far the efforts made in teaching and learning have become successful in achieving the objectives.

There, the third stage of evaluation approach is to develop test material in relation to the objectives of teaching. The material when administered to pupils, should provide trust-worthy evidences as to whether the new method of test construction seeks to link the particular objective or its specification with the topic so that item is valid and through-provoking. Here again, the specific behavioral change that are expected as learning outcomes under each objective are of great importance in establishing a close relationship between the test-item and the objective. They also direct our own thinking and facilitate the task of constructing good items. Achievement test is directly related to student's growth and development in education situations. This is used to find out how much has been learnt by the students. Achievement tests measure the quality and quantity of learning attained in a subject. Achievement tests can be classified as (i) Teacher-made test and (ii) standardized tests. Teacher-made achievement test can be used by the teachers for particular classroom purpose and standardized tests can be used to drive general conclusions and may be used for research purposes.

Construction of an Achievement Test

A good achievement test requires much careful planning. A mere collection of questions whatever their number and individual quality, does not make a full test. The main considerations to be borne in mind while planning a test are:

❖ The coverage of behavior implied by predetermined objectives;

❖ The coverage of syllabus;

❖   The grouping and arrangement of items of various forms;

❖   The number of items to be include in the test;

❖   The range of item difficulty.

Steps involved in the Construction of an Achievement Test

The following steps are involved in preparing an Achievement test. They are:

- Preparation of weightage tables in terms of content, objectives and forms questions.
- Preparation of a Blueprint by using the weightage tables.
- Preparation of a questionnaire (test paper) and soon.

Preparation of weightage tables/charts

Weightage (marks) tables in terms of content, objectives and forms of questions can be prepared in the following way.

Weightages in term content

Content	Marks	*%*
Total		

Weightages in terms objectives

Objectives	Marks	*%*
Knowledge		
Understanding		
Application		
Skills		
Total		

Weightages in terms forms of questions

Forms of Questions	Marks	*%*
Objective		
Short answer type		
Essay type		
Total		

Preparation of a Blueprint

A blueprint is nothing but a three dimensional scheme for test. It is the basic (layout) for the construction of an achievement test. A three dimensional blueprint chart is given below:

BLUEPRINT

Subject: Computer Science   Date:

Standard: Duration:

                                                                    Maximum Marks:

Objectives	Knowledge			Understanding			Application			Skill			Total
Forms of Questions	O	SA	E	O	SA	E	O	SA	E	O	SA	E	
Content													
Sub-total													
Total													

Note: O-Objective Type Question; SA-Short Answer Type Question; E-Essay Type Questions. The marks and number of questions may be represented inside and outside the brackets.

Conclusion

As we know planning is very important for any work. For teaching, too planning is very important for teaching lessons in the classroom. So, we have learnt the importance of designing a lesson plan. The teacher has the responsibility of planning and evaluating. So, this unit will help the pre-service teachers to plan a lesson, construct test and evaluate the students.

QUESTIONS FOR DISCUSSIONS AND REFLECTION

1.Explain the importance of lesson plan.

2.What is a unit plan? Explain.

3.Describe Bloom's Taxonomy of Educational objectives.

4.What are the characteristics of a good lesson plan.

UNIT III PRACTISING THE TEACHING SKILLS IN COMPUTER SCIENCE

Course Objectives

At the end of the course, the pre-service teachers will be able to:

1.understand the meaning of teaching.

2.analyze major teaching skills and steps in teaching mini – lesson.

3.gain the mastery preparing mini-lesson.

Introduction

Mini-teaching is a short lesson with narrow focus that provides instruction with skills, steps and concept that the pre-service teacher will relate to a larger lesson. It is the combination of teaching skills and teaching steps. The curriculum Framework by the NCTE for the B.Ed. two year programme insists that "teaching should not be practiced through the reductionist approach of micro-teaching of isolated 'skills' and stimulated lessons''. The practice of lesson plans must be meaningful and holistic event and not isolated and disintegrated one.

- **Meaning of teaching**

Teaching of Computer Science means teaching Students how to use and understand the uses of technology, mainly (though not limited to) computers. And just to be clear, a computer is an electronic device we use to store and process data.

- **Understanding Major teaching skills**

    A teaching skill is a group of teaching acts/behaviours intended to facilitate student's learning directly/indirectly.

Introducing

The skill of introduction is one of the teaching skills mainly concerned with the sets of rules to be followed while introducing a lesson while teaching. It is otherwise known as "set induction" Many research findings revealed that if the introduction of a lesson is effective then the learning would be very effective. One can also motivate the students during the introduction stage of teaching and thereby attention towards the lesson would be maintained fully without any distraction. In this stage the teacher can identify the amount of entry behavior possessed by the students. Unless the students have the sufficient entry behavior, they will not learn the new ideas going to be taught in the class. The amount of terminal behavior going to be acquired by the students through teaching depends mainly on the amount of entry behavior. The terminal behavior of today will act as entry behaviour of tomorrow and hence the skill of introducing a lesson plays an important role in the teaching process. The following points must be borne in mind while introducing the lesson.

❖ Start the lesson with the related ideas or concepts
❖ A lesson may be introduced by the way of asking lower order questions related to the lesson to be taught
❖ You can start the lesson with an anecdote related to the lesson
❖ A lesson may be introduced through demonstration
❖ Even through dramatization a lesson may be introduced

Set induction is about preparation, usually for a formal lesson. When the students are set. They are ready to learn. Set induction is thus about getting them ready, inducting them into the right mindset. Sets are used before any new activity, from introduction of a new concept to giving homework. It is important in each set both to create clarity about what is expected happen (both what you will do and what they should do), and to create motivation for this to occur, with students being fully engaged in the learning.

Set induction can be done by such as:

• Explaining potential benefits to the learner.
• Giving clear instructions.
• Describing what is going to happen.

The STEP acronym may be used to help remember what to do:

• Start: welcome the students settle them down and gain attention.

- Transact: Understand their expectations and explain yours. Link with previous learning.

- Evaluate: Assess the gap between their expectations and current reality. Clarify any discrepancies for them.

- Progress: Move on to the main body of learning.

There are mainly four purpose of set induction.

- Focusing attention on what is to be learned by gaining the interest of students.

- Moving from old to new materials and linking of the two.

- Providing a structure for the lesson and setting expectations of what will happen.

- Giving meaning to a new concept or principle, such as giving examples.

So if you are teaching think about and prepare carefully for getting your students in the right state of mind to be ready to understand and to learn.

In other words, if your introduction of the lesson is effective, then the whole teaching process would be effective and useful to the students.

Explaining

It is the duty of the teacher to organize a number of learning experiences in the classroom keeping students in the mind. Explanation may be stated as "the use of interrelated statements about a concept, phenomenon and generalization with a view to provide its understanding to someone else". If the explainer keeps in mind the previous knowledge of the students, then the explanation would be understood by the students. The previous knowledge is otherwise known as "entry behavior" of the students.

There are mainly three types of explanation viz., descriptive, the interpretive and the reason giving; trying to give answer for the questions; 'what', 'How' and 'Why' respectively. A descriptive explanation tries to describe the structure or phenomenon or principle or a procedure and the interpretive type of explanation tries to explain the central meaning of the concept, generalization or the principle. On the other hand, reason giving explanation describes the reason for a phenomenon. Depending upon the situation, the teacher can make use of any one of the types of explanation or in combination. If the students understand your explanation, then it is considered to

be good. Therefore, it is a must to know all the behavioral patterns of the teacher which make an explanation effective and otherwise. Thus the skill of explaining involves increasing the occurrence of desirable behavioural patterns and avoiding the use of undesirable behaviours. So the components of the skill of explanation may be divided under two headings; viz., components of desirable behaviour and components of undesirable behaviour, and are given below.

Components of skill of Explaining

- **Desirable behaviours**
  - ❖ **Using appropriate beginning and concluding statements.**
  - ❖ **Using explaining links**
  - ❖ **Covering essential points**
- **Undesirable behaviours**
  - ❖ **Using irrelevant statements**
  - ❖ **Lacking fluency**
  - ❖ **Lacking continuity in statements**
  - ❖ **Using inappropriate vocabulary**

Using appropriate Beginning and Concluding Statements

It is nothing but the opening statement used by the teacher before trying to explain a concept or a principle. It gives an idea to the students about the concept to be explained and hence it makes the students ready to receive the explanation. In the same way after the explanation is over and if you want to conclude your explanation, a concluding statement may be used to help the students in structuring the ideas explained. Though the beginning and the concluding statements are very important from the view point of cognitive structuring they do not from a part of the act of explaining.

Questioning

Questioning in the classroom play a vital role in a teaching and learning process. The first step in classroom questioning refers to the structuring of questions. Sufficient practice in structuring questions at different levels may be done before entering the training using microteaching. Like any other type of statement, questions also follow structures which include format and such

characteristics as relevance, precision, clarity, grammatical correctness and the level of thinking it generate in the pupils. There are a few general guidelines for structuring classroom questions, which are given below.

- ❖ Avoid questions requiring yes or no answer
- ❖ Avoid the use leading question
- ❖ Avoid double barreled questions
- ❖ Avoid ambiguous questions

After consider the general guidelines, the skill of questioning can be practiced. It consists of the following components

- ▪ Relevance
- ▪ Precision
- ▪ Clarity
- ▪ Grammatical correctness
- ▪ Levels of questions

Relevance

It refers to the suitability of the questions to the specific instructional objectives of the lesson and the content being covered. In other words, the questions asked by the teacher should be pertinent to main themes of the lesson need to be avoided.

Precision

It refers to the length of the question with respect to the context of classroom question. If a question is too lengthy it may be fully get registered are always better than extra worded questions. Unduly long questions cause wastage of time, diversion of students, attention and reduce the questioning fluency. The length of the question should be appropriate to the purpose and the level of the questions.

Clarity

Clarity refers to the understandability of the language of the question. An effective question should not use terms that are beyond the understanding and experience of the students.

Grammatical correctness

If a question structured by a teacher is not grammatically correct, it creates confusion in the minds of the students. For such questions, students take more time to understand and to answer. Thus, fluency of questioning is reduced. Grammatically incorrect questions also fail to communicate their intention. Some of the source of this error observed in classroom are a) not using appropriate interrogatives at the beginning of the questions, b) use of inappropriate tense and c) use of double negatives in a single question.

Levels of questions

Different levels of questions stimulate corresponding level of thinking in students. The level is determined by the structure of the question. Students' response also provide clue to the thinking level which the question has generated in them. Therefore, questions can be structured at different levels which generate thinking at corresponding levels in students. There are three levels of classroom questions viz.

❖ Lower order questions

❖ Middle order questions

❖ Higher order question

Varying the Stimulus

The attention of the students on the lesson taught is very important for making teaching effective as learning in the classroom mainly depends on the attention of the students on the subject. Normally their attention tends to shift from one stimulus to another frequently and it is a challenging task to the teacher to keep the attention of the students intact and fully on the subject taught. It the teacher fails to do so, learning cannot take place.

To secure and to sustain students; attention, the element of variation may be introduced in teaching. The variation may be introduced in several ways depending upon the teaching activity. For example, variation in voice, variation in teacher's position, variation in gestures etc may be appropriately used in teaching activity to sustain students' attention. Keeping this idea in the mind, the skill stimulus variation has been developed. Stimulus variation is nothing but "the set of teacher behaviours that

tend to secure and sustain students' attention in teaching and learning process in the classroom". It consists of the following components.viz.,

- Movement
- Gesture
- Change in voice
- Focusing
- Change in interaction patter
- Pausing
- Pupil physical participation
- Aural visual switching

Movement

It is making movements from one place to another with some purpose. (For writing on the black board; to conduct experiment; to explain the chart or model; to pay attention to the pupil who is responding to some question etc.)

Gesture

These include movements of head, hand and body parts to arrest attention, to express emotions or to indicate shapes, size and movements. All these acts are performed to become more expressive.

Change in voice

When the teacher wants show emotions or to put emphasis on a particular point, sudden or radial change in tone, volume or speed of the verbal presentation are brought out. The change in the speech pattern makes the pupils attentive and creates interest in the lesson.

Focusing

The teacher draws the attention of the pupils to the particular point in the lesson either by using verbal or gestural focusing. In verbal focusing the teacher makes statements like, "look here" "listen to me ""note it carefully ". In gestural focusing pointing towards some object with fingers or underlining the important words on the blackboard.

Change in interaction pattern

When two or more persons communicate their views with each other, they are said to be interacting. In the classroom the following three styles of interaction are possible:

- o   Teacher ←→ class (Teacher talks to class and vice versa)
- o   Teacher ←→pupil (Teacher talks to pupil and vice versa)
- o   Pupil ←→ pupil (Pupil talks to pupil)

All types of interaction should go side by side to secure and sustain pupils' attention.

Pausing

This means "stop talking" by the teacher for a moment. When the teacher becomes silent during teaching. It at once draws the attention of the pupils with curiosity towards the teacher. The message given at this point is easily received by the pupils.

Pupil physical participation

Pupils tend to prefer those lessons in which they get an opportunity for physical participation. It holds their interest and attention in the task in which they are engaged. Physical participation can be in the from handling apparatus, writing on the blackboard and so on.

Aural visual switching

The teacher gives information to the class verbally about something. This is called oral medium. When the teacher is showing maps, chart and object without saying something, then it is called visual medium. If the teacher is giving information to the pupils through any one medium for a long time, it is possible that the students may lose attention to what the teacher is conveying to them. Therefore it is essential for the teacher to change medium rapidly in order to secure and sustain pupils' attention to what he says. They are three types of media:

- Oral oral-visual: when the teacher while speaking shows objects, charts and models and explains their various parts it is switching from oral to oral-visual.
- Oral visual: when the teacher while speaking, shows objects, maps, chart, globe etc. it is switching form oral to visual.

▪ Visual oral-visual: when the teacher demonstrates the experiment silently and then explains the phenomenon with the help of charts, maps, diagram etc. it is visual-oral switching.

These devices are used interchangeably to secure and sustain pupils; attention to the lesson.

Non-Verbal Cues

Express Non-Verbal cues are power. It primary express feelings.

Non -verbal cues are

▪ Gestures

▪ Postures

▪ Movements

Non-verbal or verbal play a vital role in the teaching and learning process. Non-verbal cues in the classroom occurs with distance, physical environment, facial expression, vocal cues, body movements and gestures, touch, time, physical attractiveness, and dress.

Reinforcement

Every responding pupil of the class needs social approval of his behaviour. To satisfy his need. He is always eager to answer each question known to him. If the teacher is encouraging the pupils by statements like, "good"; that is very good and certain nonverbal expressions, as smiling, nodding the head, and paying attention to the responding pupil, the pupil participation in the class is maximized. The main theme of the skill is that encouraging remarks of the teacher increase and discouraging remarks decrease the pupil-participation in the development of the learning process. So keeping this idea in mind this skill of reinforcement may be well explained with the following components.

- Positive verbal reinforcement.
- Positive Nonverbal Reinforcement
- Negative Verbal Reinforcement
- Negative Nonverbal Reinforcement
- Wrong use of Reinforcement
- Inappropriate use of Reinforcement.

Positive verbal Reinforcement: these are the positive comments given by the teacher on the correct response of the pupil.

They are:

- Using words and phrases like, good, very good and excellent.
- Repeating and rephrasing pupil's response
- Using pupils' idea in the development of the lesson
- Using extra-verbal cues like um, um, aha to encourage pupils.
- Using prompts like carry on, think again etc. to help the pupil give correct response.

Positive Nonverbal Reinforcement:

The teacher gives comments to pupils on their correct response without using words: this he does By: nodding the head, smiling, patting, looking attentively at the responding pupil, writing pupil's answer on the black board. The teacher encourages the pupils to participate maximally in the development of the lesson.

Negative verbal Reinforcement:

The teacher gives comments on the incorrect or partially incorrect response by that the pupil's response is incorrect or making sarcastic remark like "idiots", "stupid" etc. such behavior of the teacher discourages pupil-participation and should not be used.

Negative Nonverbal Reinforcement:

The teacher shows his disapproval without using words. This involves, frowning, staring, and looking angrily at the responding pupil, when he gives wrong response. This type of behavior of the teacher creates fear in the minds of the pupil and decreases pupil-participation.

Wrong use of reinforcement:

This is the situation, where the teacher does not give reinforcement when the situation is demanding encouragement.

Inappropriate use of reinforcement:

This is the situation when the teacher does not encourage the pupil with respect to quality of his response. He use same type of comment for every response.

Fluency in Communication

Aldous Huxley(1958) once wrote "Language has made possible man's progress from animality to civilization"(p.167).Classroom talk is very important . Flanders(1970) reported that teachers of high achieving students spent about 55 percent of the class time talking, compared with 80 percent for teachers of low-achieving students. So communication plays a vital role in a classroom. As a teacher communication skill is very much needed and only through this he/she can make the students understand the content taught to them. Communication in general is a process of sending and receiving messages that enables humans to share knowledge, attitude, and skills.

- **Practicing a mini- lesson with multiple teaching skills (for 20 minutes)**

Name   :   xxxxx

Subject: Computer science

Topic   :   Introduction to computers

Focus: Generations of computers

Date   :

Time   : 15-20 minutes

Objectives: The peer group

- acquires knowledge of the calculators, computer.

- understands the generation of computers.

- develops skills in selecting a suitable electronic component accurately from the diagram shown.

Materials

- A calculator.
- A chart showing generations of computers.
- A chart showing parts of computers

Content

- First-generations of computers.
- Parts of computers
- Central processing unit
- Speed of computers.

Teaching skills

Important skills are as follows:

1. **Introducing**

   The pre-service teacher gives introduction about the first-generation computers

   The first generation of computers had vacuum tubes. These early computers used vacuum tubes as circuitry and magnetic drums for memory. The period of first generation was 1946-1959

2. **Explaining**

   The pre-service teacher explains-

   The first generations computers were often enormous, taking up entire rooms. The vacuum tube was developed by Lee DeForest. A vacuum tube is a device generally used to amplify a signal by controlling the movement of electrons in an evacuated space". The basic parts of a computer system are Monitor, CPU (central processing unit), keyboard, Mouse, Speakers and Printer. A central processing unit is the electronic circuitry within the computer program by performing the basic arithmetic, logical, control and input/output operations specified by the instructions. The faster the CPU runs, the more processes it can run at any given time. A CPU with a clock speed of 3 GHZ, for example can run 3 thousand million cycles each second.

3. **Questioning**

   The pre-service teacher poses a few questions to the peer group

The First generations computers used----------- tubes.

Mention the period of first generation computers.

What is the expansion of CPU?

4. **Varying the stimulus**

The pre-service teacher uses some teaching aids to get the attention of the peer group

There will be variation in teachers' position in the classroom while he is teaching. Variation in voice represents another dimension. Use of media like vacuum tubes pictures and Chart showing diagrams of first generation computers provides yet another area of vibration. There can also be variation in the classroom interaction pattern.

5. **Non-verbal cues**

The pre-service teacher uses non-verbal cues to make the class lively.

Positive non-verbal cues include smiling; nodding the head, a delighted laugh, patting on the shoulder, asking the students to clap etc can be used while the class is going on.

The students can be asked to clap their hands for correct answers given by a student.

6. **Reinforcement**

The pre-service teacher reinforces the peer group when they give correct answer.

Positive verbal reinforces like saying good, , excellent, fantastic, , right, yes, correct, fine etc. can be used in the class for the desirable behavior of the students like being calm, clarifying their doubts, answering the questions, drawing the pictures on the board etc.

7. **Closure/Summing up**

The pre-service teacher summarizes the content delivered in the classroom

The topic will be summed up as a first-generation computer used vacuum tubes for circuitry and magnetic drums for memory and were often enormous, taking up entire rooms. This tube is a device generally used to amplify a signal by controlling the movement of electrons in an evacuated space.

8. **Fluency in communication**

Communication is a process of sending and receiving messages that humans to share knowledge, attitudes, and skills. Fluency in communication is very important skill for a good teacher so that he can communicate his ideas as naturally as possible. Eg pronouncing the vacuum tube correctly

- **Observation and feedback on the practice of integration of Teaching skills**

INTEGRATING SKILLS IN MINI TEACHING (Assessment by Peers/Teacher Educators)				
Teaching skills	**AVERAGE (SCORE 1)**	**GOOD (SCORE 2)**	**VERY GOOD (SCORE 3)**	**TOTAL**
Introducing				
Explaining				
Questioning				
Varying the stimulus				
Non verbal cues				
Reinforcement				
Closure				
Fluency in Communication				

Range of scores:8-24

OVERALL ASSESSMENT OF TEA CHING STEPS

AVERAGE _____   GOOD _____ VERY GOOD_____

Interpretation of scores

Average   : 8

Good   : 9-16

Very Good   :17-24

- **Understanding major Steps in Teaching a mini lesson**

  Mini-Teaching is an actual classroom teaching in miniature. Mini-teaching is much smaller than usual teaching. In Mini-teaching, a pre-service teacher practices a mini-lesson to a minimum of 10 peers for 15-20 minutes.

  Steps in Mini-teaching

  The pre-service teacher-

  1. Chooses a mini-lesson for 15-20 minutes

  2. Identifies a few appropriate teaching skills required for teaching the mini-lesson.

  3. Teaches the mini-lesson with gradual integration of the teaching skills identified.

  4. As soon as a pre-service teacher finishes teaching mini-lesson. The peers and the teacher-educator provide a feedback to the pre-service teacher about teaching.

  5. Then the next pre-service teacher in the peer group takes up his mini-lesson and practice teaching.

  Major steps in teaching a mini-lesson

  Teaching a mini-lesson consists of five specific steps.

  They are

  ➤ **Motivation**

    Motivation is a warm-up activity to get the students actively engaged in a new lesson. So, the pre-service teacher should use all the teaching skills.

  ➤ **Presentation**

    Presentation refers to the delivery of the content in the classroom in a original way. The pre-service teacher should focus on

    1. Verbal and non-verbal communication

    2. Effective use of the blackboard.

➢ **Interaction**

Interaction refers to the communication between the teacher and students during the delivery of the lesson in the class room. The pre-service teachers should encourage group interaction in the classroom.

1. Classroom interaction
2. Student-Teacher interaction
3. Student-Student interaction.

➢ **Reflection**

Reflection refers to encouraging students to think about their thought .The teacher ask the students to reflect on their learning (output).The pre-service teachers can help their peers to reflect about their learning in the following ways.

1. Discussions
2. Interviews
3. Questioning

➢ **Summing up**

Summing up refers to ending a lesson with a summary. The pre-service teachers can use the all teaching techniques in front of peers.

• **Practicing mini-lesson (for 20 minutes)**

• **Introductory Activities (*Motivation*) (Skills used are Introducing and Questioning),**
   The pre-service teacher motivates the class

   The device used to solve mathematical problems. (Calculator will be answer answered by the peer group) A model of calculator is shown to the peer group. Then the peers will be asked about another device used for calculating. The answer will be given by the peer group "Computer"

• **Development Activities (Presentation, Interaction, Reflection)**
   (skills used are Introducing, Explaining, Questioning, Closure)

   The pre-service teacher explains

   A Computer is an electronic device that can be instructed to carry out an arbitrary set of arithmetic or logical operations automatically. The ability of computer to follow a

sequence of operations, called a program, make computers very flexible and useful. Such computers are used as control systems for a very wide variety of industrial and consumer devices. The term Hardware covers all those parts of a computer that are tangible physical objects. The Data is sent to the computer with the help of input devices. Some of the examples of input device are keyboard, joystick, mouse, Trackball, Touch screen and etc. The means through which the computer gives output are known as output devices. Some of the output devices are monitor, printer, projector, PC speaker and etc. The Input/output devices Picture chart is shown. Interaction will take place Reflection takes place during communication between the pre-service teacher and the peer group.

- **Concluding Activities (*summing Up/Closure*)(Skill used is Closure)**

    A computer is an electronic device. The ability of computer to follow a sequence of operations, called a program, make computers very flexible and useful. Such computers are used as control systems for a very wide variety of industrial and consumer devices. The term Hardware covers all those parts of a computer that are tangible physical objects. The Data is sent to the computer with the help of input devices. Some of the examples of input device are keyboard, joystick, mouse, Trackball, Touch screen and etc. The means through which the computer gives output are known as output devices. Some of the output devices are monitor, printer, projector, PC speaker and etc. Name some of the input device. Draw block diagram of computer.

- **Observation and feedback on mini-teaching**

INTEGRATING THE STEPS IN MINI TEACHING (Assessment by Peers/Teacher Education)				
TEACHING STEPS	**AVERAGE (SCORE 1)**	**GOOD (SCORE 2)**	**VERY GOOD (SCORE 3)**	**TOTAL**
Motivation				
Presentation				
Interaction				
Reflection				
Summing Up				

Range of scores: 5 - 15

OVERALL ASSESSMENT OF TEA CHING STEPS

AVERAGE _____   GOOD _____ VERY GOOD_____

Interpretation of scores

Average   : 5

Good   : 6-10

Very Good   :11-15

CONCLUSION

A mini-lesson focuses on a specific teaching point. This is an extension of micro-teaching. This unit will help the pre-service teachers to know about the teaching skills and teaching steps. Practice makes a man perfect so the pre-service teachers after practicing mini lesson will become a perfect teacher for teaching practice.

QUESTIONS FOR DISCUSSIONS AND REFLECTION

1. Define mini-teaching.

2. Explain the major steps in a mini-teaching.

3. Write a mini-lesson by integrating major steps.

SUGGESTED READING/REFERENCE BOOK

1.   Kokila Thangasamy (2016), *Pedagogy of English,* Chennai: Vinoth Publications

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3.   Singh,Y.K. (2005), *Teaching of computer science*, New Delhi: A.P.H.Publishing Corporation.

4.   Venugopal.G. (2014), *Teaching of biology* , Chennai: Sriram Publishers.

5.   www.ascd.org, Why talk is important in classrooms'.

UNIT IV - METHODS OF TEACHING COMPUTER SCIENCE

Objectives

After the completion of the unit, the student teachers will be able to

acquire knowledge about the methods of teaching computer science

apply appropriate methods in their teaching

understand the applications of various resources

understand how the community resources are used in their teaching.

Teacher centered Method

Lecture Method

Lecture method refers to the teaching procedure to clarify or explain to the students some ideas that have been presented or created as a problem. This methods is most commonly used in colleges and not a very suitable method for teaching computer science at high school classes. This method is teacher controlled and information-centred and in this method the teacher works as a sole resource in classroom instruction. As this method does not call for students' involvement in the learning process, Students may get bored and lose interest in learning. In this method the students are provided with readymade information by the teacher. The teachers goes ahead with the subject matter at this own speed.

Merits of Lecture Method
lecture method has following merits.
- It is an easy, concise and attractive method. Using this method the teacher feels safe and secure.
- Using this method, a large amount of subject matter can be presented within a short time and the prescribed syllabus can be covered easily.

- It can be used for a large number of students.
- Using this method it is quite easy to impart factual information and historical anecdotes.
- Using this method the teacher can easily maintain the logical sequence of the subject matter by planning his lecture in advance.
- This method gives the students as well as the teacher a sense of satisfaction and achievement.
- Lecture method trains good listeners who are able to concentrate on subject matter for a long duration.

Demerits of Lecture Method

The demerits of lecture method are as under:

- The lecture method is lengthy and time-consuming.
- In this method students become passive recipients of information as their involvement in classroom interaction is negligible.
- Due to long duration of lecture, students' attention is likely to wander.
- Receiving information is not computer science learning and hence it does not hence mathematical ability of the students.
- In this method there is no way to ensure the students' concentration and understanding of the subject matter presented to them.
- In this method ideas are presented so rapidly that is not possible for all students, especially the weaker ones to catch's presentation.
- Inability to understand one essential point may make the rest of the lecture unintelligible.
- It does not provide for corrective feedback and remedial help to show learners.
- It does not call for the development of mental faculties such as power of observation, reasoning, critical thinking, independent thinking and so on.
- It does not provide for individual differences and individual needs.
- This method does not help in developing problem-solving skills.
- Using this method results in totally neglecting the experimental side learning.
- It is a teacher-oriented method and it is likely that students profit very little due to lack of maturity of thought and many other psychological reasons.

Lecture-Demonstration Method

Lecture-Demonstration Method is considered to be a method superior to lecture method as it combines the advantages of both the lecture method and the demonstration method. In this method both the teacher and the taught are active participants in the process of teaching.

The lecture-demonstration can be effectively used for teaching computer science. By using this method it is possible to easily impart concrete experiences to students during the course of a lesson, when the teacher wants to explain some abstract points. This method combines the instructional strategy ' information imparting and showing how'. For example, while teaching geometrical constructions the teacher has to explain how to construct the geometrical figure with the give specifications, simultaneously demonstrating how to carry out the construction following the sequence of steps.

In this method, the teacher performs the experiments before the class and simultaneously explains what he is doing.

Merits of Lecture-Demonstration Method

- It is psychological method as students take active interest in the learning process.
- It is useful for all students of varying abilities.
- It is an economical method as compared to purely student-centred methods.
- It leads the students from concrete experiences to abstract concepts.
- It encourages students' participation in learning.
- It trains mental faculties such as power of observation, reasoning and drawing inferences.

Demerits of Lecture- Demonstration Method
- It does not provide first-hand experiences to the students.
- It does not provide for individual differences. It caters to the of average students.
- It does not develop manual and manipulative skills and cannot be a substitute for laboratory method.
- If not very attentive, the students fail to observe minute details of the demonstration.
- It is not application for higher level computer science.

TEAM TEACHING

Team teaching a style of instruction in which resources as well as interests and expertise of a team of teachers are pooled in order to enhance the effectiveness of instruction/curriculum transaction to the maximum possible by utilizing all facilities available in school.

Characteristic of Team teaching

1. It utilizes the service of two or more teacher in the process of teaching the same class.

2. It is an instructional strategy rather than training strategy.

3. In team teaching a group of teachers are responsible for realization of the educational objectives,

rather than an individual teacher.

4. A team of teachers of the same subjects work together to deal relevant content area to the same group of students.

5. It can be termed as co-operative teaching , in which teachers together plan to pool resources, interests and expertise for teaching the same content for the same group of students.

6. Every individual teacher of the team gets an appropriate role in the instructional process in accordance with one's special competencies or area of specialization.

7. The group of teachers involves have shared responsibilities in planning, organizing, leading, controlling and evaluating.

8. In team teaching, the group of teachers have to jointly consider the needs of their pupils.

Objectives of Team teaching

1. To make the best use of expertise of a number of teachers.

2. To improve the quality of teaching by utilizing the sills of more then one person.

3. To develop positive attitude towards co-operation or group in teaching – learning situations.

4. To help the student to satisfy the needs and solve the difficulties relating special content areas.

5. To develop the sense of shared responsibility in teaching and evaluation.

6. To minimize the scope of teaching wrong things to the students by any individual teacher.

Types of Team teaching

1. Team teaching in the same class period.

Here the members of the team discuss the various aspects of the same topic to be covered in the same class period and share these aspects in tune with the special knowledge area in which each has expertise.

2. Team teaching based on ability.

In this type, units are shared by different teachers not on the basis of subject matter, but on the basis of special competencies such as lecturing, demonstrating, guiding discussion etc.

3. Team teaching based on specialization

Teachers with different subject specialization are jointly made responsibilities for instruction, starting from course formation to evaluation. They share the content according to their specialization areas.

4. Team teaching on relay system.

Hear one teacher starts the instructional process, when he completes, another follows and so on. Hear the division of work not based on subject competency or skill. Each teacher supplements, enriches and supports what others have done.

Principles of team teaching

1. Principle of size and composition of the class.

The size of the class should be vary according to the objectives of the team teaching.Eg. To remove the difficulties of students in certain subject, the size of the class should be small.

2. Principle of level of instruction

The entering behavior of the group of students should be determined so that the presentation of each member of the team in tune with the level of the class.

3. Principle of assigning duties to teachers of the work.

Duties to the teachers should be appropriate according to their competencies of teaching.

4. Principle of learning environment.

Learning environment must be generated by employing appropriate teaching aids and other inputs.

5. Principle of time factor

Time schedule should be prepared by allotting appropriate time to subtopics, lead lecture, group work etc.

6. Principle of Supervision

i.   The aim of team teaching is to develop mastery over subject matter by utilizing the expertise of teachers
ii.   Supervised study is essential for assimilating various items of knowledge of a topic
iii.   The nature and duration of supervising students activities depends upon the purpose for which team teaching is employed.

Procedure of Organizing the Team teaching

Team teaching involves three steps

1. Planning

This step involves the following activities

• Formulating the objectives of the team teaching session.
• Writing these in behavioral terms.
• Identifying the entering behavior of the learners.
• Deciding the details of the material to be taught.
• Assigning duties to teachers, such as lead lecture, follow up work and supervision considering their interest and competencies.
• Fixing up the level of instruction.
• selecting appropriate teaching aids and other inputs, if any, for generating learning environment.
• Deciding ways and means to be adopted for evaluating the student performance.

2. Organizing

The organization of team teaching is decided by considering the needs of the learners. The following are the general activities which are usually performed by a team of teachers.

- Determining the level of instruction. Some questions are asked to explore the background of the leaner's.
- Selecting the appropriate communication strategy by considering the level of language achievement of the learners.
- Presentation of lead lecture by a competent of the team; other teachers listen the lecture and note down the element of the topic that appear to be not easily understandable to the learners or nor appropriately presented.
- Follow up work. The other teachers have to supplement the lead lecture by explaining the elements of the topic in a simpler way so that the learners can understand easily.
- Providing motivation or reinforcement during both the stages. i.e, during the lead lecture and follow up work.
- Supervision of student activities which are assigned in lead lecture or group work or follow up work. This stage is considered to be important for assimilation. Every member of the team should be conscious about time schedule and about the duty assigned to him. He must be well prepared and ready for implementing the plan.

3. Evaluating

-
  Evaluation is an important aspect of ant type of teaching. It will helpful to measure the performance of learners. It also provides reinforcement to the team of teachers as well as to the learners, this stage involves the following activities.
  Asking oral questions. Each question should measure a particular objective envisaged by the team.
- Taking decision about the level of performance and realization of the objectives.

- Diagnosing difficulties of the learners and providing the remediation.
- Revising the planning and organizing phase of team teaching itself on the basis of evaluation of the student.

Advantages of team teaching

1. Better planning

• Team teaching has to overcome repetition and hence every teacher has to devote more time towards planning and preparation of his unit.

2. Better utilization of resources.

• It results in the optimum use of available resources, human, material, finance. A number of teachers can work together and make the best use of their specialized knowledge.

3. Effective use of teaching techniques.

• Teachers observe each other and thus improve their teaching techniques.

4. Better motivation.

• It provides better motivation for good teachers to become team leaders. Student too are better motivated while they are being taught by a number of teachers. Teachers with greater technical skills influence the performance of their colleagues.

5. Better follow-up work.

• It ensure better follow-up work as a number of specialists teach the same subject to the same class.

Limitation of team teaching

1. It is very difficult to ensure co-operation among teachers of a team.
2. It is not east to assign powers and responsibilities to a group of teachers. It might happen no one takes care of the responsibilities expected.
3. Many teachers do not maintain regard and respect. Every teacher considers himself an expert of the subject and has his own style of teaching.
4. Teachers generally do not like to deviate from the routine methods of teaching and they do not prefer any change in the system of education.

LEARNER CENTRED METHODS

Laboratory Method

laboratory method is a procedure for stimulating the activities of the students and to encourage them to make discoveries. In this method students are required to do some experiments or carry out certain activities in order to verify the validity of the mathematical generalisation, a law or a statement. it is the experimental portion of the inductive method or the practical form of the heuristic method. Therefore, in this method one proceeds from concrete to abstract. it is based on the psychological principles of learning such as 'learning by doing', 'learning by observation' and so on. Laboratory method is quite competent to relate the theoretical knowledge with the practical base. This approach makes the learning process more interesting, lively and meaningful.

The success of the laboratory method depends on an able and skilled teacher as well as the availability of a well-equipped computer science laboratory. According to J.W.A. Young "a room specially filled withdrawing instruments, suitable tables and desks, good blackboards and the apparatus necessary to perform the experiment of the course is really essential for the best success of the laboratory method". A well-furnished laboratory helps in providing stimulating and worthwhile experiences in clarifying the meanings of mathematical principles and for the acquisition of understanding and skills.

Merits of Laboratory Method

- It is based on the psychological laws of learning: law of exercise and law of effect
- It is based on the principle of learning by doing.
- It stimulates the interest of the students to work with concrete material.
- It provides an opportunity for the students to verify the validity of the mathematical rules through their application.
- Knowledge and skills acquired through experiments help in better understanding and longer retention.
- It provides for individual differences and best suited for average and below average students for thorough understanding of abstract concepts.
- It promotes self-confidence and self-reliance and a sense of achievement among the students.
- It provides opportunities for social interaction and cooperation among the students.
- It develops in the child a habit of scientific enquiry and investigation.

Demerits of Laboratory Method

- Laboratory method does not contribute much towards the mental development of the students.
- It is an expensive method in terms of time, equipment, laboratory facilities and number of skilled and able teachers.
- Only very few topics in computer science can be taught through this method and hence it has limited applicability.
- It is too much to expect the students to work independently and discover and verify mathematical facts like a mathematician

o It is not suitable for large classes as the teacher has to give individual attention to each students.
o It is suitable only for lower classes.
o There is dearth of textbooks written on the lines of laboratory method.

Applicability of Laboratory Method

Laboratory Method is best suited for teaching computer science at lower classes. This method does not provide much scope for teaching computer science at high school and higher secondary classes. This method does not contribute much towards the development of reflective thinking, reasoning and problem-solving skills which are the important aims of teaching computer science. Whenever the teacher selects the laboratory method, it should be integrate with other methods to yield desirable outcomes.

PROJECT METHOD

Project Method is of American origin and is an outcome of Dewey's philosophy of pragmatism. However, this method is developed and applied practically by Dr. Kilpatrick. The advocate of project method believe that different branches knowledge are different aspects of one whole and they are studied separately for the sake of convenience. Moreover the exponents of the method contend that knowledge turns into power only through application.

The term project' has been defined differently by different educationists. A few definitions have been given below.

Project is defined in Oxford's Advanced. Learner's Dictionary as a 'Plan of action'. It usually involves a task or problem, calling for constructive thought, or action or both. According to Dr. Kilpatrick 'A project is a unit of wholehearted purposeful activity carried on preferably in its natural selling'.

In the opinion of J.A. Stevenson "A project is a problematic act carried to completion in its most natural setting".

Ballard defined project 'as a bit of real life that has been imported into the school".

All the definitions stated above emphasise that project should be a purposeful activity related to life and it should be carried out in a natural environment. In project method, teaching and learning are considered from the child's point of view and in this method knowledge and skills are learnt by pupils through practical handling of problem in their natural setting. This method is an ideal way of promoting creativity, arousing curiosity and inculcating the spirit of enquiry among the student. However, in this method teaching is more or less incidental.

Basic Principles of Project Method

Psychological Principles of Learning

The project method is based on the psychological principles of learning namely.

    I. Learning by doing

   II. Learning by living

  III. Children learn better through association, cooperation and activity.

Psychological Laws of Learning

The project method is based on the psychological laws of learning namely,

    I.   Law of readiness

   II.   Law of exercise

  III. Law of effect

Principle of Activity

Activity is a significant feature of this method. Children select, plan, execute and evaluate their projects themselves.

Principles of Social Experience

The project is selected from real life situations and every project should be a social experience for the children

Principle of Reality

The project cannot be motivating and interesting for the learner unless it is natural and real from the learner's point of view.

Principle of utility

Knowledge is meaningful and worthwhile if it is practicable and useful

Principles of Motivation

The selected project should be purposeful and therefore motivating for the learner.

Purpose and goal and goal make the project meaningful and significant.

Project method involves the following steps

-Providing a situation

-Selecting and purposing of the project

-Planning of the project

-Executing the project

-Evaluating the project

-Recording

Providing a situation

The project should arise out of the felt needs of the students. The teacher should provide such situations to students which may arouse some suitable questions to which the students seek answer. It should look important, must be interesting, and purposeful for the students. The teacher can provide a variety of situations through a variety of situations through discussion, questioning, library work, field word etc.

Selecting and purposing

The selection of the project is done by the students themselves. The teacher should refrain from proposing any project; otherwise the whole purpose of the method would be defeated. However, the teacher can guide the students in the selection of a good project, keeping in mine the interest, aptitude and ability of the students. In this step the nature and goal of the project is clearly determined as well as the limits and scope of the project is clearly defined.

Planning

Planning involves the selection of the most appropriate and feasible set of activities to be executed. The students should choose the most practical plan of action. The students themselves should do the planning with the teacher as a guide. While planning, the points to be taken into consideration are: (1) the nature and scope of the projects (2) the degree of complexity of project (3) time allotted to finish the project and (4) and availability of material resources. Discussion may be held among students before the final draft of the plan is agreed upon.

Execution

In this step the teacher helps the students in assigning work to different students in accordance with their interest, aptitude and capabilities. Each member of the group should be actively involved in the execution of the project. The teacher should carefully supervise and guide the students in the execution of the project as per the proposed action plan.

Evaluation

The students along with the teacher should review the progress of the project at frequent intervals. This is to ensure that the students are progressing towards the realisation of the of the objectives of the project. Without evaluation, the project can move out of focus. The evaluation of the project has to be done in the light of (i) proposed plan (ii) difficulties in the execution and (iii) achieved result.

Recording

The students are required to maintain a complete record of work including the choice of the project, the planning, the discussions help and duties assigned. Also reference and books consulted and readings taken, difficulties faced, guidance sought, details of places visited and surveyed and so on should be carefully recorded.

Criteria of a Good Project

A good project can be assessed using the following criteria.

-The project should be purposeful, useful, and practically applicable to the daily life of the students, with clear, well defined objectives.

-The project should help in providing useful and meaningful learning experiences to each member of the group.

-The project should be within the reach of the students in accordance with their interest and ability levels.

-The project should be feasible in terms of the availability of human and material resources and time limit.

-The level of complexity of the project should match the ability level of the students.

-The learning activities of the project should be life-like, purposeful and natural.

Role of the Teacher

The teacher should assume the following role while following project method.

- Guide students in selecting the project according to their interest, aptitude and ability.

- Help students in planning and allotting activities to each member according to the nature of

  abilities.

- Help in creating a friendly and democratic atmosphere in the classroom promoting co-operation

  and harmony.

- Be available to the students and willing to help as and when it is necessary.

- Supervise and check whether the project is running in time as planned.

- Suggest extra resources, if necessary, for the successful execution of the project

- Check in the records maintained by the students.

- Help in the periodic assessment of the progress of the project.

Merits of Project Method

- It is based on sound psychological principle and laws of teaching.
- It provides scope for independent work and individual development.
- It promotes habits of critical thinking and encourages the students to adopt problem-solving methods.
- It provides for individual differences as the students can select the activity and exchanges of experiences among the students.
- It promotes social interaction, inculcated spirit of co0opration and exchanges of experiences among the students.
- It encourages practical applications of the subject, making the subject functional and meaningful to the learner.

- It provides opportunities for children to acquire a lot of skills-observation, reference, interpretation and so on.
- In this method the children are active participants in the learning task.
- It develops self-confidence and self-discipline among the students.
- It upholds the dignity of labour.
- It widens the mental horizon of the students.
- It makes the learning more interesting and facilitates better understanding of the subject matter as the learning is related to reality and the world around him.

Demerits of Project Method

- The project method is uneconomical in terms in terms of terms of time and is not possible to fit into the regular timetable
- It does not provide any training in mathematical thinking and reasoning.
- The learning is incomplete and uniform learning or balanced learning is not possible for all students as each student performs a different activity.
- Textbooks and instructional materials are hardly available.
- For the success of this method the teachers should be exceptionally resourceful and gifted and knowledgeable.
- It is an expensive method as it makes use of a lo of resources which aew not immediately available in the school.
- Syllabus cannot be completed no time using this method.
- Teaching is disorganised.

PEER TUTORING

Peer tutoring refers to an instructional method that uses pairings of high-performing students to tutor lower-performing students in a class-wide setting or in a common venue outside of school under the supervision of a teacher. The terms "tutoring" and "mentoring" will be used synonymously, as the role of tutor also includes maintaining a supportive and encouraging relationship with the tutee.

Benefits of Peer Tutoring

Currently, there is sufficient research that documents the benefits of peer tutoring as a supplement to traditional instruction. Peer tutoring has been used across academic subjects, and has been found to result in improvement in academic achievement for a diversity of learners within a wide range of content areas [12-14]. Common components of peer tutoring programs facilitate both cognitive and social gains in both higher-performing mentors and low-performing mentees in an individualized and positive way.

Academic and Cognitive Gains through Peer Tutoring:

Positively affects computer science performance

Overall, peer tutoring in computer science is most effective in improving computer science performance for students at risk for or experiencing computer science disabilities, elementaryaged participants, and computer science computation content .

Improves reading achievement for students of all levels

Some established positive outcomes of peer tutoring in reading classes include improvements in key reading skills as well as gains in self-concept and competency in reading [16]. Results from a study of peer tutoring reading programs in middle schools indicated that students' oral reading rate increased following peer tutoring programs.

Accommodates diverse students within a classroom

Inclusive learning, which is the practice of teaching disabled students alongside non-disabled peers in regular classroom settings, can be facilitated through an emphasis on differentiated learning, where students of varying academic levels receive instruction appropriate for their individual learning styles and speeds. Differentiated learning, which emphasizes providing students with varied opportunities to acquire knowledge and master skills, can be difficult to implement in a traditional classroom setting. Peer tutoring can be an effective strategy for educators to facilitate differentiated learning without stigmatizing and alienating students. When peer tutoring is implemented in a class-wide setting, students are able to approach the curriculum at their individual learning level, using strategies tailored to individual mentees.

Promotes higher-order thinking

By explaining concepts in detail, high-level questioning, and the use of supportive communication skills, peer tutors can help low-performing students master material previously introduced in a traditional classroom setting and build on their knowledge using higher-ordering thinking skills [18].

Social and Behavioral Gains through Peer Tutoring:

Results in positive effects on social, self-concept, and behavioral outcomes

Social, self-concept, and behavioral outcomes were affected positively with the use of peer assisted learning strategies, including peer tutoring. Additionally, researchers found a significant positive relationship between social and self-concept outcomes and academic achievement. Decreases in disruptive behavior and improvement in social interactions among culturally and developmentally diverse peers are also noted outcomes of peer tutoring programs.

Increases students' sense of control and responsibility for their academic achievement

Peer tutoring increases students' sense of internal responsibility for their achievement. Peer tutoring programs have also been shown to improve student's ability to accept constructive feedback from adults. Training students in peer tutoring strategies can help students take responsibility for their learning, and their ability to recognize and accept responsibility for academic failures.

EXPERIENTIAL LEARNING

"Experiential [learning] is a philosophy and methodology in which educators purposefully engage with students in direct experience and focused reflection in order to increase knowledge, develop skills, and clarify values" (Association for Experiential Education, para. 2).

Experiential learning is also referred to as learning through action, learning by doing, learning through experience, and learning through discovery and exploration, all which are clearly defined by these well known maxims:

I hear and I forget, I see and I remember, I do and I understand. (Confucius, 450 BC)

Tell me and I forget, Teach me and I remember, Involve me and I will learn. (Benjamin Franklin, 1750)

There is an intimate and necessary relation between the process of actual experience and education. (John Dewey, 1938)

The following is a list of experiential learning principles as noted from the (Association for Experiential Education, 2011, para 4):

- Experiential learning occurs when carefully chosen experiences are supported by reflection, critical analysis and synthesis.
- Experiences are structured to require the student to take initiative, make decisions and be accountable for results.
- Throughout the experiential learning process, the student is actively engaged in posing questions, investigating, experimenting, being curious, solving problems, assuming responsibility, being creative and constructing meaning.
- Students are engaged intellectually, emotionally, socially, soulfully and/or physically. This involvement produces a perception that the learning task is authentic.
- The results of the learning are personal and form the basis for future experience and learning.
- Relationships are developed and nurtured: student to self, student to others and student to the world at large.
- The instructor and student may experience success, failure, adventure, risk-taking and uncertainty, because the outcomes of the experience cannot totally be predicted.
- Opportunities are nurtured for students and instructors to explore and examine their own values.
- The instructor's primary roles include setting suitable experiences, posing problems, setting boundaries, supporting students, insuring physical and emotional safety, and facilitating the learning process.
- The instructor recognizes and encourages spontaneous opportunities for learning.
- Instructors strive to be aware of their biases, judgments and preconceptions, and how these influence the student.
- The design of the learning experience includes the possibility to learn from natural consequences, mistakes and successes.

The instructor and student may experience success, failure, adventure, risk taking and uncertainty, because the outcomes of the experience cannot totally be predicted.

The Experiential Learning Process involves a number of steps that offer student a hands-on, collaborative and reflective learning experience which helps them to "fully learn new skills and knowledge" (Haynes, 2007). Although learning content is important, learning from the process is at the heart of experiential learning. During each step of the experience, students will engage with the content, the instructor, each other as well as self–reflect and apply what they have learned in another situation.

The following describes the steps that comprise experiential learning as noted by (Haynes, 2007, para. 6 and UC Davis, 2011)

Experiencing/Exploring "Doing" Students will perform or do a hands-on minds-on experience with little or no help from the instructor. Examples might include: Making products or models, role-playing, giving a presentation, problem-solving, playing a game. A key facet of experiential learning is what the student learns from the experience rather than the quantity or quality of the experience.

Sharing/Reflecting "What Happened?" Students will share the results, reactions and observations with their peers. Students will also get other peers to talk about their own experience, share their reactions and observations and discuss feelings generated by the experience. The sharing equates to reflecting on what they discovered and relating it to past experiences which can be used for future use.

Processing/Analyzing "What's Important?" Students will discuss, analyze and reflect upon the experience. Describing and analyzing their experiences allow students to relate them to future learning experiences. Students will also discuss how the experience was carried out, how themes, problems and issues emerged as a result of the experience. Students will discuss how specific problems or issues were addressed and to identify recurring themes.

Generalizing "So What?" Students will connect the experience with real world examples, find trends or common truths in the experience, and identify "real life" principles that emerged.

Application "Now What?" Students will apply what they learned in the experience (and what they learned from past experiences and practice) to a similar or different situation. Also, students will discuss how the newly learned process can be applied to other situations. Students will discuss how issues raised can be useful in future situations and how more effective behaviors can develop from what they learned. The instructor should help each student feel a sense of ownership for what was learned.

Although learning content is important, learning from the process is at the heart of experiential learning.

In experiential learning, the instructor guides rather than directs the learning process where students are naturally interested in learning.

INSTRUCTOR'S ROLE

The instructor guides rather than directs the learning process where students are naturally interested in learning. The instructor assumes the role of facilitator and is guided by a number of steps crucial to experiential learning as noted by (Wurdinger & Carlson, 2010, p. 13).

1. Be willing to accept a less teacher-centric role in the classroom.

2. Approach the learning experience in a positive, non-dominating way.

3. Identify an experience in which students will find interest and be personally committed.

4. Explain the purpose of the experiential learning situation to the students.

5. Share your feelings and thoughts with your students and let them know that you are learning from the experience too.

6. Tie the course learning objectives to course activities and direct experiences so students know what they are supposed to do.

7. Provide relevant and meaningful resources to help students succeed.

8. Allow students to experiment and discover solutions on their own.

9. Find a sense of balance between the academic and nurturing aspects of teaching.

10. Clarify students' and instructor roles.

Student Roles in Experiential Learning Qualities of experiential learning are those in which students decide themselves to be personally involved in the learning experience (students are actively participating in their own learning and have a personal role in the direction of learning). Students are not completely left to teach themselves; however, the instructor assumes the role of guide and facilitates the learning process. The following list of student roles has been adapted from (UC-Davis, 2011 and Wurdinger & Carlson, 2010).

1. Students will be involved in problems which are practical, social and personal.

2. Students will be allowed freedom in the classroom as long as they make headway in the learning process.

3. Students often will need to be involved with difficult and challenging situations while discovering. 4. Students will self-evaluate their own progression or success in the learning process which becomes the primary means of assessment.

5. Students will learn from the learning process and become open to change. This change includes less reliance on the instructor and more on fellow peers, the development of skills to investigate (research) and learn from an authentic experience, and the ability to objectively self-evaluate one's performance.

Integrating Experiential Learning (EL) in Teaching As previously noted, a primary role for instructors is to identify a situation which challenges students through problem-solving, cooperation, collaboration, self discovery and self-reflection. At the same time, decide what the students should learn or gain from the learning experience. Below are some primary points to consider when integrating experiential learning in your own teaching.

Qualities of experiential learning are those in which students decide themselves to be personally involved in the learning experience…

Once the EL experience has been decided upon, plan the experience by tying it to the course learning objectives and determine what students will need to successfully complete the exercise.

Plan: Once the EL experience has been decided upon, plan the experience by tying it to the course learning objectives and determine what students will need to successfully complete the exercise (resources such as readings and worksheets, research, rubrics, supplies and directions to off-campus locations, etc.). Also, determine the logistics: how much time will be allotted for the students to complete the experience (a complete class session, one week or more)? Will students need to work outside of class? How will the experience end? What forms of assessment will you employ? Will you use ongoing assessments such as observations and journals (called formative assessment), end of experience assessments such as written reports and projects, self and/or peer assessments, or a combination of all three?

Prepare: After the planning has been completed, prepare materials, rubrics, and assessment tools and ensure that everything is ready before the experience begins.

Facilitate: As with most instructional strategies, the instructor should commence the experience. Once begun, you should refrain from providing students with all of the content and information and complete answers to their questions. Instead, guide students through the process of finding and determining solutions for themselves.

Evaluate: Success of an experiential learning activity can be determined during discussions, reflections and a debriefing session. Debriefing, as a culminating experience, can help to reinforce and extend the learning process. In addition, make use of the assessment strategies previously planned.

GUIDED LEARNING

What is guided learning? A springboard for independence

Guided learning is an instructional sequence for small groups which is integrated into lessons to provide a bridge between whole-class teaching and independent work. It is direct teaching and works best when pupils are acquiring and developing concepts or skills in a subject. It can also be used to consolidate and refine skills and understanding. Guided sessions are flexible and can last from 10 to 30 minutes depending on the nature of the task and objectives. It is not a discrete or separate programme, but is one part of a rich, challenging and coherent curriculum.

It is about pupils taking control of their learning through a managed process. In a guided learning group:

• pupils are grouped according to ability, or particular learning need;

• the teacher plans the session, which is structured to provide pupils with just the right amount of challenge and support so that they can begin to stretch themselves as learners;

• the emphasis is on supporting pupils so that they learn to work independently on a particular aspect.

Guided learning enables teachers to support and challenge pupils by intervening in a sustained and proactive way at the point of learning, as pupils read, write, talk, design, plan, make or practise. It helps to develop personalised learning since it is a means of tailoring teaching and learning to the needs of individual pupils. It does this by grouping pupils to provide structured support and challenge inside or outside normal lessons to address aspects of progress and specific needs. Guided learning builds pupils' independence through focused intervention, interaction and collaboration.

In guided learning groups, the teacher does more than 'listen in', or 'join in'. It is a place where you continue to teach, but are much closer to the pupils – you can monitor their responses, and adjust what you say or do, and what you ask them to do or say, accordingly. It is assessment for learning in action.

As with all good teaching, good subject knowledge and assessment are prerequisites for an effective guided session. Groups should be formed on the basis of the stage of progress or point of need of the pupils. They involve a small group of pupils, usually between four and six, and can take place in or outside the classroom. They are led by a teacher or, with structured notes and guidance, a teaching assistant. Sometimes the teacher will remain with the group for the duration of the guided session, but this is flexible. At appointed times during the session it is possible for the teacher to circulate among the other pupils working independently to monitor and support their work.

For guided work to take place, an effective learning climate needs to be established with the whole class, including good behaviour and positive relationships, clear routines and a well-presented environment. Guided work is helped with the greater number of teaching assistants available in schools.

> Once the rationale is established, the routines are in place and pupils accept that the teacher will at times spend more sustained time with specific groups, both independent and guided work become more productive as the outcome for both is a reduced dependency on the teacher.

Problem-Solving Method

The Problem Solving Method is one which involves the use of the process of problem solving or reflective thinking or reasoning. It may be noted that all problem solving does not necessarily include reflective thinking or reasoning because problems may be solved through trial and error or analogy. In analogy we compare the problem in hand with similar problem in our past experience, but the comparison may be so superficial that hardly any deep thinking may occur. A problem may be solved accidentally without involving much individual effort. When this happens, it is problem-solving in a limited or wrong sense of the word.

Problem-solving method, as the name indicates, begins with the statement of a problem that challenges the students to find a solution. The problem centres around the subject matter under study and requires the use of information and skills available to the students. In the process of solving the problem the students may be required to gather data, analyse and interpret the information, to arrive at a solution to the problems.

Definitions of Problem Solving

Problem Solving presupposes the existence of a problem in the teaching-learning situation. A problem is an obstruction of some sort to the attainment of an objective, a sort of difficulty which does not enable the individual to reach a goal easily. According to Yokam and Simpson. "A problem occurs in a situation in which a felt difficulty to act is realised. It is a difficulty that is clearly present and recognised by the thinker. It may be a purely mental difficulty or it may be physical and involve the manipulation of data. The distinguishing thing about a problem. However, is that it impresses the individual who meets it as needing a solution. He recognises it as a challenge. Hence problem solving is a child's bounding curiosity which manifests itself in lists of questions that he raises of nature, of mean and book.

Risk, T.M. defines problem solving as "Planned attack upon a difficulty or perplexity for the purpose of finding a satisfactory solution". Risk further elaborates that problem-solving teaching procedure is a process of raising a problem in the minds of students in such a way as to stimulate purposeful, reflective thinking in arriving at a rational solution.

According to James Ross "Problem solving is an educational device whereby the teacher and the pupils attempt in a conscious, Planned, Purposeful manner to arrive at an explanation or solution to some educationally significant difficulty".

Therefore, as used in teaching-learning situation, problem-solving is a methd in which the felt difficulty to act in an educational situation is realised and then an attempt is made in a conscious and purposeful way to find its solution.

Main Objectives of Problems-Solving Method

The main objective of problem-solving method is to stimulate the reflective and creative thinking of the students. It involves the though process that result from a doubt, a perplexity or a problem. The approach leads to the formulation of generalisations that are useful in future situations involving the solution problems. The solution of a problem, Whatever be its nature, practical or informational, involves the process of reflective thinking.

What is Reflective Thinking?

Reflective thinking is not a sudden impulsive thought. Bossing has discussed a few essentials of reflective thinking.

- Ability to sense the presence of a perplexing problem.
- Ability to recognise clearly the nature of the problem.
- Ability to hold the problem in mind as it is studies and to lose enthusiasm.
- Ability and readiness to a bold guess as hypothesis by way of solution.
- Ability to examine and evaluate critically the proposed solution or solutions.
- Ability and readiness to cast aside hypothesis which has not been found valid. This requires courage and a sense of objectivity.
- Ability to maintain an attitude of suspended judgements until all facts are gathered weighed, and evaluated.
- Ability and readiness to re-check conclusion and to test their validity.

Steps in Problem Solving

Problem solving follows definite and specific steps.

Identifying and defining the problem

The problem arises out of a felt need and out of existing students activities and environment activities. The students should be able to identify and clearly define the problem. The problem that has been identified should be interesting, challenging and motivating for the students to participate in exploring.

Analysing the problem

The problem should be carefully analysed as to what is give and what is to be found out. Give facts must be identified and expressed, if necessary in symbolic form. The relationship are to be clearly stated. Relations that are not explicitly state may be supplied by the students.

Formulating tentative hypothesis

The focus at this stage is hypothesising-searching for a tentative solution to the problem. Analysis of the give data, and analysis of interrelationships among the give facts help the students in formulating hypothesis or educated guesses as the solution to the problem at hand.

Testing the hypothesis

Appropriate method should be selected to test the validity of the tentative hypothesis as a solution to the problem. If it is not proved to be the solution, the students are asked to formulated alternative hypothesis and proceed.

Checking the result or verification of the result

At this step the student are asked to determine if their results substantiate the expected solution. The student should be able to make generalisations and apply them to their daily life.

Approaches to Problem Solving

Problem solving advocates the following approaches

- Analytic and synthetic approaches.

- Inductive and deductive approaches.

Teacher's Role in Problem-Solving Method

The teacher plays a significant role in problem-solving method. The teacher's role is to

- ensure an atmosphere of freedom in the class.
- create the problem situation.
- assist the students in accepting, defining and stating the problem.
- help the student in analysing the problem and in breaking up the problem into simple units.
- help the students keep their attention focussed on the main problem all the time.

- guide the students in locating relevant source materials.
- encourage the students in seeking important relationships in the data.
- help the students develop an attitude of open-mindedness and critical enquiry.
- exhibit spirit of enquiry and discovery

Criteria of a Good Problem

The teachers should be aware of the criteria of a good problem for evaluating the problems identified by the students.

- The problem should be real rather than an artificial one.

- The problem should be educational significant, productive of important and worthwhile learning.

- It should be possible of a solution. The students should be equipped with background information

  and skills which are prerequisite for solving the given problem.

- It should be related to the subunits, the unit and the course.

- It should be clear and free from ambiguities.

- It should be interesting and challenging.

- It should arouse the curiosity of the students.

- it should occur frequently in life situations.

- It should provide best mental discipline to the students.

- It should have both practical and social values.

- It should be neither too difficult nor too easy for the students.

Demerits of Problem-Solving Method

- Not all students are problem solvers.
- The problem-solving method becomes monotonous if used too frequently.
- It is time-consuming and consequently it is not possible to cover the syllabus on time.
- The success of this method depends upon computer science teachers who are well versed in critical thinking and reflective thinking. Not all computer science teachers are well versed in these types of thinking.
- Reference and resource materials may be difficult to come by.

STUDENT SEMINAR METHOD

The seminar method is the most modern and advanced method of teaching. A seminar is an advanced group technique which is usually used in higher education. It is an instructional technique it involves generating a situation for a group to have a guided interaction among themselves on a theme. It refers to a structured group discussion what usually follows a formal lecture or lectures often in the form of an essay or a paper presentation on a theme.

Reading maketh a full man; writing an exact man; and conference a ready man stated by Francis Bacon. The skills such as reading, writing and talking are essential for the personality

development of a man. The seminar method integrates such skills of reading and writing with presentation skills. This seminar method is employed to realize the higher objectives of cognitive & affective domains. The higher learning process requires the interactive and integrated methodologies based on the psychological principles. The seminar method applies such technique of human interaction / intervention with the learning and teaching experiences.

Aims & Objectives

This seminar method is utilized to realize the higher objectives of cognitive and affective domains.

Cognitive objectives

i. To develop higher cognitive abilities.

ii. To develop the ability of responding in this manner would involve higher cognitive actions.

iii. To develop the ability of keen observation of experience, feelings and

iv. To develop the ability to seek clarification and defend the ideas of others effectively.

Affective objectives

i. To develop the feeling of tolerance to the opposite ideas of others.

ii. To develop the feelings of co-operation with other colleagues and respect of the ideas and

feelings of others.

iii. To develop the emotional ability among the participants of the seminar.

iv. To acquire the good manners of putting questions and answering the questions of others

effectively.

The human interaction under this technique develops the good manners and skills among the participants. Provide a good learning and scholastic experience to the participants of seminar.

Pre-requisites (Basic Principles) to be included in the seminar:

This seminar method depends with the lingual, social and emotional instances and its maturity level. The complex and undefined concept or article must be read and discussed for the meaningful learning experiences and new concept. Group discussion is emphasized. The kernel of seminar is stressed. The value and success of the seminar depends on the path of the learner and their learning experiences through the discussion. The learner can advocate and interact in group discussion with his experiences and concept derived. Both the group and learner can transform their ideas and to derive a new conclusion also be anticipated. In the lower level of learning experiences the concepts are explanatory but in this higher level of learning experience the theme or concept and need more evidences and explanations through the discussion. The interactions in this method develop observation and questioning skills, evaluation skills using their own learning experience.

Advantages and special features of Seminar Method.

This seminar method gives good motivation and learning experience.

Help to evaluate the learn-ability of learners.

Regulate the creating and organizing of facts and information.

Dissemination and retrieval of information is scientifically managed.

Develop the self reliance and self confidence.

Also inculcates the responsibility and cooperative nature.

This method is the best for socialization.

Students' interaction is possible in participation and production of teaching learning

process.

Traditional monotony is abolished in this method.

Ensures the understandability and enhances the capability of the students learning.

Seminar is always subject / theme specific, so that sufficient knowledge about the

concerned subject can be developed.

The presenter or the reader of the article can get further clarifications in his subject. Develop the questioning skills. The data processing and analysis also play a vital role in this method. This makes teaching and learning process lively. The student receives good information from his teacher and the fellow students. A seminar does not end in the premises after the completion of discussion, the group in

smaller groups carries on the discussion in informal settings in off campus. This is

certainly a strong advantage of using seminar method.

Types of Seminar

Seminars are conducted in various stages. Based on the size

and organizational aspects the seminars can be classified in to four

types. viz.

1. Mini seminar

2. Major seminar

3. National seminar

4. International seminar

Mini seminar:

Its coverage and scope are small and simple. A small population is enough to hold this

seminar. A discussion held over the topic taught or to be taught with the students is known as Group discussion. Such group discussions held in an organized way within a class room, it is called mini seminar. This mini seminar gives the students training in questioning skills, organizing the information and presentation skills of seminar. A mini seminar is felt necessary because it gives good experience to conduct a major seminar at Institutional level.

Major seminar:

The seminar conducted at an institutional or departmental level for a specific topic or subject is known as Major seminar. Usually students and teachers are participating in this type of seminar. This major seminar can be organized at department level for every month. A specific topic or subject is selected for the theme of the seminar.

National seminar:

An association of any kind particularly with academic or professional interest or an

organization (Government, Firm, etc.,) conducts the seminar at National level is called National seminar. The subject experts are invited to the seminar for discussion. The Secretary of the seminar prepares the schedule and functionaries for seminar.

International seminar:

Usually the seminar conducted by an international organization or agency is known as International seminar. Theme of this seminar has wider aspects. Globalization, Renovation, Atomic energy agreements, Policies implementation and modification etc., are examples for themes of International seminars. A Nation or its body can conduct or organize the international seminar.

Merits of Seminar method:

☺ Naturally, the spontaneous learning can be achieved effectively in this method. ☺ Seminar is usually learner centered. ☺ Information seeking and retrieval behavior is encouraged very much in this method. ☺ The learner himself prepares and compiles his own paper for the seminar gives readiness of mind and learning becomes structured. ☺ Learning by doing is encouraged in this method. ☺ The paper presenter / participant receive a reinforced learning experience from the Group discussion. ☺ Learning experiences is highly structured by the learner himself. ☺ The

teacher or chair person of technical session only plays the Guidance and instructional role. ☺ Develops cognitive, affective domains based learning. ☺ Norms of behavior is developed and reinforced. ☺ Develops open mindedness, suppress the subjective ideas from the learners. ☺ The interactions and interrogations develops the spirit of information seeking behaviors (norms of behavior) ☺ The data processing skills, compilation skills, communication skill are easily inculcated in this method. ☺ Learner gets in-depth knowledge of the subject he presented. ☺ This method built better social values and fault tolerance levels in the minds of learner.

Limitations of Seminar method

 Setting up of a seminar for every topic in the Text is not feasible. The subject area to be taught must be relevant to the theme of the seminar. The seminar themes must conform the

learning experiences to be inculcated to the students. This method found fit for higher learning only. Implementation of this method for lower classes is cumbersome. Only matured and balanced minded teachers can make this method successful. The teacher must be resourceful (both in academic and administrative) in nature. Time management is some what difficult.

Unnecessary gossips, glitches among the participants may deteriorate the scope and objectives of seminar. Passive observation without interaction also make seminar dull and worthless.

WHAT IS GROUP DISCUSSION?

Nowadays Group Discussion is being extensively used along with personal interviews for the final selection of candidates. It plays a main role in selecting the best among the best. Having scored high marks, students who get selected for a higher/another course or employment are placed on a par - on equal footing - based on their age, qualification and experience. It becomes necessary to conduct further screening for choosing a few among many. It is here, the Group Discussion plays an important part. It helps in choosing the socially suitable candidate among the academically superior achievers. It is one of the best tools to study the behavioral and attitudinal responses of the participants.

Rightly speaking, Group Discussion is more a technique than a conventional test. In fact it is one of the most important and popular techniques being used in a number of personality tests. It is a technique or a method used for screening candidates as well as testing their potential. It is also designed as a situation test wherein a sample of a candidate's group worthiness and potential as a worker comes out quite explicitly

Features Of Group Discussion

1.Group Discussion, as the name itself indicates, is a group activity carried out by participating individuals. It is an exchange of ideas among the individuals of a group on a specific topic.

2 It is used as reliable, testing device - mainly as a tool to assess all the candidates in a group at one go -in order to select the best in comparative perspective.

3.Group Discussion is an informal discussion in which participants of the same educational standard discuss a topic of current interest.

4.It is also known as leaderless discussion. It means its aim is to find out the natural leadership level of the candidates. Strictly speaking, no one from the group or outside will be officially designated as leader or president or chairman or anything of the sort. Even the examiner or supervisor who launches the discussion will retire to the background. No one will participate or intervene in the deliberations of the group.

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MIXED ABILITY GROUP

Mixed Ability Teaching Harris and Snow (2004) express their concern that the drive to raise achievement may have left Modern Languages teachers feeling they should be drawing yet more colourful flashcards or making up differentiated worksheets. They suggest that an alternative approach would be to focus on helping pupils to become more effective learners. They recommend giving pupils more ownership not only in the choice of content but also how they go about learning. This is in keeping with the findings of the HM Inspectors of Education (HMIE). In February 2007 HMIE produced a publication entitled "Modern Languages – A Portrait of Current Practice in Scottish Schools". It outlined good and bad practices within the 16 secondary schools visited by inspectors. Lessons that were considered to be poor were too teacher-led with interactions only through the teacher. In these classes teachers did not explain the purpose of activities to learners, relied too heavily on the textbook and there was no choice of activities. There was not enough collaboration in groups and insufficient differentiated tasks on offer. The report also gave examples of schools doing good work within the framework of a Curriculum for Excellence. In these schools teachers used a variety of teaching methods and shared the purposes of lessons and activities with learners. Pupils were given interesting and challenging tasks to complete co-operatively in groups. Teaching a mixed ability class will work if all pupils are allowed to experience success and to learn as individuals. It is less likely to be successful if teachers insist on whole class teaching and teaching to the average child. It is unrealistic to expect any group of pupils whatever the ability to work through a body of work at exactly the same pace. Two thirds of pupils will be working out of their learning style unless the type of task is varied. Fisher (2001:1) suggests that many children don't

achieve their potential because they are told "to make a journey but they have no map". Children cannot overcome blocks to learning if they have not learnt how to learn. Teachers should act as role models for learning and teach pupils how to become independent and effective learners. Pupils need to be taught learning techniques and how to be resourceful. Pupils will be more motivated if they understand the aim of a lesson and have some input. The teacher should reflect on classroom practice, adopt a problemsolving approach to any difficulties identified and experiment with a range of approaches. Teachers need to accept their new role first of all as a learner themselves and a facilitator of learning. "A secure teacher comes away from today with important questions to puzzle about overnight and the belief that today contains the insights necessary for a more effective tomorrow" (Tomlinson, 1999:28). The emphasis is not on what teachers teach but on what pupils learn. Researchers (Hallam & Toutounji, 1996; Harlen & Malcolm, 1997) are now suggesting that the key to success is not how pupils are grouped but the attitude and skills of the teacher in the classroom. So how can teachers become facilitators of learning and help pupils to become more effective learners?

Advantages of Mixed-Ability Grouping

Students who are placed in groups with mixed abilities benefit because they are grouped with other students who are not like themselves. This allows for the opportunity to learn about and accept differences. Mixed-ability grouping is great for discussion purposes and getting others' perspectives on things. It also helps students to understand each other better by increasing interaction among students who may not otherwise have the opportunity to interact. This can promote tolerance and the understanding and acceptance of differences.

In academics, higher-level students can help to push lower-level students further by modeling and encouraging them. This builds higher-level students' skills in consolidating information and mentoring others. It also exposes lower-level students to some of the higher-level thinking questions and problem-solving skills they might not observe if they remained in a low-level group. Also, working in a mixed-ability group builds self-confidence academically and socially, as well as patience and kindness.

Recent trends in Teaching

1. Constructivist learning

2. Problem based learning

3. Brain based learning

4. Collaborative learning

5. Flipped learning

6. Blended learning

7. e-learning trends

8. Video conferencing

RECENT TRENDS IN TEACHING

Constructivist learning

(1) Constructivist learning

Constructivism is a learning theory that has its foundation in philosophy and anthropology as well as psychology. The constructivist approach to education attempts to shift education from a teacher-dominated focus to a student-centered one. The role of the teacher focuses on assisting students in developing new insights. Students are taught to assimilate experience, knowledge and insights with what they already know and from this they need to construct new meanings. Constructivist learning is based on students' active participation in problem solving and critical thinking regarding a learning activity which they find relevant and engaging. They are "constructing" their own knowledge by testing ideas and approaches base on their prior knowledge and experience, applying these to new situations and integrating the new knowledge gained withpre-existing intellectual constructs.

In the constructivist theory the emphasis is placed on the learner or the student rather than the teacher of the instructor. It is the learner who interacts with objects and events and thereby gains an understanding of the features held by such objects or events. The learner constructs her own conceptualizations and solutions to problems. Learner autonomy and initiative is accepted and encouraged. Exploring or experiencing the physical surroundings, experiential education is a key method of constructivism. To the constructivists, the act of teaching is the process of helping learners creates knowledge. In constructivist thinking learning is also affected by the context, beliefs and attitude of the learner.

There are many different schools of thought within this theory, all of which fall within the same basic assumption about learning. The main two are: Cognitive constructivism (e.g., Theory of Piaget) and Social constructivism (e.g., Theory of L.S. Vygotsky).

Cognitive Constructivism

Cognitive constructivism is generally attributed to Jean Piaget, who articulated mechanisms by which knowledge is internalized by learners. The process of accumulating the knowledge are through accommodation and assimilation, individuals construct new knowledge from their experiences.

It is important to note that constructivism is not a particular pedagogy. In fact, constructivism is a

theory describing how learning happens, regardless of whether learners are using their experiences to understand a lecture of following the instructions for building a model airplane. In both cases, the theory of constructivism suggests that learners construct knowledge out of their experiences. However, constructivism is often associated with pedagogic approaches that promote active learning, or learning by doing. Today constructivist teaching is based on recent research about the human brain.

The major views of constructivism can be summarized as follows:

- Emphasis learning and not teaching
- Encourage and accepts learner autonomy and initiative
- Sees learners as creatures of will and purpose
- Thanks of learning as a process
- Encourages learner inquiry
- Acknowledges the critical role of experience in learning
- Nurtures learners natural curiosity
- Takes the learner's mental model into account etc..

Social Constructivism

Social constructivism maintains that human development is socially situated and knowledge is constructed through interaction with others. It is a sociological theory of knowledge that applies the general philosophical constructivism into the social assumptions of Social Constructivism.Social constructivism is based on specific assumptions about reality, knowledge, and learning. To understand and apply models of instruction that are rooted in the perspectives of social constructivists, it is important to know the premises that underlie them. The most important assumptions of the theory of social constructivism is

1. The assumption that human beings rationalize their experience by creating a model of the social world and the way that it functions

2. The belief in language as the most essential system through which humans construct reality

PROBLEM BASED LEARNING (PBL)

Problem-based learning (PBL) is a student-centered pedagogy in which students learn about a

subject through the experience of solving an open -ended problem. Students learn both thinking strategies and domain knowledge. Problem - based learning (PBL) is an approach that challenges students to learn through engagement in a real problem. It is a format that simultaneously develops both problem solving strategies and disciplinary knowledge bases and skills by placing students in the active role of problem-solvers confronted with an ill-structured situation that simulates the kind of problems they are likely to face as future managers in complex organizations. Problem-based learning makes a fundamental shift from a focus on teaching to a focus on learning. The process is aimed at using the power of authentic problem solving to engage students and enhance their learning and motivation. There are several unique aspects that define the PBL approach:

- Learning takes place within the contexts of authentic tasks, issues, and problems that are aligned with real world concerns.

- In a PBL course, students and the instructor become co-learners, co-planners, co-producers, and co-evaluators as they design, implement, and continually refine their curricula.

- The PBL approach is grounded in solid academic research on learning and on the best practices that promote it. This approach stimulates students to take responsibility for their own learning, since there are few lectures, no structured sequence of assigned readings, and so on.

- PBL is unique in that it fosters collaboration among students, stresses the development of problem solving skills within the context of professional practice, promotes effective reasoning and self-directed learning, and is aimed at increasing motivation for life-long learning.

Problem-based learning begins with the introduction of an ill-structured problem on which all learning is centered. Most of the learning occurs in small groups rather than in lectures. Teacher's role is more like that of a facilitator and coach of student learning, acting at times as a resource person, rather than as knowledge-holder and disseminator. Similarly, your role, as a student, is more active, as you are engaged as a problem-solver, decision-maker, and meaning-maker, rather than being merely a passive listener and note-taker.

Characteristics of Problem-Based Learning (PBL)

Problem-Based Learning (PBL) is a pedagogical approach and curriculum design

methodology often used in higher education and K-12 standard settings.

The following are some of the defining characteristics of PBL:

1. Learning is driven by challenging, open-ended problems with no one "right" answer

2. Problems/cases are context specific

3. Students work as self-directed, active investigators and problem-solvers in small collaborative groups (typically of about five students)

4. A key problem is identified and a solution is agreed upon and implemented

5. Teachers adopt the role as facilitators of learning, guiding the learning process and promoting an environment of inquiry

Learning outcomes of Problem Based Learning

A well designed Problem based learning task provides students with the opportunity to develop skills related to:

- Managing tasks and holding leadership roles
- Oral and written communication
- Self-awareness and evaluation of group processes
- Working independently
- Critical thinking and analysis

Basic Steps in designing a Problem Based Learning Task

There are some important aspect which we want to take care before going for a problem based learning task

1. Articulate the learning outcomes of the task. What do you want students to know or be able to do as a result of participating in the assignment?

2. Create the problem. Ideally, this will be a real-world situation that resembles something students may encounter in their future class or lives. Cases are often the basis of PBL activities.

3. Establish ground rules at the beginning to prepare students to work effectively in groups.

4. Introduce students to group processes and do some warm up exercises to allow them to practice assessing both their own work and that of their peers.

BRAIN BASED LEARNING (BBL)

Brain - based learning refers to teaching methods, lesson designs, and school programs that are based on the latest scientific research about how the brain learns, including such factors as cognitive development-how students learn differently as they age, grow, and mature socially, emotionally, and cognitively. It is totally based on the structure and function of the brain. As long as the brain is not prohibited from fulfilling its normal processes, learning will occur. Brain-based learning is motivated by the general belief that learning can be accelerated and improved if educators base how and what they teach on the science of learning, rather than on past educational practices, established conventions, or assumptions about the learning process. For example, it was commonly believed that intelligence is a fixed characteristic that remains largely unchanged throughout a person's life. However, recent discoveries in cognitive science have revealed that the human brain physically changes when it learns, and that after practicing certain skills it becomes increasingly easier to continue learning and improving those skills.

Instructional techniques emerges from Brain Based Learning

The three instructional techniques associated with brain-based learning:

1. ***Orchestrated immersion*:** Creating learning environments that fully immerse students in an educational experience.

2. ***Relaxed alertness*:** Trying to eliminate fear in learners, while maintaining a highly challenging environment.

3. ***Active processing*:** Allowing the learner to consolidate and internalize information by actively processing it.

COLLABORATIVE LEARNING

Effective communication and Collaboration are essential for becoming a successful learner. It is primarily through dialogue and examining different perspectives that students become knowledgeable, strategic and self-determined and empathetic. Moreover, involving students in real world tasks and linking new information to prior knowledge requires effective communication and collaboration among teachers, students and others. Indeed it is through dialogue and interaction that

curriculum objectives come alive. Collaborative learning affords students enormous advantages which is not available in traditional instruction.

"Collaborative learning" is an umbrella term for a variety of educational approaches involving joint intellectual effort by students, or students and teachers together. Usually, students are working in groups of two or more, mutually searching for understanding, solutions, or meanings, or creating a product. Collaborative learning activities vary widely, but most center on students' exploration or application of the course material, not simply the teacher's presentation or explication of it.

Collaborative learning represents a significant shift away from the typical teacher centered or lecture-centered milieu in college classrooms. In collaborative classrooms, the lecturing/ listening/note-taking process may not disappear entirely, but it lives alongside other processes that are based in students' discussion and active work with the course material. Teachers who use collaborative learning approaches tend to think of themselves less as expert transmitters of knowledge to students, and more as expert designers of intellectual experiences for students-as coaches or mid-wives of a more emergent learning process.

Essential features of Collaborative Learning

1. A group learning task is designed based on shared learning goals and outcomes
2. Students work in teams to master academic materials
3. Reward systems are group oriented than individual oriented
4. Co-operative behavior involves trust building activities, joint planning and understanding of team support.
5. Students involvement in learning activities are more
6. Encourages students to acquire an active-voice in shaping their ideas

Advantages of Collaborative Learning

1. Promotes social and intellectual involvement
2. Cultivation of teamwork, community building, and leadership skills
3. Enhanced student satisfaction and promoting positive attitudes
4. Open expression of ideas in groups

5. Patience in hearing others

6. Team building

7. Shared responsibility

FLIPPED LEARNING

Flipped Learning is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter.

Flipped Learning Short video lectures are viewed by students at home before the class session, while in-class time is devoted to exercises, projects, or discussions. The flipped classroom describes a reversal of traditional teaching where students gain first exposure to new material outside of class, usually via reading or lecture videos, and then class time is used to do the harder work of assimilating that knowledge through strategies such as problem solving discussion or debates.

Flipped Classroom and Implications for Teaching

The flipped classroom constitutes a role change for instructors, who give up their front-of-the-class position in favor of a more collaborative and cooperative contribution to the teaching process. There is a concomitant change in the role of students, many of whom are used to being cast as passive participants in the education process, where instruction is served to them. The flipped model puts more of the responsibility for learning on the shoulders of students while giving them greater impetus to experiment. Activities can be student-led, and communication among students can become the determining dynamic of a session devoted to learning through hands-on work.

BLENDED LEARNING

Blended learning is a planned combination of online learning and face-to-face instruction using variety of learning resources. It is a flexible learning strategy that integrates innovative and technological advances of online learning with interaction and participation of traditional face-to-face classroom learning.

Blended learning strategies vary according to the discipline, the year level, student characteristics and learning outcomes, and have a student-centered approach to the learning design.

Blended learning can promote learner's access and flexibility, increase the level of active learning, and achieve better student experiences and outcomes. For teachers, blended learning can improve teaching and class management practices. A blend might include:

1. Face-to-face and online learning activities and formats

2. Traditional classes with different modalities, such as regular, weekend, evening, part time, semester

3. Use of technology interfaces like social media, wikis and various web sources

4. Group work, Simulation, debate, Online Assignments,   Practicals etc.

5. Both usual classroom human factors and digital learning resources of the web

6. Psychological concerns are addressed in the face to face interaction and technological concerns are addressed in the online learning

Blended learning should be viewed as a pedagogical approach that combines the effectiveness and socialization opportunities of the classroom with the technologically enhanced active learning possibilities of the online environment, rather than a ratio of delivery modalities.

Teachers in the Blended learning modality can

- Foster a class culture of hard work and persistence
- Monitor students throughout the period for motivation and learning
- Intervene to personalize instruction when data shows that students are struggling
- Build personal relationships of trust and caring

E-LEARNING

e-learning is the use of electronic media and information and communication technologies (ICT) in education. E-learning is broadly inclusive of all forms of educational technology in learning and teaching. Technology-Enhanced Learning (TEL), Computer-Based Instruction(CBI). Computer-Based Training (CBT), Computer-Assisted Instruction or Computer - Aided Instruction (CAI),Internet-Based Training (IBT), Web-Based Training (WBT), Online education, Virtual education, Virtual Learning Environments (VIE). e-learning can occur in or out of the classroom.

Synchronous and asynchronous

e-learning may either be synchronous or asynchronous. Synchronous learning occurs in real-time, with all participants interacting at the same time, while asynchronous learning is

self-paced and allows participants to engage in the exchange of ideas or information without the dependency of other participants involvement at the same time.

Synchronous learning involves the exchange of ideas and information with one or more participants during the same period of time. A face-to-face discussion is an example of synchronous communications. In e-learning environments, examples of synchronous communications include online real-time live teacher instruction and feedback, Skype conversations, or chat rooms or virtual classrooms where everyone is online and working collaboratively at the same time.

Asynchronous learning may use technologies such as email, blogs, wikis, and discussion boards, as well as web-supported textbooks, hypertext documents, audio video courses, and social networking. Asynchronous learning is particularly beneficial for students who have health problems or have child care responsibilities and regularly leaving the home to attend lectures is difficult.

e-Learning trends

1. Automation
2. Augmented Learning
3. Big Data
4. Going for Cloud Computing
5. Gamification
6. M - Learning
7. Personalization

VIDEO CONFERENCING

Video conferencing is two-way interactive communication delivered using telephone or Internet technologies that allows people at different location to come together for a meeting. The video conference can be as simple as a conversation between two people in private offices involve several siteswith more than one person in large rooms at different sites. A basic video conference setup has a camera and a microphone. Video from the camera and audio from the microphone is converted into a digital format and transmitted to a receiving location using a coding and decoding device, often referred to as a "codec". At that receiving location is another codec device that decodes the receiving digital stream into a form that can be seen and heard on monitors or

televisions. At the same time, video and audio from cameras and microphones at the received location is sent back to the original location.

Benefits of Video Conferencing

Video conferencing saves travel time and money. Participants can see and hear all other participants and communicate both verbally and visually, creating a face- to- face experience. PowerPoint and other on screen graphic, as well as other cameras are also available presentation options. People downtime is reduced and productivity gains are achieved by removing the logistics of flight preparations, airport delays, hotel stays, and all the other inconveniences of business travel. In distance education, video conferencing provides quality access to students who could not travel to or could afford to relocate to a traditional campus. Video conferences can also be recorded and made available in a variety of ways. Besides distance education, other applications include meetings, dissertation and thesis defenses, tele-medical procedures, and online conferences.

People use video conferencing when:

- a live conversation is needed.
- visual information is an important component of the conversation.
- parties of the conversation can't physically come to the, same location.
- expense or time of travel is a consideration.
- examples of how video conferencing can benefit people around campus.
- guest lecturer invited into a class from another institution.
- researcher collaborates with colleagues at other institutions on a regular basis.
- thesis defense at another institution.
- administrators from different parts of campus need to collaborate on administrator issues such as a campus strategic plan.
- researcher needs to meet with a review committee about a grant.
- student interviews with an employer in another city.

Conclusion

Every learner learns on his/her own unique way and strategy. The learning is taking place with an individual speed, depending on student's attitude and level of prerequisite knowledge. In designing the teaching process, teacher should take into consideration differences among the students in the target group. Enough of space must be provided for processing and memorizing the presented information. Combination of different teaching methods can produce quality in fulfilling all teaching functions.

Questions for Discussion and Reflection

1. Explain the teacher centered methods of teaching computer science
2. How will you integrate recent trends in teaching of computer science concepts?
3. Explain the importance of learner centered methods of teaching computer science.
4. Discuss the interactive methods of teaching computer science .
5. Explain the significance of video conferencing in education.

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Unit - V Resources for Teaching Computer science

Objectives:

After the completion of the unit, the learners will be able to:

1. explain the various types of resources for teaching Computer science.
2. adopt the community resources in the instructional process.
3. utilize the information and communication technology resources in teaching
4. identify the needs of resources in teaching Computer science.

Introduction

  Teachers use a wide range of stimulating and exciting materials to teach the concepts outlined in the curriculum to ensure that students are actively involved in their learning. In time, students and parents witness a shift from textbook based to standards based instruction, bringing educational practices in line with the best school systems around the world. The power of the

learning environment to influence and promote learning is significant and the learning spaces and learning resources provide important opportunities for students to explore ideas and knowledge, collaborate, solve problems and develop knowledge and skills. Carefully selected digital technology resources are used to enable children to access global connections and resources while also encouraging new ways of thinking. The introduction of technology rich environments and multi-sensory resources can also be useful in reaching each student strengths and engaging students to become life-long learners.

Print Resources

Print resource refers to paper publications circulated in the form of physical editions of books, magazines, journals and newsletters. Print resource improves the students reading skills and vocabulary development. It is a good source of additional information for teachers. It helps the teacher for both lecture and Linguistic. Lecture approach - source of information for the teacher's lessons .Linguistic Approach - help to develop ones vocabulary and reading skills.

(i)News papers

Teachers are always looking for new ways to create student interest in current events. One of the best ways to do so is to utilize newspapers in the classroom. In the past teachers would deem newspaper reading as boring, and leave it to a once a month lesson. Using newspapers in the classroom is an effective classroom teaching tools for several reasons:

1. It makes learning fun.
2. It's an inexpensive way to educate.
3. It's adaptable for all grades and curriculum.
4. Provides good reading habits.
5. Has a section of interest for everyone like comics and sports.
6. Reinforce math concepts by challenging students to find and circle as many numbers as they can in the newspaper in two minutes. Then challenge them to find and circle as many math words as they can.
7. Make the students to solve the Sudokku and Puzzles.

Tips for Using the Newspaper in Class

1. Allow students time to read the paper.
2. Focus on one section at a time.
3. Introduce new vocabulary words first.
4. Explain the functions of a newspaper and how it works before you start a lesson.
5. Use the sports section to reinforce math concepts.

(ii)Journals

An academic or scholarly journal is a periodical publication in which scholarship relating to a particular academic discipline is published. Academic journals serve as permanent and transparent forums for the presentation, scrutiny and discussion of research. They are usually peer-reviewed or refereed. It is a daily record of news and events of a personal nature. Newspaper or magazine that deals with a particular subject or professional activity. Some of the Computer science journals are:

(iii) Encyclopedia

An encyclopedia is a type of reference work holding a comprehensive summary of information from either all branches of knowledge or a particular branch of knowledge. Encyclopedias are divided into articles or entries, which are usually accessed alphabetically by article name. Encyclopedia entries are longer and more detailed than those in most dictionaries Generally speaking, unlike dictionary entries, which focus on linguistic information about words encyclopedia articles focus on factual information concerning the subject.Some of the Computer science encyclopedia are the Encyclopedia of Computer science (also EOM and formerly Encyclopedia of Computer science) is a large reference work in computer science and Britannica encyclopedia for the history of Computer science

Audio Visual Resources

Audio visual aids are important tools for teaching learning process. It helps the teacher to present the lesson effectively and students learn and retain the concepts better and for longer duration. Use of audio visual aids improves students' critical and analytical thinking. It helps to remove abstract concepts through visual presentation. However, improper and unplanned use of these aids can have negative effect on the learning outcome. It develops the students listening skills as well as make learning more effective. In this approach students think deeply with these learning materials.

Audio resources:

(i) Radio talk

It is a radio formatcontaining discussion about topical issues. Most shows are regularly hosted by a single individual, and often feature interviews with a number of different guests. Talk radio typically includes an element of listener participation, usually by broadcasting live conversations between the host and listeners who "call in" (usually via telephone) to the show. Listener contributions are usually screened by a show's producer(s) in order to maximize audience interest and, in the case of commercial talk radio, attract advertisers. Generally, the shows are organized into segments, each separated by a pause for advertisements; however, in public or non-commercial radio, music is sometimes played in place of commercials to separate the program segments. Variations of talk radio include conservative talk, hot talk, liberal talk (increasingly known as Progressive talk) and sports talk.

(ii) Audio tapes

Audio tapes support students learning in the following ways. It

1. provides diverse teaching techniques for learning
2. gives the teacher a voice– this can reduce the feeling of isolation for cloud based students, but also helps located students feel connected
3. can be used to simplify and explain complex problems
4. can allow students to access the learning materials as often as required
5. allows students to learn at their own pace, with instant playback, rewind and pause
6. reduces frequently asked questions from students
7. can be re-used

(iii) DVDs and CDs

The introduction of educational CDs and DVDs for school children has made studies very interesting for students as well as parents. These tools provide children with real life examples helping them to easily understand what is being conveyed to them. These CDs and DVDs help the children in their overall development by familiarizing them with technology and their uses.

Today there is a wide range of educational CDs and DVDs for school children of all ages, available in various stores as well as online. They help in transforming our passive system of learning into an interactive one with the help of high quality graphics and videos along with text that help children retain things in their memory for a long time.

The benefits of learning through educational CDs and DVDs are:

1. They provide a good overall experience for children.

2. Preschooler can easily learn reading skill with the help of these digital tool.

3. School giving children can easily understand the concepts through various graphical representation and illustrations.

4. Practice session using the tools can enhance their knowledge considerably on various topics.

Visual Resources:

(i) Pictures

Pictures make concepts memorable and employable. When someone views the image, they rapidly associate it with the principle. This enables imagery to play a primary role in creating culture in an organization because every culture speaks a language. A set of images can quite literally represent an entire value system. There is significant impact on the learner when a visual aid is connected to a verbal explanation. It actually speeds up the learning process.

(ii) Charts

The primary advantage of using a chart in a presentation is that they help the audience to visualize the point of the presentation. It emphasize the main point, make the data more convincing, provide a compact way of presenting information and help audiences stay engaged. Disadvantages of using chart includes being time consuming to construct and costly to produce. They also require technology that some may lack.

(iii)Posters

Poster is the process of showing the content and the findings of a topic to an audience or a group of audiences at different times. It is often used to assess student learning in group research projects. Peer and tutor assessment can be used as part of the grading process.Poster assessment encourages creativity.Poster assessment is short and succinct. This would require the students to thinkdistinctively and select the important factors that need to be shown. The ability to summarize is important.Poster assessment can be assessed by peers at different times even without the presence of the creator.

(iv)Photographs

A Photograph is worth a thousand words through which a complex idea can be conveyed with just a single still image. Pictures make it possible to absorb large amounts of data quickly. Using photographs for explaining complex phenomena is one of the teaching aids of modern education system all over the world. As the world is changing day by day so are the methods of instructions as the modern curriculum requires conceptual elaborations. Visual aids have the tendency to materialize the thoughts of students in the form of graphics to give thoughts a concrete

frame of reference. Use of photographs is important for students because they are more likely to believe findings when the findings are paired with colored images describing complex situations during learning as opposed to other representational data such as complex book text.

(v) Flash cards

There are many ways to help children learn math facts. Flash cards can be effective if it is used at right time.It is important to help children build a conceptual understanding of facts so that one can transfer knowledge across contexts. After conceptually understanding facts, flash cards can helps to improve math fact fluency by isolating individual concepts, encouraging to focus attention and effort on specific components of complex computer science problems.

A flashcard or flash card is a set of cards bearing information, as words or numbers, on either or both sides, used in classroom drills or in private study. One writes a question on a card and an answer overleaf. Flashcards can bear vocabulary, historical dates, functions or any subject matter that can be learned via a question-and-answer format. Flashcards are widely used as a learning drill to aid memorization by way of spaced repetition.

ICT Resources

(i)Radio

Radio has been used in different formats for educational purposes the world round. Radio technology was first developed during the late nineteenth century and came into popularity as an educational medium during the early twentieth century. Although often overshadowed as educational medium vis-à-vis other technologies such as television, radio remains a viable medium that has proven educational worth in terms of both pedagogical importance and geographical reach. Radio is capable of delivering high quality educational programming to highly diversified audiences located across broad geographical expanses – all at a low per unit production cost. Three main advantages of radio: (1) improved educational quality and relevance; (2) lowered per student educational costs; and (3) improved access to education, particularly for disadvantaged groups.

(ii) TV

When teachers use educational television programs during class, the relationship between them and their students changes. Usually the status quo of the classroom is the teacher imparts knowledge while students absorb the information. Educational programs change the status quo by, in

a way, making the educator and children peers who can share and discuss the viewing experience. Teachers can take advantage of this shift in roles by encouraging small group discussions after watching the show. Educators can set specific goals or activities for students in these small groups, which allows them to explore their own questions and share their ideas on the given topic with their classmates. The instructor can then ask one member of the small group to share their team's insights with the rest of the class, strengthening the absorption of knowledge.

(iii)Internet

The internet has a lot to offer the teacher. There are authentic resources and materials, places where you can find prepared lesson plans, ideas and worksheets. The advantages of the internet to teachers include

- The incredible expanse of the internet means the teacher has the ability to tailor lessons very specifically to students' needs and interests. Learners tend to respond better when they feel involved and engaged in the subject and the extent of the web means that if you can find out what the students are interested in, you can find it on the web.

- Much material is modern and up to date, which helps motivate students. Good web sites continually update their material.

- Students enjoy using the net in their free time, and will appreciate its use in class

- It's a dynamic medium involving movement from site to site, promoting decision-making and learner independence.

The internet contains a lot of resources that teachers can access and use to prepare teaching materials. These range from sites specifically designed for teachers and learners to sites from national and international newspapers, museums, galleries and so on. Teachers can use these materials much the same way as they would other print-based resources, to create worksheets. But if teachers are fortunate enough to have access to a computer room in their school then it is possible to use the internet with students during a class, exploiting the net as a dynamic medium.

Using the internet brings the 'real world' into the classroom and gives the students an opportunity to explore learning in a different way. However, having students facing a computer rather than the teacher, means teachers of internet lessons do need to be vigilant.

(iv) Multimedia

One of the techniques to improving the students' meets the academic needs and helps them developing mathematical skills is providing multimedia during the process of teaching and learning in the classroom. *It* means the use of electronic media to store and experience *multimedia* content. *Multimedia* means that computer info can be represented through audio, graphics, image, video and animation in addition to traditional media. Multimedia classroom provide the students chances for interacting with diverse texts. The writing aims to find out some advantages of the use of multimedia in the classroom. Through the media the teacher could give more opportunity to students to express their opinions and enjoy during the course. The highly presence and motivation also bring positive aspects to students so that they can improve their skills.

(v)Interactive white board

We connect the white board to a computer and share documents, websites and even play games. With a large touch screen, students will be excited to come up to the white board to help complete notes, do examples or take part in one of the many interactive games and demonstrations that can be used.

Community Resources

Community experiences can enrich social studies in instructions in ways more than one. To achieve the purposes of social studies, the child must, become a real part of the community in which he lives, interact with it and contribute to it. To become an effective citizen, the child must become a responsible member of community with civic attitudes and ideals compatible with the spirit of democracy. There is no more effective way of becoming this kind of person than through practicing what such a person will do.

A variety of community experiences offer the child the laboratory in which he may experiment with life in the community and begin to find his place in it.It is good to note that it is impossible to separate the school from the community. They are glued together the aspirations of the community are the manifestations of the school system. The idea of making the community the best of the school and the school the best of the community represents a fruitful and essential extension of accepted educational thinking and practice. In order to nourish and invigorate democracy, community study and service through school education must be made essential. This movement is the most significant single development of its kind in our generation, and it seem destined to grow greatly with continuing sound experimentation at all school levels, in all teaching field, with all

types of students, and in all community areas – local, regional, national and international. The most important community resources for teaching Computer science areField trips, Computer science Exhibition, Computer science Lab, Computer science Resource Centre and Computer science Club.

(i) Field Trips

Field trips is undertaken for securing information, changing attitudes, awakening interest, developing appreciation, promoting ideals, enjoying new experiences. They can initiate a unit of study, they can be a part of the core of it or they can give it the finishing touch. They are a very good means of getting knowledge first hand of confirming and supplementing second hand knowledge. They are a means for sharpening observation, testing principles and doing everything.

Field trips are useful for educational purposes in many ways:

(i)They stimulate imagination and learning by providing sensory perceptions

(ii) They integrate classroom instruction by exposing the artificially of traditional subject matter divisions and enable the pupils to view facts and forces as they exist in their everyday relationship in living communities.

(iii)Through the filled trips, the students may come to realize community in ways which bookish learning cannot by its very nature allow.

(iv)They enable the pupils to learn the art of living with others such as travelling in the same conveyances, sharing rooms, sitting at the same table.

(v)They expand emotional and intellectual horizons by making them acquainted with people whose manner, customs, living standards, outlook and interests may be quite different from their own.

Qualities of a Computer science Textbook

The qualities of a good textbook in computer science can be broadly classified under Physical features, Author, Content, Organization and presentations, Language, Exercise and illustration.

(i) Physical features:

1. Paper: the paper used in the textbook should be of superior quality
2. Binding: it should have quality strong and durable binding
3. Printing: it should have quality printing, bold font and easily readable font.
4. Size: bulky and thick. It should be handy
5. Cover: it should have an appealing and attractive cover page.

(ii)Author

1. Qualified author should write it
2. Experienced teacher should write it

3. Competent teachers should write it

4. It should be written by committee of experts constituted by the state government

5. For the authors, certain minimum academic and professional qualifications may be prescribed.

(iii)Content

1. It should be child centered

2. The subject matter should be arranged from simple to complex and concrete to abstracts.

3. The subject matter should create interest in the pupil.

4. It should be objective oriented

5. It should be written according to prescribed syllabus

6. It should satisfy the demands of examination

7. The answers given at the end of each section should be correct

8. It should include the recent developments in the computer science relating to the content dealt with.

9. Oral computer science should fine its due place in the textbook.

(iv) Organization and presentation

1. It should provide for individual differences.

2. There should be sufficient provision for revision, practice and review.

3. It should stimulate the initiative and originality of the students

4. It should offer suggestion to improve study habits.

5. It should facilitate the use of analytic, synthetic, inductive, deductive, problem solving and heuristic approaches to teaching.

6. Content should be organize in a psychological consideration.

7. Content should be organize in a logical way.

8. It should suggesting project work, fieldwork and laboratory work.

(v)Language

1. The language used in the textbook should be simple and easily understandable and within the grasp of the pupils

2. The style and vocabulary used should be suitable to the age group of student for whom the book is written.

3. The term and symbols used must be those, which are popular and internationally accepted

4. It should be written in lucid, simple, precise and scientific language.

(vi)Exercise and Illustrations:

1. The illustrations should be accurate
2. The illustrations should be clear and appropriate
3. It should contain some difficult problems
4. It should contain exercises to challenge the mathematically gifted students.
5. There should be well-graded exercises given at the end of every topic.
6. The exercise should develop thinking and reasoning power of the pupils.

Qualities of computer science Teacher

1. Motivate and engage the students.
2. convey the beauty of the subject.
3. encourage their students to go beyond the classroom with their learning.
4. help them feel confident in their mathematical abilities.
5. have sound subject knowledge.

6. make the subject easier by adopting suitable strategy.
7. provide guidance and support to the students while solving the problem.
8. provide alternate strategies to help struggling students grasp difficult concepts.
9. have good attitude and actions.

Conclusion

Imagination and creativity in using community resources can help students connect school science and computer science with applications in the community, as well as helping students better learn basic concepts. Children learn science and computer science from many sources, in a range of different ways, and for a variety of purposes. Taking students out onto the school grounds, exposing them to innovative materials, or inviting guests who can give unique insights are a few ways to increase their learning experiences. Teachers should be well trained through in-service training to

maximize the benefits of using these aids. The curriculum should be designed such that there are options to activity based learning through audio-visual aids. In addition, government should fund resources to purchase audio-visual aids in schools.

Questions for Discussion and Reflection

1. Discuss the effect of ICT resources for teaching Computer science.
2. What are print resources? Explain the need of print resources for teaching Computer science.
3. Analyse the various types of resources in teaching Computer science.
4. Bring out the need for community resources in the Mathematical instructional process.
5. Explain the different types of audio and video resources with examples.

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TAMIL NADU TEACHERS EDUCATION UNIVERSITY
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Course Material for B.Ed (First Year)

(2016-2017)

Course 2: Contemporary India and Education

Prepared by

Unit VI   **Policy Framework on Education: Post-independent India**

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Unit VIII   **Language Policy in Education**

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Unit IX   **Midday Meal Scheme as a Socialisation Process**

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Unit X   **Emerging Trends in Education**

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Unit – VI Policy Framework on Education: Post- Independent India

Objectives:

After the completion of the unit, the learners will be able to:

1. explain the salient features of Kothari Commission.
2. comprehend the recommendations of the NPE (1986).
3. acquaint with the key features of NKC (2005).
4. critically analyse the aspects of NCF (2005).

Introduction

In pursuance of the constitutional mandate, the Government of India, has initiated several measures for social and economic reconstruction of the country. The educational reconstruction has been one among such measures. Various commissions and committees were appointed at different times to survey, study, review and recommend improvements in the existing system, policies and programmes of education.

Kothari Commission (1964 – 1966)

Kothari Commission (1964-1966), popularly known as Indian Education Commission, was an ad hoc commission set up by the Government of India to examine all aspects of the educational sector in India, to evolve a general pattern of education and to advise guidelines, and policies for the development of education in India. The Education Commission under the Chairmanship of Dr. D.S. Kothari, the then Chairman, University Grants Commission, began its task on October 2, 1964 and submitted its report on June 29 1966.

The major recommendations of the Kothari Commission are as follows:

i) Introduction of work-experience which includes manual work, production experience, etc. and social service as integral part of general education at more or less all levels of education.

ii) Stress on moral education and inculcation of a sense of social responsibility. Schools should recognize their responsibility in facilitating the transition of youth from the work of school to the world of work and life.

iii) Vocationalization of secondary education.

iv)   Strengthening of the centres of advance study and setting up of a small number of major universities which would aim at achieving highest international standards.

v)   Special emphasis on the training and quality of teachers for schools.

vi)   Education for agriculture and research in agriculture and allied sciences should be given a high priority in the scheme of educational reconstruction. Energetic and imaginative steps are required to draw a reasonable proportion of talent to go in for advance study and research in agriculture science.

vii)   Development of quality or pace-setting institutions at all stages and in all sectors.

The Commission observed that mother-tongue had a pre-eminent claim as the medium of education at the school and college levels. Moreover, the medium of education in school and higher education should generally be the same. The regional languages should, therefore, be adopted as the media of education in higher education.

The Commission further observed that the public demand for secondary and higher education had increased and would continue to increase in future. It was, therefore, necessary to adopt a policy of selective admissions to higher secondary and university education in order to bridge the gap between the public demand and available facilities.

The Commission was of the view that the social segregation in schools should be eliminated by the adoption of the neighbourhood social concept at the lower primary stage under which all children in the neighbourhood will be required to attend the school in the locality.

Iswar Bhai Patel Committee (1977)

The All India Council of Technical Education at a meeting held during the year 1974-75, made important recommendations relating to the establishment of appropriate links between industry and educational research institutions, programmes of vocational education and the establishment of teacher training centres in the field of management education.

With the passage of time, the Review Committee on the curriculum, for the ten years schooling, popularly known as Ishwar Bhai Patel Committee (1977), categorically recommended in its report for the compulsory introduction of Socially Useful Productive Work (SUPW) at the secondary schools.

Accordingly, the scheme SUPW was introduced in almost all the secondary schools of the country and a period was allotted in the time-table for this purpose. The main purpose of this scheme was to inculcate in learners, the liking and love for the dignity of labour. To begin with,

there was much enthusiasm for the implementation of SUPW. But, as time went on, initiative and zeal gradually slackened. In-fact, tangible result was not achieved.

Macolm S. Adiseshiah Committee (1978)

In the year 1978, a Committee was appointed under the Chairmanship of Macolm S. Adiseshiah for +2 stage and the report was entitled 'Learning to do, towards the Learning and Working socially. This Committee was appointed specially for higher secondary education with special reference to vocationalisation. It also recommended for SUPW at the school level and vocationalisation of the higher secondary education. It also pleaded eloquently for the effective implementation of relating education to productivity.

Major recommendations of the Committee
   (i)   Learning must be based on Socially Useful Productive Work (SUPW) or through vocationalised courses;
   (ii)   Vocational courses should be in agriculture and related rural occupational areas;
   (iii)   In the general and vocationalised educational spectrum there should be no rigid streaming of courses. In accordance with the availability of facilities and the demand of the area, each school should be allowed to offer such general and vocational courses;
   (iv)   The higher secondary stage should comprise of a general education spectrum and a vocational spectrum;
   (v)   The curriculum should be so structured that the courses lend themselves for imparting instruction interns of well-connected modules to enable the students to choose and combine them according to their needs;
   (vi)   On a priority basis books should be written suiting to the local needs for imparting instruction in vocational courses;
   (vii)   Semester pattern and credit system should be introduced in classes XI and XII;
   (viii) To start with counselling and placement officers be appointed in clusters of 3 or 4 schools, particularly in rural areas;
   (ix)   Services of persons who have had actual experience of on the job may be fruitfully utilized to teach vocational courses. Wherever necessary part-time teachers may be

appointed. In respect of teachers of vocational courses there should not be insistence on post-graduate qualification; and

(x)   For bringing about proposed changes at this stage of education both pre-service and in-service teacher education programme should be properly organised.

New Education Policy (1986)

The National Policy on Education (NPE) is a policy formulated by the Government of India to promote education. The policy covers elementary education to colleges in both rural and urban India. The first NPE was introduced in 1968 by the government of Prime Minister Indira Gandhi, and the second by Prime Minister Rajiv Gandhi in 1986. A committee was set up under the chairmanship of Acharya Ramamurti in May 1990 to review NPE and to make recommendations for its modifications.

1. *National System of Education*: Though education is a State subject, this policy provides a National System of Education, i.e., 10 + 2 + 3 system.
2. *Equality:* This policy provides equal opportunities to all for education. Navodaya schools have been opened for socially and economically deprived but to talented children. Regional imbalances are also being removed.
3. *Education of Scheduled Castes:* Scholarships, hostel facilities, adult education programmes are being introduced to socially and economically deprived scheduled castes.
4. *Women's Education:* New Education Policy gave special emphasis to women's education. This statement owes that women are the keys to nation's progress. Eradication of illiteracy, vocational curriculum, nutrition and child care courses, home management, etc., are given priority.
5. *Education for Tribes***:** This policy gave main emphasis to the education of tribes. Residential Ashram Schools have been opened for them; and scholarships for higher education are also given to them.
6. *Adult Education:* Education Policy gave a programme for adult education to remove the illiteracy from the masses. For this, adult schools, libraries, distance education, T.V. programmes are being introduced.

7. ***Education for Other Backward Classes (OBCs):*** A large number of backward classes, minority classes have not been given any opportunity for education. These classes have a very crucial situation. They are socially and economically deprived due to their profession, but they usually linked themselves with higher varnas thus upper castes do not give them social sanction.

8. ***Integrated Education for Disabled Children:*** It has been established scientifically that disabled children with mild handicaps make better progress academically and psychologically if they study with the normal children. To integrate these children with others in common schools, a revised scheme of Integrated Education for Disabled Children was started during 1987-88. Under it, cent per cent financial assistance is given to State Governments/UT administrations/voluntary organisations for creating necessary facilities in schools.

9. ***Educational concessions to children:*** The Centre and most of the State Governments and Union Territories offer educational concessions to children of the defence personnel and paramilitary forces killed or permanently disabled during Indo-China hostilities in 1962 and Indo-Pakistan operations in 1965 and 1971. During 1988, these concessions were extended to children of IPKF/CRPF personnel who were killed/disabled during action in Sri Lanka and children of the armed forces personnel killed/disabled in action in 'Operation Meghadoot' in Siachen area

10. ***Education of SC/ST/OBC:*** Pursuant to the National Policy on Education, some of the following special provisions for SCs and STs have been incorporated in the existing schemes are:

(a) Relaxed norms for opening of primary schools;

(b) A primary school within one km walking distance from habitations of 200 population instead of habitations of 300 population;

(c) Abolition of tuition fee in all states in government schools at least up to primary level. Most of the states have abolished tuition fee for SC/ST students up to senior secondary level;

(d) Providing incentives like free text-books, uniforms, stationery, school bags, etc., to these students;

(e) The major programmes of the Department of Education, viz., District Primary Education Programme (DPEP), Lok Jumbish, Shiksha Karmi, Non-Formal Education (NFE) and National Programme for Nutritional Support to Primary Education accord priority to areas of concentration of SCs and STs;

(f) Reservation of seats for SCs and STs in Central Government institutions of higher education including IITs, IIMs, Regional Engineering College, Central Universities, Kendriya Vidyalayas and Navodaya Vidyalayas, etc. Apart from reservation, there is also relaxation in the minimum qualifying cut off stages for admission in universities, colleges and technical institutions. The UGC has established SC/ST cells in 104 universities including Central universities to ensure proper implementation of the reservation policy;

(g) To improve academic skills and linguistic proficiency of students in various subjects and raising their level of comprehension, remedial and special coaching is provided for SC/ST students.

11.*Minorities Education***:** In pursuance of the revised Programme of Action (POA) 1992, two new Centrally-sponsored schemes, i.e., (i) Scheme of Area Intensive Programme for Educationally Backward Minorities, and (ii) Scheme of Financial Assistance for Modernisation of Madrasa Education were launched during 1993-94.

Programme of Action (1992)

The National Policy on Education (NPE), 1986, aimed at making it "an effective instrument for taking the country into the 21st century". It envisages improvement and expansion of education in all sectors; elimination of disparities in access and stress on improvement in the quality and relevance of basic education. A modified NPE in its Programme of Action, 1992, called for making the `plus two stage" part of school education throughout the country.

Major Recommendations

(i) Universalisation of Elementary Education

The NPE accords priority to Universalisation of Elementary Education (UEE). Universal access, universal retention, and Minimum Levels of Learning (MLL) are the broad parameters to achieve UEE. These are aimed at providing school facilities within a walking distance of 1 km. for children of primary schools, and 3 kms for children of upper primary schools and strengthening of alternate mode of education, non-formal education for school drop-outs, working children, and girls and Minimum Levels of Learning at the primary and upper primary stage.

(ii) Nutritional Support

The National Programme of Nutritional Support to Primary Education, commonly known as the Mid-day Meal Scheme launched on August 15, 1995, was intended to give a boost to primary education by increasing enrolment, retention and attendance in schools and at the same time augmenting nutritional levels.

(iii) Operation Blackboard

The scheme of Operation Blackboard is aimed at improving classroom environment by providing infrastructural facilities, additional teachers and teaching - learning materials to primary schools. Significant progress has been made in the area of teacher training with 444 District Institutes of Education and Training (DIETs) sanctioned to provide pre-service and in-service training to elementary school teachers, for adult education and non-formal education personnel.

(iv) National Literacy Mission

The National Literacy Mission (NLM) was set up in 1988 with the target of making 100 million persons in the age group of 15-35 literate in a phased manner. Under Total Literacy Campaign (TLC) and Post Literacy Campaign (PLC) 68.57 million persons covering 447 districts were made literate. Out of these, 60 per cent are women, 23 per cent SCs, and 12 percent STs.

(v) Equal Opportunities

Under the programme for better opportunities to the minorities, a provision of Rs.8.8 crore has been made in the Annual Plan outlay of 1998-99 in the Area Intensive Programme for Educationally Backward Minorities, Modernisation of Madarsas and coaching classes by UGC. A programme to provide educational opportunities to disabled children on par with mild to moderate disabilities in the general schools system has been prepared.

(vi) Secondary Education

The number of secondary and senior secondary schools has increased from 0.07 lakh in 1950-51 to 1.02 lakh in 1996-97, resulting in not only an increase in the enrolment but also increase in the number of teachers, including female teachers. The Kendriya Vidyalaya Sangathan manages Kendriya Vidyalayas and its main activities include review and updating academic activities and programmes, vocationalisation, information technology, and computerisation.

(vii) Technical Education

To streamline the system of approval of new courses and programmes, the All India Council for Technical Education (AICTE) has issued regulations for establishment of new institutions and starting new courses.

(ix) University and Higher Education

All the Central Universities except the Indira Gandhi National Open University are funded by the Central Government through the University Grants Commission. IGNOU is funded directly by the Central Government for promoting the distance education system.

Sachar Committee (2005)

The Rajinder Sachar Committee, appointed by the Prime Minister Manmohan Singh of India was a high level committee for preparation of a report on the social, economic and educational status of the Muslim community of India.

Recommendations of Sachar Committee

The report put forward some recommendations to eliminate the situation raised for Indian Muslims. Justice Sachar explained that the upliftment of minorities and implementation of these recommendations would strengthen the secular fabric of Indian society as well as increase patriotism due to their all-inclusive progress. The recommendations include:

1. Mechanisms to ensure equity and equality of opportunity and eliminate discrimination.
2. Creation of a National Data Bank (NDB) where all relevant data for various Socio Religious Communities are maintained.
3. Formation of an autonomous Assessment and Monitoring Authority to evaluate the extent of development benefits.
4. An Equal Opportunity Commission should be constituted to look into the grievances of the deprived groups.
5. Elimination of the anomalies with respect to reserved constituencies under the delimitation scheme.
6. The idea of providing certain incentives to a diversity index should be explored to ensure equal opportunities in education, governance, private employment, and housing.

7. A process of evaluating the content of the school text books needs to be initiated and institutionalized.

8. The UGC should evolve a system where part of the allocation to colleges and universities is linked to the diversity in the student population.

9. Providing hostel facilities at reasonable costs for students from minorities must be taken up on a priority basis.

10. The Committee recommended promoting and enhancing access to Muslims in Priority Sector Bank Advances.

11. Policy initiatives that improve the participation and share of the Minorities, particularly Muslims in the business of regular commercial banks.

12. The community should be represented on interview panels and Boards. The underprivileged should be helped to utilize new opportunities in its high growth phase through skill development and education.

13. Providing financial and other support to initiatives built around occupations where Muslims are concentrated and have growth potential.

National Curriculum Framework (2005)

The process of development of National Curriculum Framework (NCF) was initiated in November, 2004 by setting up various structures like National Steering Committee Chaired by Prof. Yash Pal and twenty-one National Focus Groups on themes of curricular areas, systemic reforms and national concerns.

Wide ranging deliberations and inputs from multiple sources involving different levels of stakeholders helped in shaping the draft of NCF. The draft NCF was translated into 22 languages listed in the VIII Schedule of the Constitution. The translated versions were widely disseminated and consultations with stakeholders at district and local level helped in developing the final draft. The NCF was approved by Central Advisory Board on Education in September, 2005.

Languages

1. To implement 3-language formula.

2. Emphasis on mother tongue as medium of instruction.

3. Curriculum should contain multi-lingual proficiency only if mother tongue is considered as second language.

4. Focus on all skills.

Focuses on teaching Mathematics, Sciences, Social sciences, Art Education, Health and Physical Education, Education for Peace, Work and Education.

Examination reforms highlight

1. Shift from content based testing to problem-solving and competency-based assessment.
2. Examinations of shorter duration.
3. Flexible time limit.
4. Change in typology of questions.
5. No public examination till class VIII.
6. Class X Board Exam to be made optional (in long term).

Guidelines for Syllabus Development

Development of syllabi and text books based on following considerations:

1. Appropriateness of topics and themes for relevant stages of children's development.
2. Continuity from one level to the next.
3. Pervasive resonance of all the values enshrined in the constitution of India the organization of knowledge in all subjects.
4. Inter-disciplinary and thematic linkages between topics listed for different school subjects, which falls under different discrete disciplinary areas.
5. Linkage between school knowledge and concern in all subjects and at all levels.
6. Sensitivity to gender, caste, class, peace, health and need of children with disability.
7. Integration of work related attitudes and values in every subject and all levels.
8. Need to nurture aesthetic sensibility, and values.
9. Linkage between school and college syllabi to avoid overlapping.
10. Using potential of media and new information technology in all subjects.
11. Encouraging flexibility and creativity in all areas of knowledge, and its construction by children.

Development of Support Material

1. Audio/video programmes on NCF-2005 and text-books.
2. Source-book on learning assessment.
3. Exemplar problems in Science and Mathematics.

4. Science and Mathematics kits.

5. Teachers' handbooks and manuals.

6. Teacher Training Packages.

7. Developed syllabi and text-books in new areas such as Heritage Craft, Media Studies, Art Education, Health and Physical Education, etc.

8. Initiatives in the area of ECCE (Early Childhood Care Education), Gender, Inclusive Education, Peace, Vocational Education, Guidance and Counseling, ICT, etc.

National Knowledge Commission (2005)

India constituted National knowledge Commission (NKC) in 2005, with the objective of transforming India into knowledge society. The NKC covers five focus areas of the knowledge paradigm: access, concepts, creation, applications, and services. The scope of NKC is confined to a variety of subject areas such as language, translations, libraries, networks, portals, distance learning, intellectual property, entrepreneurship, application in agriculture, health, small and medium scale industries, e-governance, etc. National Knowledge Commission has emerged as a powerful and democratic source of information and knowledge on the Internet.

(i) Access to Knowledge

NKC was established with an aim to provide equal opportunities by providing access to knowledge. It is the most fundamental way of reaching to the citizens. Access to knowledge deals with providing accurate knowledge to general public.

(ii)Literacy

India started its National Literacy Mission (NLM) on 5th May 1988 with an objective of achieving sustainable threshold level of 75% functional literacy for non-literates in the 15-35 age group by 2007. In a country like India where the eradication of illiteracy is beset by several social and economic obstacles, the National Literacy Mission has played a great role in removing it.

(iii)Language

India is a multilingual, multi-ethnic, and multi-religious country where there are more than 850 living languages, of which 22 are official languages. There are 1652 mother tongues according to the 1961 Census of India, out of which more than 400 are tribal languages. In view to this, it is essential to make school education available to all sections of society and bridge the

gap between English medium and regional language medium of instruction; between the rural and the urban; and similarly between the government schools and privately run schools. NKC stresses that language is relevant not only as a means of communication or a medium of instruction but also as a determinant of access. The commission suggested for increasing an understanding and command over the English language, as the most important determinant of access to higher education, employment possibilities, and social opportunities. On the similar lines NKC recommendations broadly relate to level of introduction of English, pedagogy, relevant text books, teacher training, adequate resource support (in terms of teachers and materials), and use of ICT in language learning. It proposed to formulate a National Plan for the teaching of English as a language, in addition to the regional language, starting in Class I. It will also be ensured that student at the end of twelve years of schooling is proficient in at least two languages.

(iv)Libraries

Libraries foster global access to information and they are central hubs of our knowledge infrastructure. The major recommendations for formulating strategies in Library and Information Science (LIS) sector were as follows:

a) Set up a National Commission on Libraries.
b) Prepare a National Census of all Libraries.
c) Revamp LIS Education, Training, and Research facilities.
d) Re-assess staffing of Libraries.
e) Set up a Central Library Fund.
f) Modernize Library management.
g) Encourage greater community participation in Library management.
h) Promote Information Communication Technology (ICT) applications in all Libraries.
i) Facilitate donations and maintenance of private collections.
j) Encourage Public Private Partnerships in LIS development.

(v)Networks

A network refers to any interconnected group or system. NKC recommended for Knowledge Networks, and Health Information Network as they purposefully led social entities that are characterised by a commitment to quality, rigour, and a focus on outcomes. The National Knowledge Commission suggests to utilise the potential of institutions involved in creation and

dissemination of knowledge in several areas such as research laboratories, universities, and other institutions of higher learning.

(vi)Portals

A portal is a customized transactional web environment, designed purposefully to enable an individual end user to 'personalize' the content and look of the website for his/her own individual performance. It recommends for creation of web portals as a significant tool for right to information, decentralization, transparency, accountability, and participation of the people. NKC initiated to set up portals on certain key areas such as Water, Energy, Environment, Education, Food, Health, Agriculture, Employment, Citizen Rights, etc.

(vii)Knowledge Concepts

The organization, distribution and transmission of education constitute the base of knowledge concepts. Development of knowledge society is dependent on education system. Education and the national economy are associated as mind power is the key to tapping an economy's full potential. NKC has concerns with many aspects of the Indian education system covering school education, higher education, professional education, and vocational education.

(viii)School Education

Knowledge Based Society foundation is built on school education. India is making effort to universalize Elementary Education under Sarva Shiksha Abhiyan (SSA) which covers all States and Union Territories and reaches out to 19.4 crore children in 12.3 lakh habitations. NKC examined school education across the country with the issues relating to access and quality. Its recommendations suggested for providing universal access to quality school education as a cornerstone of development for Knowledge Society. It further insisted for making it Central Legislation at the national level to affirm the Right to Education, which is a fundamental right mandated by Article 21A of Constitution, Government of India. It advocates for a model bill which has the potential of creating a parallel and discriminatory system of schooling which can result in stratification of the education system for children from disadvantaged communities and backgrounds.

(ix)Vocational Education

Vocational educational aims to develop skilled manpower through diversified courses to meet the requirements of mainly the unorganized sector and to instill self-employment skills in people through a large number of self-employment oriented courses. With the development of

India's economy there has been intense demand for skilled and educated workforce. One of the weaknesses of Indian education system is that it does not gives due importance to vocational education and this is the major reason that demand for skilled workers is not met by the existing system. Since, the skills imparted do not match employer needs. So, NKC recommends for a model of imparting vocational education that is flexible, sustainable, inclusive, and creative. It suggests for significant increase in public and private investment in Vocational Education and Training (VET). It also put forward that the quality and image of VET needs to be actively promoted in order to view it as comparable, and relevant general secondary education.

(x)Higher Education

India has one of the largest Higher Education System in the world. Higher Education in India has evolved in distinct and divergent streams with each stream monitored by an apex body, indirectly controlled by the Ministry of Human Resource Development and funded by the state governments. It is proposed to double the scale of higher education by increasing the gross enrollment ratio to at least 15% by 2015 and making accessible to all sections of society. NKC suggested increasing the quality and standard of education and making higher education more relevant to the needs and opportunities of a knowledge society. Other major recommendations included having 1500 universities nationwide and establishment of an Independent Regulatory Authority for Higher Education (IRAHE). The grant for higher education should increase to at least 1.5 per cent of GDP, out of a total of at least 6 per cent of GDP for education. It also recommended for creation of 50 National Universities which provide education of the highest standard. Also gave suggestions on reforms in existing universities, restructuring of existing under graduate colleges and promoting enhanced quality of education.

(xi)Medical Education

Keeping in view of the wide disparity in the distribution of health professionals, and health services in India, NKC recommended for reforms in medical education with inclination towards care-driven, rural oriented, and equitable health services. It also suggested reforms on regulation and accreditation in Medical education, its quality, faculty development, and regional balance.

(xii)Legal Education

NKC report 2006 says 'Legal education is a vital link in the creation of knowledge concepts as well as in the application of such concepts in society. Legal Education is essentially a multi-disciplined, multi-purpose education which can develop the human resources and idealism needed to strengthen the legal system of the country'. So, it is essential for realization of values supplemented in the Indian Constitution that its legal education should be justice oriented. One of the major recommendations of NKC is to form a new regulatory mechanism under the Independent Regulatory Authority for Higher Education (IRAHE) dealing with all aspects of legal education vested with powers to enforce its decisions on the law teaching institutions.

(xiii)Management Education

India is having an unprecedented growth in number of technical, and management institutions being set up especially after the year 2000. The number of postgraduate and undergraduate institutions has gone up from 700 to 1700. NKC has given many recommendations for raising standards and promoting excellence in management education in India.

(xiv)Engineering Education

NKC stressed for increase in the quality and number of engineers produced in India as the country is moving towards new opportunities of manufacturing and Engineering Services Outsourcing (ESO). It has given similar suggestions as in other focus areas like Reforming the Regulatory Framework, Improving Governance of Institutions, Attracting and Retaining Faculty, Curriculum Reform, Integrating Sciences and Engineering Education, Encouraging Research, Industry-academia interaction, Improve access and Mentoring.

(xv)Open and Distance Education

Open and distance learning is one of the most rapidly growing fields of education, and its potential impact on all education delivery systems has been greatly accentuated through the development of Internet-based information technologies, and in particular the World Wide Web. NKC suggested Indira Gandhi National Open University for creating a national ICT infrastructure for networking of Open and Distance Education (ODE) institutions and setting up a National Education Foundation to develop web-based common open resources. It recommended for establishing a credit bank to effect transition to a course credit system and National Education Testing Service for assessing ODE students.

(xvi)Knowledge Creation

Knowledge creation is the key to identifying and analyzing new knowledge. It requires interpreting the implications of new findings for the real world, and developing a road map for making the best use of new knowledge. If a nation has to stay ahead of the curve in development it has to either learn to use existing resources better, or has to discover new resources. Both these activities involve creation of knowledge. Knowledge creation thus involves issues like Science and Technology (S&T) activities, innovation systems in the country and Intellectual Property Rights (IPRs) issues.

(xvii)Science and Technology (S&T)

India is working in the field of S&T with wide range of activities ranging from high end basic research to development of cutting edge technologies for meeting technological requirements of the common man. NKC recommendations for S&T are related to setting up of studies on futuristic interdisciplinary areas in S&T, envisaging its use as a crucial tool for development and facilitating it to solve problems of the poor and the underprivileged.

(xviii)Intellectual Property Rights (IPRs)

Government of India desires to streamline and strengthen the intellectual property administration system in the country. NKC on the similar line suggested for development of effective legal systems for IPR enforcement and availability of accurate and detailed ready-to-use IPR information. It also recommended for the development of a vibrant IPR culture in the processes of knowledge creation, application and dissemination connected especially with market demand and rewards.

(xix)Knowledge Application

Knowledge Application is converting specialized information into practical tools and putting it into practice in the real world. The key to knowledge application is to ensure its widespread use, promoting technological change, and facilitating reliable and regular flow of information. Knowledge application is the use of past knowledge to help solving the current problem. To derive maximum advantages from our intellectual assets, we must apply knowledge in fields like agriculture, industry, health, education, etc. where productivity can be increased.

(xx)Traditional Knowledge

NKC suggested enhancing India's Ayurveda, yoga and other traditional health-care systems, establishment of a 10-year national mission on traditional health sciences of India with

an initial investment of Rs1,000 crore. It also recommended for enrichment of digitization of India's medical manuscripts project 'Traditional Knowledge Digital Library' (TKDL). Some other recommendations include establishing goals for conservation of natural resources, promote international co-operation in exploration of traditional health systems, supporting primary healthcare in rural areas, and creating a major re-branding exercise of Indian traditional medicine.

(xxi)E-Governance

NKC's major recommendations are to re-engineer government processes, and change the basic governance pattern. Similarly to select some important services that make a significant difference, simplify them and offer them with web interface.

Conclusion

This Commission has enabled the Government and other related bodies to understand not just the magnitude and importance of the problems, but also make certain that the system makes opportunities available to all throughout the country. It covers almost all the important fields and factors that affect India to become knowledge economy. It is highly appreciable that the main thrust of the report is on education for achieving rapid and inclusive growth with special emphasis on expansion, excellence and equity. For becoming a global knowledge leader and for taking 'knowledge edge', India needs to be in the forefront of creation, application and dissemination of knowledge.

Questions for Discussions and Reflections

1. Discuss the major recommendations of Kothari Commission.
2. Critically evaluate the outcomes of NKC (2005) with reference to its objectives.
3. Examine the implementation of Sachar Committee recommendations.
4. Describe the salient aspects of NCF (2005).
5. "The New Educational Policy of 1986 is the basis for education reforms in modern India". Discuss.

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Unit – VII   Educational Planning and Financing

Objectives:

After the completion of the unit, the learners will be able to:

1. comprehend the concept of educational planning and financing.
2. describe the principles of educational financing.
3. critically evaluate the impact of five year plans on education.
4. classify the educational funding agencies.

Introduction

Education is of basic importance in the planned development of a nation. The educational machinery will have to be geared for the specific tasks which the nation sets itself through the plan so as to make available in the various fields personnel of suitable quality at the required rate. The educational system has also an intimate bearing on the attainment of the general objectives of the plan in as much as it largely determines the quality of the manpower and the social climate of the community. In a democratic set up, the role of education becomes crucial, since it can function effectively only if there is an intelligent participation of the masses in the affairs of the country. The success of planning in a democracy depends also on the growth of the spirit of co-operation and the sense of disciplined citizenship among the people and on the degree to which it becomes possible to evoke public enthusiasm and build up local leadership. It is essential for the successful implementation of the plan that the educational programme helps to train the people to place responsibilities before rights and to keep the self-regarding outlook and the force of the acquisitive instinct within legitimate bounds. The educational system should also satisfy cultural needs, which is essential for the healthy growth of a nation. The system should stimulate the growth of the creative faculties, increase the capacity for enjoyment and develop a spirit of critical appreciation of arts, literature and other creative activities. The fulfillment of the objectives mentioned above, will lead to the development of an integrated personality in the individual, which should be the first and foremost aim of any system of education.

Educational Planning

Planning is the process of preparing a set of decisions for action during a specific period of time to achieve a set of goals.

Educational Planning implies the taking of decisions for future action with a view to achieving predetermined objectives through the optimum use of scarce resources.

Educational Planning is nothing more than a rational process of setting clear objectives, choosing the most efficient and effective means of pursuing them, then following with practical action.

Need for Educational Planning

A good educational plan is needed to tone up the administrative machinery, to improve the infrastructure facilities of educational institutions, to increase teacher efficiency and involve the public in the development of education. Concerted efforts are to be made to achieve the expansion of education and achievement of quality. In educational planning special care should be taken for the promotion of education among the rural poor, deprived sections of society and girls. The need for educational planning entails the following:

1. The complex nature of education, the activities of the administrators within the system, and the highly diffuse nature of the goals of education calls for proper planning. Within the intensified complication of modern technological society, the need for social and economic planning arose. Pressures from population explosion, manpower needs, ecology, decreasing national resources and haphazard application of scientific development, the need to advance improvement as rapidly and cheaply as possible to benefit the individual and the nation, place demands on educational institutions for solution, hence the need for educational planning.

2. Adequate plans help to direct and co-ordinate the actions of employees in order to achieve maximum effectiveness, efficiency and productivity.

3. Planning is necessary for administrative decisions in education, for it aims at putting into action what educators deems to achieve.

4. Planning enables a nation to make its choices clear in terms of the aim and objectives.

5. Educational plans are designed to avoid in balances and enormous wastes and replenish the steadily aggravated shortage of teachers.

Since the goals and objectives of education are all embracing impacting upon social, economic and political well beings of the society, much is expected from educational planning.

Significance of Educational Planning

1. To make every programme of an educational institution or organisation grand success.

2. Proper educational planning saves time, effort and money as planning in every field is a time-saving, an effort-saving and a money-saving activity.

3. Educational planning is a sound method of solving educational problems by avoiding the trial and error method of doing things.

4. Educational planning is essential for the best utilization of available resources.

5. Educational planning checks wastage and failure and contributes to the smoothness, ease and efficiency of the administrative process in the field of education.

6. Through proper planning in education, education can be the best means by which society will preserve and develop its future value system, way of life of an individual, knowledge, skills and applications, and culture of the country.

7. Through proper educational planning, the means and ends of the society can be properly interacted through educational system. It implies that the educational system utilizes a large proportion of the country's educated talents and a major part of public expenditure.

8. Educational planning is highly essential for preparing a blueprint or plan of action for every programme of an educational institution or organisation.

9. Planning in education is necessary for making one's educational journey goal-oriented and purposeful.

10. It is essential to maintain, sustain and enhance the thinking process of an individual, institution or organisation.

11. Planning in education is necessary to highlight the universal aims of education required for every nation for its development in every respect.

12. To bring total development of a nation in time, in which educational development is one among its various aspects.

13. To reflect the modern developments like explosion of knowledge, advancement of science and technology, development of research and innovation while reformulating the aims and objectives of education in the light of the particular situation a country is facing.

14. It explores and provides the best possible means of making the wide use of available resources leading to maximum realization of the educational goals.

15. Educational planning facilitates gathering of educational experts, teachers, supervisors and administrators for taking decision in relation to the realisation of purposes of educational programme.

16. Educational planning gives equal importance to the purposes of different classes of experts such as sociologists, economists, scientists, politicians, educationists etc.

Educational Financing

Financing is defined as the act of providing funds for business activities, making purchases or investing. Financial institutions and banks are in the business of financing as they provide capital to businesses, consumers and investors to help them achieve their goals. The Education funding comes from many different sources. The total level of funding a country dedicates to education is the result of the total level of funding provided by each one of these sources.

Essential Principles of Educational Financing

(i) All allocation of funds to education should be determined by the educational budget and priorities to various sectors should be made within the sphere of education itself.

(ii) Improvement of education should be made within the financial and human resources available in the country.

(iii) Through careful analysis, trends in economy, allocations should be made to important educational sectors in accordance with the projected man power requirements. As a result of which maximum returns will be ensured and the wastage of human and physical resources of the country will be eliminated.

(iv) Education cannot be purchased like a commodity according to the desire of the individuals, who can pay the full cost. Attempts should be made to provide education free or at a much lower cost than the real one to help the young and immature member of the society to develop.

(v) Education should be duly financed to provide equality of opportunity for the development of the individuals. It can develop their capacities and talents and leaders can spring up from all ranks and conditions of life. Men and women can develop intellectual initiative, judicious invention, foresight of consequences ingenuity of adoption and capacity for making moral choices.

(vi) For demoralization of educational opportunities in our country, a large number of scholarships, stipends and free studentship should be given to the students.

(vii) Special grants for physical activities, libraries and reading rooms, expenses on special programmes like mid-day meals etc., should be given.

(viii) The allocation of funds to education purely from the economic point of view- should be decided by the future needs of skilled man power in various sectors of national life.

(ix) Craft in our school are taught with zeal to produce commodities of high quality and marketability.

(x) Cottage industries are introduced in our schools. This will certainly help in recovering some expenditure on education.

(xi) Attempts should be made to reduce the cost of equipment by improvisation etc. Teachers should be given incentives to do so.

(xii) As Kothari Commission desires that utmost economy should be used in the construction of the school building. It should be constructed at war-footing. That will enhance the prestige of education.

Five Year Plans: Educational Policy making and Budgeting

I Five Year Plan

An analysis of the existing situation reveals the following features that need special attention:—

(l) Considering the size of the population, the overall provision of educational facilities is very inadequate. They are provided for only 40.0 per cent of the children of the age-group 6-11 and 10.0 per cent of the persons of the age-group 11-17 and 0.9 per cent of those of the age-group 17-23. The directive of the Constitution, however, is that free and compulsory education should be provided for all children up to the age of 14 within ten years of the commencement of the Constitution. This will necessitate expansion of facilities at higher levels also as more and more students pass out of primary schools. The literacy percentage of our population is 17.2 which is only a very rough measure of the huge task lying ahead in the field of social education. Similarly, facilities for technical education need to be considerably expanded to meet the needs of the country adequately.

(2) The overall structure of the educational system is defective in many ways, one of which is that it is top-heavy. Although the provision at the secondary stage is properly proportioned to that at the primary stage, that at the university stage is larger than the base structure can profitably support. This is revealed also by the distribution of educational expenditure among the various stages. In 1949-50, for example, the direct expenditure on primary schools was only 34-2 per cent of the total educational expenditure, whereas a sound and properly proportioned system

of education requires that the major share of this expenditure should be incurred on primary education. The emphasis on primary education needs to be very considerably increased during the period of the Plan, which would necessitate a corresponding increase in secondary education during the next stage of our development, though some expansion would be inevitably required even during the present period to cope with the increased demand for teachers for the large number of schools at the primary stage that would come into being.

(3) Another disturbing feature of the situation is the large wastage that occurs in various forms at different stages of education. At the primary stage quite a large number of pupils discontinue their studies even before obtaining a state of permanent literacy. Of the total number of students entering schools in 1945-46 only 40 per cent reached class IV in 1948-49. The expenditure on the remaining 60 per cent was largely wasted. The experiment of compulsion, which is generally regarded as the only remedy for improving the position, has not made much progress. In 1948-49 approximately only 115 lakhs pupils were under compulsion and most of the States expressed their inability to enforce it. The problem of 'stagnation', that is, where a pupil spends a number of years in the same class, is also serious. There is, moreover, incomplete utilization of existing facilities, as is shown by the unsatisfactory results of a large number of students. This wastage is largely due to the poor quality of teaching as well as faulty methods of education. Another form of wastage is the unplanned growth of educational institutions.

(4) The position in regard to teachers is highly unsatisfactory. A very large percentage of them are untrained. In 1949-50 the percentage of untrained teachers was 41.4 per cent in primary schools and 46.4 per cent in secondary schools. For purposes of educational reorganization most of the trained teachers will also require considerable retraining. Expansion of training facilities, therefore, deserves very high priority.

(5) The high cost of education, especially at the university level, prevents many an intelligent student from proceeding to higher studies. The provision of free-studentships and scholarships needs to be considerably increased. It should be a principle of State policy that none who has the capacity to profit by higher education should be debarred from getting it. Since the limited economic resources of the State will place limitations on the implementation of this principle,

facilities for part-time work by students to meet the expenses of their education should be developed to the utmost possible extent.

(6) The undue stress on examinations and memory work in the present system of education is not conducive to the development of originality or a spirit of research.

(7) Lack of facilities prevents institutions from building up the physical and mental health of students.

(8) There has been a general neglect of the study of our own culture with the result that the educated classes are often divided by a gulf from the mass of the people. The system of education should help in building up the cultural and political identity of the nation. Graded text books for the purpose of building up civic loyalties and creating understanding of democratic citizenship should be prepared.

(9) The meaning of planned development and the Five Year Plan needs also to be universally taught in our educational institutions and included in social education programmes.

Summing up, the needs of the present situation are:

1. re-orientation of the educational system and integration of its different stages and branches ,
2. expansion in various fields, especially in those of basic and social education, remodeled secondary education and technical and vocational education ;
3. consolidation of existing secondary and university education and the devising of a system of higher education suited to the needs of the rural areas ;
4. expansion of facilities for women's education, especially in the rural areas ;
5. training of teachers, especially women teachers and teachers for basic schools, and improvement in their pay-scales and conditions of service ; and
6. helping backward States by giving preferential treatment to them in the matter of grants.

II Five Year Plan

The second five year plan provides for a larger emphasis on basic education, expansion of elementary education, diversification of secondary education, improvement of standards of college and university education, extension of facilities for technical and vocational education and the implementation of social education and cultural development programmes. In the first five year plan about Rs. 169 crores were provided for the development of education—Rs. 44 crores at the Centre and Rs. 125 crores in the States. In the second five year plan, Rs. 307 crores have been provided—Rs. 95 crores at the Centre and Rs. 212 crores in the States. The distribution of outlay between different fields of education in the first five year plan and second five year plan is set out below:—

(Rs. in crores)

	First Plan	Second Plan
Elementary Education	93	89
Secondary Education	22	51
University Education	15	57
Technical and Vocational Education	23	48
Social Education	5	5
Administration and Miscellaneous	11	57
Total	169	307

A proportion of the outlay provided for in the first plan related to the continuance of schemes of educational development which had been introduced prior to the plan; for the second plan, however, expenditure on educational institutions which have come into existence in the course of the first plan has been taken as committed expenditure and the plan outlay pertains to proposals for new institutions or for the expansion or development of existing ones. In addition to the provisions mentioned above, the allotment made in the second five year plan for national extension and community projects includes about Rs. 12 crores for general education and about Rs. 10 crores for social education. Programmes in different sectors of development, such as,

agriculture, health, welfare of backward classes, rehabilitation of displaced persons and others, also provide considerable sums for the expansion of educational facilities.

III Five Year Plan

Education is the most important single factor in achieving rapid economic development and technological progress and in creating a social order founded on the values of freedom, social justice and equal opportunity. Programmes of education lie at the base of the effort to forge the bonds of common citizenship, to harness the energies of the people, and to develop the natural and human resources of every part of the country. Developments of the past decade have created a momentum for economic growth; yet, there are large deficiencies in the sphere of education, which must be removed speedily if progress is to be sustained and enduring.

In the field of general education, as distinguished from technical education, the main emphasis in the Third Plan will be on the provision of facilities for the education of all children in the age group 6—11, extension and improvement of the teaching of science at the secondary and university stages, development of vocational and technical education at all levels, expansion and improvement of facilities for the training of teachers for each stage of education, and increase in scholarships, free-ships and other assistance. There will be special concentration on the education of girls, and the existing disparities in levels of development in education between boys and girls will be substantially reduced. All elementary schools will be oriented to the basic pattern. Reorganization of university education along the lines of the three year degree course will be completed, and facilities for post-graduate studies and research work will be further expanded and improved. At all stages of education, the aim must be to develop both skill and knowledge and a creative outlook, a feeling of national unity which stands above region, cast and language, and an understanding of common interests and obligations.

During the first two Plans, the number of schools increased by 73 per cent from 230,555 to 398,200, increase in the number of primary schools being 63 per cent, in middle schools 191 per cent, and in high schools 128 per cent. Progress in basic education at the elementary level is reflected in the increase in the proportion of junior basic schools and senior basic schools from 16 per cent to 29 per cent and from 3 per cent to 30 per cent respectively. Reorganization of

secondary education has mainly taken the form of conversion of high schools into higher secondary schools, establishment of multipurpose schools providing for a variety of courses, and expansion of teaching facilities both for general science and science as an elective subject. The All-India Educational Survey, which was undertaken during 1957-59, revealed important gaps in the distribution of educational institutions. Thus, for the country as a whole in 1957, about 29 per cent of rural habitations and about 17 per cent of the rural population were not served by any school. In some States these proportions were very much higher. Progress in establishing new schools during the first two Plans was relatively greater in respect of middle and high schools than in the case of primary schools. With the provision of educational facilities for the entire population in the age-group 6—11, this trend will be corrected to a considerable extent in the course of the Third Plan. The Plan envisages increase in the number of primary schools by 73,000, of middle schools by 18,100 and of high schools by 5,200. The total number of schools in the country will go up by about 24 per cent to about 494,500.

IV Five Year Plan

A suitably oriented system of education can facilitate and promote social change and contribute to economic growth, not only by training skilled manpower for specific tasks of development but, what is perhaps even more important, by creating the requisite attitudes and climate. Facilities for universal elementary education are a pre-requisite for equality of opportunity.

There has been expansion at all levels of education during the last eight years. The enrolment in classes I—V increased from 35 million in 1960-61 to 55.5 million in 1968-69; in classes VI—VIII from 6.7 million to 12.3 million; in classes IX—XI from 3 million to 6.6 million; and at the university stage (for arts, science and commerce faculties) from 0.74 million to 1.69 million. The admission capacity in engineering and technological institutions increased from 13,824 to 25,000 at the degree level and from 25,800 to 48,600 at the diploma level. Considerable thought has also been given to the reform of the education system. The recommendations of the Education Commission (1964—66) form the basis of the National Policy on Education and provide the frame-work for the 'formulation of the Plan programmes. Some efforts have been made in the States and at the Centre to enrich curricula and improve text-

books and teaching methods. Steps have been taken to provide educational and vocational guidance, and develop facilities for science education and post-graduate education and research. The number of scholarships, stipends and free-ships have considerably increased, especially for the backward sections of the community. Salary scales and service conditions of teachers have been improved. Expenditure on education from all sources is estimated to have increased from Rs. 344 crores in 1960-61 to Rs. 850 crores in 1968-69. During the same period, expenditure from Government sources increased from Rs. 234 crores, or 68 per cent of the total expenditure in 1960-61, to an estimated sum of Rs-640 crores or 75 per cent in 1968-69.

The rapid expansion in numbers has put a severe strain on the physical facilities and teaching personnel of educational institutions. At the primary level there is considerable wastage and stagnation. The proportion of failures at the secondary and university levels is high. The quality of post-graduate education and research and science education needs to be improved. Insufficient attention has been paid to vocational education. In technical education, co-ordination between institutions and industry has not been effective.

V Five Year Plan

Economists and political leaders all over the world were reminded of the collapse of the international economic order in the thirties. The sharp increase in the prices of food, fertilizers and oil seriously upset the assumptions on which the draft Fifth Plan had been framed. These new developments also lent urgency to a time-bound programme of action in order to achieve a measure of self-reliance in food and energy. All other objectives had to be subordinated to the control of inflationary pressures caused by domestic as well as international factors. In the middle of 1974-75 we formulated an anti-inflationary programme which called for several hard decisions on the part of Central and State Governments. Our success in curbing inflation attracted world-wide notice.

The drive against economic offences and the general atmosphere of discipline and efficiency which national emergency helped to foster led to a significant and all-round improvement in economic performance. The results are now tangible. The production of food grains has touched an all-time record of over 118 million tonnes. Almost all parts of the country

have contributed to this increase and all sections of the farming community have benefited. There was striking improvement in the operation of power plants and in the production of coal, steel and fertilizers. In some sectors of the economy we were faced with the problem of surpluses rather than shortages. We have achieved a major break-through on the oil front. The potential of Bombay High has been firmly established and commercial production has commenced. Our technologists can legitimately be proud of this achievement. The containment of domestic inflation and a well articulated export effort helped to increase our exports by over 18% in 1975-76 at a time when there was a general decline in the volume of international trade. Larger export earnings, together with a massive increase in inward remittances, have led to a welcome accretion to our foreign exchange reserves.

VI Five Year Plan

In a pack-ay of developmental inputs available to the community, education should form an effective means to improve the status and character of living patterns of the people, help intellectual, social and emotional development of the individuals and to enable 'them to meet their basic needs of daily life. The emphasis in our planning efforts would thus shift from provision of inputs and expansion of facilities in general terms to results to be achieved and tasks to be performed with specific reference to target groups of population, particularly the socially disadvantaged.

Programmes of human resource development have a four-fold perspective; (i) to prepare individuals for assuming their role as responsible citizens; (ii) to develop in them scientific outlook, awareness of their rights and responsibilities as well as a consciousness of the processes of development, (iii) to sensitise them to ethical, social and cultural values which go to make an enlightened nation; and (iv) to impart to them knowledge, skills and attitudes which would enable them to contribute to the productive programmes in the national development. In the realisation of this, educational system and programmes have to be directed towards a set of goals and tasks. Among these would be the following:

i. to guarantee to all equality of opportunity for education for improving the quality of life and their participation in the tasks of promoting the general well-being of the society;

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ii.   to afford to all young people and adults, irrespective of age, the means for ample self-fulfillment within the framework of harmonious development which reflects the needs of the community to which they belong;

iii.   to provide for a continuous process of lifelong education for physical, intellectual and cultural development of people and for inculcating in them capabilities to cope with and influence social change;

iv.   to establish dynamic and beneficial linkages between education, employment and development with due regard for the economic and social aims of the community;

v.   to promote respect for, and belief in values of national integration, secularism, democracy and dignity of labour;

vi.   to sensitise academic communities to the problems of poverty, illiteracy and environmental degradation through extension services and organised participation in poverty reduction and environment improvement programmes;

vii.   to facilitate development, mobilisation, organisation and utilisation of the youth to involve and participate in the process of national development; and

viii. to support the growth of arts, music, poetry, dance, and drama, including folk art, as instruments of culture, education and national integration.

The approach to achieve these objectives will be characterized by flexibility and diversity to suit varying needs and circumstances and by a stress on coordination of efforts, resources and programmes of the different sectors and agencies. The need to maintain high quality of education, aiming at academic excellence, and its relevance to national development objectives would be articulated throughout the system.

VII Five Year Plan

Human resources development has necessarily to be assigned a key role in any development strategy, particularly in a country with a large population. Trained and educated on sound lines, a large population can itself become an asset in accelerating economic growth and in ensuring social change in desired directions. Education develops basic skills and abilities and fosters a value system conducive to, and in support of, national development goals, both long term and immediate. In a world where knowledge is increasing at an exponential rate, the task of

education in the diffusion of new knowledge and, at the same time, in the preservation and promotion of what is basic to India's culture and ethos, is both complex and challenging. It is, therefore, appropriate that the commencement of the Seventh Plan coincides with a comprehensive review of the education policy.

The resolution on the National Policy on Education adopted in 1968 pointed out that the great leaders of the Indian freedom movement realized the fundamental role of education and, throughout the nation's struggle for independence, stressed the unique significance of education for national development. The Resolution further declared that the radical re-construction of education as envisaged involved (i) a transformation of the system to relate it more closely to the life of the people; (ii) a continuous effort to expand educational opportunity; (iii) a sustained and intensive effort to raise the quality of education at all stages: (iv) an emphasis on the development of science and technology; and (v) the cultivation of moral and social values. According to the Resolution, the educational system must produce young men and women of character and ability, committed to national service and development.

VIII Five Year Plan

It is now universally acknowledged that the goal of Plan efforts is human development, of which human resource development is a necessary pre-requisite. Education is the catalytic factor, which leads to human resource development comprising better health and nutrition, improved socio-economic opportunities and more congenial and beneficial natural environment for all. There is already enough evidence in India to show that high literacy rates, especially high female literacy rates, are associated with low rates of population growth, infant mortality and maternal mortality besides a higher rate of life expectancy. Although the country has not so far achieved the goals of universalisation of elementary education (UEE) and eradication of adult illiteracy (EAT), the 1991 census results reveal a literacy rate of over 52 per cent, with a higher rate of growth for female literacy. This is highly encouraging and the country can hope to achieve the broader goal of 'Education for All' (EFA) by 2000 AD, which has incidentally received international recognition at the world conference on EFA held at Jomtien in March, 1990. The commitment of the Government to the National Policy on Education (NPE), implemented from 1986-87 onwards and reviewed in 1990, has been reaffirmed with revised for

mutation in respect of a few paras, placed before the Parliament on 7.5.1992. On the eve of Eighth Plan, therefore, the country is poised to make a real breakthrough in achieving its long-cherished educational goals as well as in supporting the drive for higher rate of economic growth.

IX Five Year Plan

Education is the most crucial investment in human development. Education strongly influences improvement in health, hygiene, demographic profile, productivity and practically all that is connected with the quality of life. The policies and approach to investment in the Education sector and its development in the next decade assume critical significance from this standpoint.

The Prime Minister's Special Action Plan (SAP) has stressed the need for expansion and improvement of social infrastructure in the field of education. This goal has been further elaborated in the National Agenda for Governance (NAG) which states: "We are committed to a total eradication of illiteracy. We will formulate and implement plans to gradually increase the governmental and non-governmental spending on education upto 6% of the GDP; this to provide education for all. We will implement the constitutional provision of making primary education free and compulsory up to 5th standard. Our aim is to move towards equal access to and opportunity of educational standards upto the school-leaving stage. We shall strive to improve the quality of education at all levels - from primary schools to our universities." The approach to the 9th Plan has been formulated in the light of these objectives.

The issues that will be addressed in the Nineth Five Year Plan are as follows;

a. Combining pre-school and primary level methodologies, along with health and nutritional concerns, in teacher-training programmes, pre-service as well as in-service.
b. Encouraging the adaptation of ECE to the environment and home-conditions of the children through innovative alternatives.
c. Orienting PRIs and ULBs to provision of community-supported creches and day-care centres attached to Anganwadis/Primary schools.
d. Mobilisation of local women's groups to set up and manage ECE centres.

e. Production of inexpensive play materials for children by using local materials and talents of local artisans and school children engaged in socially useful productive work and social service activities according to their curriculum.

f. Strengthening resource groups for ECE at the NCERT and SCERTs as also research institutes, NGOs and other such organisations to conduct research, training, materials production and extension activities for ECE.

X Five Year Plan

The main objective in the Tenth Five Year Plan is to raise the enrolment in higher education of the 18-23 year age group from the present 6 per cent to 10 per cent by the end of the Plan period. The strategies would focus on increasing access, quality, adoption of state-specific strategies and the liberalisation of the higher education system. Emphasis would also be laid on the relevance of the curriculum, vocationalisation, and networking on the use of information technology. The Plan would focus on distance education, convergence of formal, non-formal, distance and IT education institutions, increased private participation in the management of colleges and deemed to be universities; research in frontier areas of knowledge and meeting challenges in the area of internationalisation of Indian education.

XI Five Year Plan

The role of education in facilitating social and economic progress is well recognized. It opens up opportunities leading to both individual and group entitlements. Education, in its broadest sense of development of youth, is the most crucial input for empowering people with skills and knowledge and giving them access to productive employment in future. Improvements in education are not only expected to enhance efficiency but also augment the overall quality of life. The Eleventh Plan places the highest priority on education as a central instrument for achieving rapid and inclusive growth. It presents a comprehensive strategy for strengthening the education sector covering all segments of the education pyramid.

Elementary education, that is, classes I–VIII consisting of primary (I–V) and upper primary (VI–VIII) is the foundation of the pyramid in the education system and has received a

major push in the Tenth Plan through the Sarva Shiksha Abhiyan (SSA). In view of the demands of rapidly changing technology and the growth of knowledge economy, a mere eight years of elementary education would be grossly inadequate for our young children to acquire necessary skills to compete in the job market. Therefore, a Mission for Secondary Education is essential to consolidate the gains of SSA and to move forward in establishing a knowledge society.

The Eleventh Five Year Plan must also pay attention to the problems in the higher education sector, where there is a need to expand the system and also to improve quality. The Eleventh Plan will also have to address major challenges including bridging regional, social, and gender gaps at all levels of education.

XII Five Year Plan

The Twelfth Plan places an unprecedented focus on the expansion of education, on significantly improving the quality of education imparted and on ensuring that educational opportunities are available to all segments of the society. Recognizing the importance of education, public spending on education increased rapidly during the Eleventh Plan period. Education expenditure as a percentage of gross domestic product (GDP) rose from 3.3 per cent in 2004–05 to over 4 per cent in 2011–12. Per capita public expenditure on education increased from 888 in 2004–05 to 2,985 in 2011–12. The bulk of public spending on education is incurred by the State Governments and their spending grew at a robust rate of 19.6 per cent per year during the Eleventh Plan. Central spending on education increased even faster at 25 per cent per year during the same period. Aggregate public spending on education during the Eleventh Plan period is estimated at 12,44,797 crore for both the Centre and States taken together. Of this, 35 per cent was accounted for by Plan expenditure and 65 per cent by non-Plan expenditure. About 43 per cent of the public expenditure on education was incurred for elementary education, 25 per cent for secondary education and the balance 32 per cent for higher education. About half of the Central Government's expenditure was incurred for higher education and the remaining for elementary (39 per cent) and secondary (12 percent) education. In the State sector, about 75 per cent of education expenditure is for school education, of which 44 per cent is on elementary education and 30 per cent on secondary education.

Funding Systems of Education: Public, Fees, Students Loans, Education Cess and External Aids

To meet the social demand, the traditional method of financing the higher educational institutes is still a challenge to the government because the investment is still regarded as much below optimum. Such a rapid growth in public financing of higher education in India has been necessary for building up a new socioeconomic system as the end of the colonial rule required large-scale manpower with varied skills; so the government had to expand investment in higher education. The very development models emphasized high skilled labor force, and building up of huge social infrastructure for excellence in science and technology, and R&D.

Government policies towards equality in education led to the growth in public investment in education, since it involves huge subsidies at all levels of education to a substantial number of students, belonging to weaker sections.

The rapid growth of school education naturally pushed the demand for higher education. Recently, efforts are being made to mobilize resources, and it has been recommended that while the government should make a firm commitment of funding higher education, colleges and universities should also make efforts to raise their own resources. The various sources are: (a) Government sector - central government and State government; and (b) Non-governmental sector - students/parents (or families), e.g., fee, and other maintenance expenditure, and the rest of the community at large such as, donations and endowments. The relative shares of various sources in 'total' expenditure on higher education in India have changed considerably over the years. The share of the government has increased in financing higher education, and correspondingly that of every other source, viz., student fee, community contributions, and other internal sources declined steeply, though in absolute money terms there has been a significant increase in the contribution of these sources as well. All this was fine, as long as there was not a viable alternative to the public funding of higher Education. The authorities, in our opinion, went about it in an appropriate manner. Institutions of specialized learning were set up; funding was provided for general higher education of the Bachelors and Masters degrees. This, in time, created professionals, entrepreneurs and jobs but education still continued to be very much in the public domain. With the success of the professional courses, particularly MBA, the interest of

the private sector was very much attracted and a number of Private, Medical, Engineering and Management colleges came up. They were primarily playing on the demand for higher education of the type that leads to good confirmed jobs, in government and industry.

Conclusion

Educational planning is central to efficient allocation of resources and management systems that make it more rather than less likely that developmental aspirations are met and rights to education delivered. Policy that seeks to achieve desired goals depends on an elaborated web of objectives that can be operationalised, an adequate flow of resources, effective procurement, efficient and timely activities linked to outcomes, and formative evaluation that can provide feedback. Educational planning has passed through several phases over the last six decades both in terms of its underlying principles, and in terms of the predominant techniques.

Questions for Discussion and Reflection:

1. What is educational planning? Describe the need and significance of educational planning.
2. Critically analyse the impact of five year plans on education.
3. Explain the different funding systems of education in India.

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Unit – VIII Language Policy in Education

Objectives:

After the completion of the unit, the learners will be able to:

1. understand language policy during the pre-independent and post-independent India.

2. identifies language policy as specified in Indian constitution.

3. compare the views of great thinkers on medium of instruction.

Introduction

Education, however, is considered a State responsibility, and while national policies exist, individual States also play a primary role in the execution of language decisions. The relationship between India's language and education policies further complicate the tension between cultural preservation and economic growth. India's constitutional policies concerning the use of language reflect the economic and cultural evolution within this diverse and multilingual country.

The Republic of India has hundreds of languages. According to the Census of 2001, there are 1,635 mother tongues, and 122 languages Language planners and policy makers have to grapple with the complex problems of multilingualism and of keeping the Indian languages centre stage by giving them their due place in the educational process and national development. Owing to the defective planning by the policy makers both at the State level and the central levels, the English language has emerged as the favoured language in education.

Language spoken in India

The first language education policy of India was made for the promotion of English language that is on February 2nd in 1835, Thomas Babington Macaulay's minute on Indian Language Policy was introduced. It says "we must at present do our best to form a class who may be interpreters between us and the millions whom we govern….. We need a class of persons, let them Indian in blood and colour, but English in tastes, in opinions, in morals and in intellect".

These minutes implies that English was introduced in the Indian educational system for the purpose of getting servants with English language knowledge. During the freedom struggle period Gandhi vehemently opposed and wanted to throw out English from Indian nation, but he failed in his attempt.

Language in education and Language as medium of education

The Indian constituent assembly was established on 9 December 1946, for drafting a constitution when India became independent. The Constituent Assembly witnessed fierce debates on the language issue. The adoption of a "National Language", the language in which the constitution was to be written in and the language in which the proceedings of the assembly were to be conducted were the main linguistic questions debated by the framers of the Constitution. On one side were the members from the Hindi speaking provinces moved a large number of pro-Hindi amendments and argued for adopting Hindi as the sole National Language. On 10 December 1946, Dhulekar declared "People who do not know Hindustani have no right to stay in India. People who are present in the House to fashion a constitution for India and do not know Hindustani are not worthy to be members of this assembly. They had better leave."

Importance of language in education

When developing its Constitution, Indian leaders enacted language policy that placed emphasis on both language development and language-survival. The language policy contained within Part III of the Constitution defines language rights as fundamental rights – linking these language rights to education as well. The text acknowledges the innate challenges of educating a multilingual society with the legacy of a caste system by stating: "All minorities, whether based on religion or language, shall have the right to establish and administer educational institutions of their choice."

This policy and subsequent documents have produced a school system that encourages tri-lingual education, with students learning their mother tongue, Hindi, and English. However, while the Constitution highlights the importance of mother tongues, in practice it has proven unfeasible to protect the 22 scheduled languages it lists, let along the hundreds of additional languages spoken by significant numbers of people.

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In 1950 the Indian constitution was established. Gandhi emphasized on Hindustani, and wanted it to be the official language of India. Later the concept of Hindustani was given up by the rulers. In 1952, 15 major languages of India were recognized and placed in Eighth schedule.

Medium of Instruction and language policy during Vedic period, Buddhist and Jainism Period

Objectives

1. To impart knowledge about education during Vedic, Buddhist and Medieval periods.

2. To make them aware of different feature of education during these periods.

3. To enable them to understand the relevance of education during those periods in current scenario.

4. To enable them to distinguish between Vedic education, Buddhist education and education during medieval periods.

Introduction

The most important contribution of ancient India not only for India but also for the world is in the field of education. It may also be remembered that education is not an abstract term. It is manifested in the cultural economic, individual, philosophical, scientific, social and spiritual advancement. In other words, education is the means for developing the mind for the betterment of the individual and society. Seen from this perspective, the following views of great scholars and thinkers deserve mention.

Albert Einstein:-

"We owe a lot to the Indians who taught us how to count without which no worthwhile scientific discovery could have made."

Mark Twain, an American Writer:-

"India is the cradle of the human race. Most valuable and the most instructive materials in the history of man are treasured up in India only."

Lancelot Hagen, in his publication Mathematics for the Millions:-

"There has been no more revolutionary contribution than the one which the Hindus made when they invented zero."

Education in India during Vedic, Buddhist and Medieval Periods

Sources of the Vedic Age education: Vedic Literature

No study of the source of Indian culture, education, philosophy and thought is complete without an adequate acquaintance and understanding of the 'Vedic Literature'. The Vedic literature represents the most important and intrinsic part of life of the India people.

The Vedic literature consists of the following

1. Four Vedas

2. Six Vedangas

3. Four Upvedas

4. Four Brahmanas

5. One hundred and eighty Upanishads

6. Six systems of philosophy

7. Bhagwad Gita

8. Three Smritis

Main features of the Vedic Education

Free education in Ancient India:- In ancient India teaching was considered to be holy duty which a Brahman was bound to discharge irrespective of consideration of the fee teacher were expected to devote their lives to the cause of teaching in the missionary spirit of self-sacrifice, and the society laid down the principal that both the public and state should help the learned teachers & educational institutions very liberally. Society realized that "Vidyadana" or the gift in the cause of education was to be the best of gifts, possessing a higher religious merit than even the gift of

land. On the occasion of religious feats, students and teachers were invited and donations were given liberally.

1**. No state control on education:-** Rulers of the country had very little directly to do   with education. It was a private affairs of the people managed entirely by Brahmans.

2. High status of Teachers:- Teachers were a highly honoured class-honoured by even by kings. Kings rose from thrones to receive great teachers such as Narada, Vashishtha and Vishwamitra.

3. Teachers as Parents: - Teachers behaved as parent to their pupils and pupils behaved as members of the teachers' family. The attitude of the pupil was to be one of complete submission.

4. Residential Schools:- Teachers and pupils lived together and so identified themselves with one another.

5. Immediate aim:- Vocational: The immediate aim of education, however, was to prepare the different casts of people for their actual needs of life.

6. Curriculum:- The subjects of instruction varied according to the vocational needs of the different castes from the Vedas and Vedangas in case of Brahmanas, to the art of warfare in the case of Kshatriyas, and to agriculture and trade, arts & crafts in the case of Vaishyas.

7. Methods of Instruction:- The methods of instruction generally consisted of recitation by the teachers and repetition by pupil, followed by explanation by the teacher , questioning by the pupil, and discussion between the teacher and the pupil.

8. Individual teaching:- Pupils were tough individually not en masse by the class method

9. Method of study:- The method of study consisted in listening to the teacher, reflection on what has been listened to and its constant revision and discussion.

10. Role of Travel in Education:- Travel was regarded as necessary to give a finish tough to education.

11. Sanskrit as the Medium of Instruction:- The medium of instruction was Sanskrit.

12. Self-control & Self–Discipline:- It was considered to be the best discipline. However Corporal punishment was not altogether ruled out.

13. Wide spread education of women:- In the earlier Vedic, and Upanishad times, girls were free to go through the "Upanayana' ceremony , live a life of celibacy, studied Vedas, vedangas and other subjects along with their brother pupils.

14. Ultimate aim of education-self-Realization:- The ultimate aim of education in ancient India was not knowledge as preparation of life in this world or for life beyond but for complete realization of self-for liberatin of the soul from fetters of life, both present and future. That knowledge was real, which led to emancipation-led from unreality to reality, from darkeness to light, from death to immortality.

Aims, Ideals and Objectives of Vedic Education

1. Ultimate objective as moksha or self-realisation:- Ancient Indians believed that education should prepare and individual in such a way as to prepare him to attain the objective of liberation, i.e. to be one with the almighty and to be free from the cycle of births & deaths.

1. Infusion of Piety & Religiousness:- In ancient India religion played a prominent part. Education aimed at the infusion of piety and religiousness in the minds of the pupils.

2. Education for worldliness:- Vocational aim :- Happiness in other world was given more stress than the happiness in this world. This world according to them, was unreal & full of fetters. The highest wisdom was a release from these betters.

3. Character formation:- Education must from character. Mere intellect was not of worth if the person was devoid of not much morality. Morality or the right behavior was the higher "Dharma". Education was regarded as a means of inculcating values such as strict obedience to elders, truthfulness, honesty and temperance.

4. Development of all round personality:- Ancient Indians believed that personality should be developed through education. Personality was developed through the following methods:-

(a)   Self-restraint

(b) Self-confidence

(c) Self-respect

(d) Discrimination and judgement

5. Stress on Social duties:- A student was not to lead self-centered life. He was to perform his duties as a son, as a husband, as a father & many other capacities conscientiously and efficiently in the society. His wealth was not for his own sake as for his family, he must be hospitable and charitable. All professions laid stress on civil responsibilities.

6. Promotion of Social Efficiency and Welfare:- The promotion of social efficiency & welfare was an equally important aim of education. Education was not imported simply for the sake of culture or for the purpose of developing mental powers but for the purpose of training every member of society in the profession which he expected to follow. Society had accepted the theory of division of work which was later on governed by the principle of heredity. Each family trained its children in its own profession. The purpose was to make each individual society efficient.

7. Preservation and promotion of culture:- the preservation and promotion of national culture and heritage was also stressed. "The services of the whole community were conscripted for the purpose of the preservation of the Vedic literature. Every person had to learn at least a portion of his sacred literacy heritage." A section of Brahman as had to devote the whole of their life to the cause of learning to commit the Vedas to memory in order to ensure preservation.

Education of Women

The Vedas give a very honourable & respectable status to women. They were eligible for higher education for the study of the Vedas and the performance of administrative and other important jobs mostly performed by men even today.

Boys should go to the schools meant for boys and girls should go to the schools where there are women teachers. The women should have opportunity to attain knowledge of the Vedas from all the four concerns.

Role of Mother in Education

A mother should impart education to her children so as to broaden their horizon. At this stage good manners are to be taught so that the children behave properly with the elders and in assemblies.

Teachers as Spiritual as well as Intellectual Guide

Teacher occupied a pivotal position in the Vedic System of education. The teacher was a parent surrogate (Parent Substitute), a facilitator of learning, exemplar and inspirer, confident, detector friend and philosopher moral educator, reformer, evaluator, character and personality builder, importer if knowledge & wisdom and above all a guru, religious & spiritual guide. The relationship between the teachers and pupil was regarded as filial in character. Teacher was the spiritual father of his pupils. In addition to imparting intellectual knowledge to them, he was also morally responsible. He was always to keep a guard over the conduct of his pupils. He must let them know what to cultivate and what to avoid. He must instruct them as how to sleep and as to what food they may take and what they may reject. He should advise them as to the people whose company they should keep and as to which of the villages and localities they should frequent. During the Vedic period learning was transmitted orally from one generation to another. Great importance was attached to the proper accent and pronunciation in the Vedic recitation & these could be correctly learnt only from the lips of a properly qualified teacher. The spiritual solution depended almost entirely upon the proper guidance of a competent teacher.

Process of Instruction

There were three steps in instruction:

 1. Sravana   2. Manana   3. Nididhyasana.

Sravana is listening to words texts as they uttered by the teacher.

Manana is the process of deliberation or reflection of the topic taught.

Nididhyasana represents the highest stage.

Admission and Evaluation System

There seems to be no direct reference available to spell out the methodology followed by the Acharya to judge the adequacy of knowledge of his pupils. Yaskas and Sayana, famous commentators on the Vedas, have inferred from the Rig Veda hymn that the students were given three grades as under:

1.   Maha Prazanan grade:- Students of very high ability.

2.   Madhyama Prazanan grade:- Students of high ability.

3.   Alpa Prazanan grade:- Students of low ability.

Autonomy of Educational Institutions

Teachers in the Vedic period were autonomous in their work and they followed various methods of admission and assessment. A teacher was the sole pedagogic authority to decide whether the student was fit for admission & also to decide whether he had completed his studies.

Studentship

There is a long hymn in the 'Atharva Veda' describing the ceremony pertaining to studentship. The initiation ceremony was called Upanayana which lasted three days. It laid down the foundation of a planned life. The pupil owed his first birth-physical to his parents & the second birth spiritual to his teacher. The rite of Upanayana was meant to purify body and mind and to make one fit for receiving education.

After 'Upanayana' the pupil entered into a state of 'Brahmacharya' indicating that it was a mode of life, and a system of education. The 'Brahmachari' as the aspirant for education was now called lived according to prescribed regulations, i.e., physical discipline as well as spiritual discipline.

Curriculum

According to recent researches, following disciplines were included in the curriculum in the graded forms in accordance with the stages of education.

1.   Anthropology

2.   Astronomy

3.   Economics

4.   Epistemology

5.   Eschatology

6.   Ethnology

7.   Geology

8.   Human eugenics

9.   Mathematics

10. Military Science

The system of education was well-organized. It was suited to the needs of the society education was considered as the greatest gift in ancient India. It was aimed at the development of personality of an individual to his maximum extent. Education helped in the realization of spiritual & moral values, besides preparing for worldly pursuits. It was freely available to all those who wanted the relations between teachers and the pupils were based on love and affection. They were very cordial & intimate.

Education during Buddhist Period

The monasteries were the centres of education during the Buddhist period. Besides monasteries, there was no other organization for imparting education. Only the Buddhist could receive religious and other types of education. Other persons were deprived of this facility. There was no place for Yajna in the Buddhist system. Buddhist period in Indian education roughly starts from 600 B.C and last for about 1200 years till 600A.D. During Vedic period education was mostly individualistic effort whereas during Buddhist period institutional organization is one of the chief characteristics of education.

Buddhist education was based on the teaching of Gautam Buddha. These teachings were so important that they remained a source of inspiration for individual as well as social development in India. The influence of Buddhist teachings can not be undermined even during later period.

Aims of education

The chief aims of Buddhist education had been the following:-

(1)   Development of education:- The chief aim of Buddhist education was all round development of child's personality. This included his physical, mental, moral and intellectual development.

(2)   Formation of character:- During this period, in the organization of education, special emphasis was laid on the formation of character of the students. Student life was hard and rigorous. They observed celibacy.

(3) Religious education:- In the Buddhist era, religion was given top priority and education was imparted through it. The chief aim of education was propagation of religion and inculcation of religious feelings and education served as a mean to achieve salvation or nirvana.

(4)   Preparation for life:- In this system of education, there was a provision for imparting wordily and practical knowledge along with religious education so that when the students entered normal life they may be able to earn their livelihood.

Four noble truths

Buddha was primarily an ethical teacher and reformer, not a metaphysician. The message of his enlightenment points to man the way of life that leads beyond suffering. The four noble truths are:-

(1) There is suffering.

(2) There is cause of suffering (Dukhasamaudaya).

(3) There is cessation of suffering (Dukhanirodha).

(4) There is a way leading to the cessation of suffering (Dukhanirodh- marg).

Pabbaja ceremony

Pabbaja was an accepted ceremony of the Buddhist monasteries. Pabbaja means going out . According to this ceremony the students after being admitted to a monastery had to renounce all his worldly and family relationship. An individual belonging to any caste could be admitted to a monastery and after being admitted he did not belong to any caste. For pabbaja ceremony the individual had to get his head fully shaved and put on yellow clothes. In this shape he was presented before the presiding Bhikshu. On presentation this individual would pray for admission to the monastery. On his prayer the head Bikshu would administer three basic advices:

(1) I take refuse with Buddha.

(2) I take refuge with religion.

(3) I take refuge with the order.

The aspirant for admission used to pronounce these advices very distinctly. Then his admission was permitted. On being admitted the individual was called a Sharman.

Upasampada ceremony

After pabbaja the Buddhist monk had to undergo the Upasampada ceremony. This ceremony was different from pabbaja ceremony. It was after receiving education for twelve years, that it is at the age of twenty years,Upasampada ceremony was performed. The Sharman has to present himself in front before all other monks of the monastery. One could be admitted for this ceremony only when the majority of the monks voted in favour of the same. After this ceremony the Sharman was regarded as full- fledge member of the monastery. On this occasion all his worldly and family relationships ended.

Responsibility of teacher

Both the teacher and the student were responsible to the monastery or the Budhist order. But regarding education, clothes , food and residence of the student monk, the teacher was wholly responsible. The teacher was also responsible for any treatment of the student whenever he fell ill. The teacher used to bestow all the affection to his student and used to educate his through lecture and question answer method.

Daily routine of students (Diuchariya)

The student was expected to serve his teacher with all devotion. On rising in the morning the student will arrange everything for the daily routine of the teacher. He will cook his food and clean his clothes and utensils. Whatever he acquired through begging alms, he would place before teacher. The student had to prepare himself to receive education at any time whenever the teacher required him.

Curriculum

The curriculum was chiefly spiritual in nature. It was because the chief aim of education was to attain salvation. So the study of the religious books was most important. This type of curriculum was meant only for the monks. Besides these spinning, weaving, printing of the clothes, tailoring, sketching, accountancy, medicines, surgery and coinage were the other subjects of Buddhist education.

Expulsion of pupils

The teacher of a Buddhist monastery were empowered to expel any student on charge of misconduct or any type of serious disobedience. However, the student was expelled only when it was definitely ascertained that he lacked faith and respect for the teacher and the other things related to the sanctity of the monastery. After the death of the teacher or when the teacher changed his religion or left the monastery for elsewhere, the students also deserted the monastery. The education of the concerned students ended then and there.

Method of teaching

Buddhist education aimed at purity of character. Like Vedic education it was training for moral character rather than psychological development of the students. One has to attain the stage of Bodhisattva. Mental and moral development was emphasized.

Following were the methods:-

1. Verbal education: Through the art of writing had been well developed up to Buddhist period yet, due to shortage and no availability of writing materials, verbal education was prevalent as it was in Vedic age. The teacher used to give lessons to the novices who learnt them by heart. The teacher used to put questions on the learning the lesson by heart.

2. Discussion: In order to win discussion or Shastrartha and impress the general public, it was necessary to improve the power of discussion. This was also needed to satisfy the critics and opposing groups and establish one's own cult. Thus, rules were framed for discussion.

3. Prominence of logic: The importance of discussion encouraged the logic in the Buddhist period. The controversial matters could not be decided without logical argument. Logic was also useful in the development of the mental power and knowledge.

4. Tours: The main of the Buddhist monks was to propagate Buddhism .Hence some Acharyas like Sariputta, Mahayaggalva, Aniruddha, Rahula, etc gave the importance to tours for educating people.

5. Conference: Conferences were arranged on every full moon and 1st day of month in the Buddhist sanghs. The monks of different sanghs assembled and put forward their doubts freely. The attendance of every monk was compulsory in such conference.

6. Meditation in solitude: Some Budhist monks were more interested in isolated spiritual meditation in lonely forests and caves. Only those monks were considered fit for lonely meditation who had fully renounced the worldly attraction and had spent enough time in the sanghs and had gained the efficiency for solitary medications.

Assembly of learned people

On the beginning and close of every month learned people used to assemble together. This type of assembly together was a very important part of Buddhist education. The purpose of this assembly was to maintain the moral standards of all the monks, because the total education was based on morality. It was compulsory for all the monks to be present in this assemble so much so that even ill monks used to try to attend it anyhow. If due to illness it was not possible for monk to come, then assembly was held near his residence. This assembly was quite democratic and it has immense moral impact on all concerned.

The nature of mass education

The monasteries or Buddha Vicars were the chief centres of learning and only the Buddhist monks could be admitted to them for education. Thus there was no planned arrangement for mass education as such during the period. It form this position it would be wrong to construce that the Budhist monks were unkindful of the education of the people in general. So at the time of begging alms the monks used to remove the religious doubts of the people through their interesting conversation or short and alp lectures. Thus the people in general received moral and religious education from the monks.

Women education

Women education during the Buddhist period was at its lowest ebb, as the women folk were despised in the sense that lord Buddha had regarded them as the source of all evils. So he had advised during his regarded them as the source of all evils. So he had advised during his life time not to admit women in monasteries. But after some time due to the insistence of his dear pupil Anand, Buddha had permitted about 500 women along with his stepmother for admission in vihars with many restriction and reservation.

Vocation Education

Vocation education was not ignored during the budhist system of education. The monks of Vicar were taught spinning, weaving and sewing in order that they meet their clothing requirement. They were taught architecture as well. Education in architecture enabled them to build up new Vicars or repair the old ones. Similarly the householders following Buddhism but living outside Vicar were given training in different type of and also earn their livelihood.

Role of Teacher in Buddhist system

Buddhist philosophy admit the possible of attaining peace here and now, though, it start with a pessimistic note. Teacher, therefore, need not have any cry of despair. Bhikshus were the teacher. Buddhist vihar as or monasteries have their methods of Imitation and training for the

apprentices. The preceptor must give his disciple, all possible intellectual and spiritual help and guidance. There was mutual esteem between the teacher and the pupil. There relations were like father and son. The teacher was regarded as spiritual father or intellectual father of the student.

During Buddhist period the place of teacher in the scheme of education was very important. There were the categories of teachers – Acharyas and Upadhayas. According to Sutras Literature Acharya may admit according to his unfettered discretion, a number of pupils, who would have to live with him at this house, for a minimum period of twelve years. He would not accept any fees from the pupils under this instruction. The progress shown by pupil was the only factor that determined the continence of his apprenticeship.

Student in Buddhist system of education

The Buddhist system like the Brahmanical, enjoins upon the pupil the duty of serving this preceptor as a part of education. The pupils is to rise early in morning from the bed and give his teacher teeth-cleanser and water to rinse his mouth with; then, preparing a seat for him, serve him rice- milk in rinse his mouth with; then, preparing as seat for him, serve him rice milk in rinsed jug, and after his drinking it, wash the vessel and sweep the place. Afterwards he is to equip him for his begging round by giving him fresh undergarments, girdle, his two upper garments, and his alms- bowl rinsed and filled with water and then is to dress and equip himself similarly if he wants to accompany his teacher but must not walk too far from or near wants to accompany his teacher but must not walk too far from or near wants to accompany his teacher but must not walk too far from or near him. He is not to interrupt his teacher in speaking, even if he makes a mistake. There were also rules for the expulsion of a pupil by his teacher. In five cases a Saddhiviharika ought to be turned away; when he does not feel great affection for his Upajjhaya, nor great inclination towards him, nor much shame, nor great reverence, nor great devotion.

The present education experiment like basic education, Vishwa Bharti ,Aurobindo Ashram, Gurukul Kangri and Banasthali Vidyapeeth,etc., are the glaring examples of our ancient system of education in the country. In the words of S.K.Mukerjee, "They were started with the object of reviving the ancient institution of Brahamacharya, of revitalizing ancient Indian philosophy and literature and of producing good citizens and preachers of Vedic religion." While

delivering his address in the Dada Bhai Naurozi lectures series L.S. Mudaliar, a renowned Indian educationist had said "Let our young Indian realize the heritage that is there. May the young generation imbibe the true spirit of India and follow it in all their endeavours."

Education during Medieval Period

The period under review covers the system of education in India from about the 10th century A.D. to the middle of the 18th century, i.e. before the British rule.

Chief characteristics of Muslim education:-

Aims of education:

(a)   Developing love for Muslim culture and religion.

(b)   Enabling the individual for Islamic life.

(c)   Preparing the students for the next world.

(d)   Equipping the students for a vocation.

(e)   Preparing individuals for running administration.

(1)   Patronage of the rulers: The rulers helped in the spread of education. They built educational institutions and universities. They endowed them with the funds. Big landlord also provided financial help for the spread of education. The rulers patronized the men of learning.

(2)   No state control: The rules neither claim any authority over the educational institutions nor interfered with their management.

(3)   Religion dominated education: In the words of S.N. MUKERJI, "The whole educational system was saturated with the religious ideals which influenced the aim, the contents of study, and even the daily life of the pupils." The pupils acquired knowledge as a religious obligation.

(4)   Countryside as the centre of education: By and large, educational institutions flourished in the countryside.

(5) Provision of various disciplines: Through education was primarily religion- oriented, it included the study of many intellectual activities like mathematics, astronomy, grammer, polity and politics. Art and literature were also encouraged.

(6) Norms of conduct: Adequate stress was laid on well- defined norms of behaviour, pattern of thought, building up personality and character of the pupils.

(7) Teacher-pupil relationship: In the Muslim period also the teacher was respected as during the Brahmanic or Budhist period. There was intimate relationship between the teacher and the pupil, although the practice of living with the teacher was not as common with the Muslim as it was in the case of Brahmanic and Budhist period.

(8) Learned teachers: Teachers took to teaching for love of learning. They were held in high esteem. Prof. S.N. Mukerji has observed, "Learning was prized for its own sake and as a mark of the highest human development and teaching was never handicapped by examination requirements

(10) Individualized instructions: Since the number of students with the teacher was limited, he paid individual attention to each student.

(11) Monitorial system: Although a teacher did not have many pupils to teach yet, still the teacher would take the help of senior and advanced students to teach the younger or the junior.

(12) Discipline: Punishments were quit severe. Truants and delinquents were caned on their palms and slapped on their faces. A strange mode of punishment was to make the children hold their ears by taking their hands from under their thighs while sitting on their tiptoes.

(13) Types of institutions: Primary education was imparted in 'Maktabs' and secondary and high education in 'Madrasahs'.

(14) Vocational education: Provision was also made for vocational, technical and professional education. Emperor Akbar took considerable interest in education as is evident from the passage of from the 'Ain-in-Akbar'. The passage makes interesting reading and provides valuable information on the system of instruction, i.e., curriculum, methods of teaching etc.

Chief features of Primary and Elementary Muslim Education

(1)   **Institution of primary education:** Primary education was imparted through the 'Maktab' which were attached with mosque or were independent of the mosque 'Khanquahs' of the saints also at some places served as centres of education. Several   learned men also taught students at their residences.

(2)   **Financing of the Maktabs:** Most of the Maktabs were either patronized by rulers or had endowment. They dependent on the charity of the philanthropists.

(3)   **Management of the 'Maktabs':** The 'Maktabs' were run under the guidance of the learned 'Maulavis'. They were supposed to be very pious.

(4)   **Curriculum:** Curriculum varied from place to place but the teaching of Alphabets and the recitation of Quran was almost compulsory. The students learnt some portions of Quran by heart as this was considered essential to perform religious functions.

(5)   **Language:** Arabic and Persian languages were mostly compulsory. For getting high government posts, one had to learn these languages.

(6)   **Fees:** There were several village schools where the students were required to pay their instructions, not in cash but in kind.

(7)   **Orphanages:** The state set up some Orphanages where the children received education free of charge. Vast endowments were made for these orphanages.

(8)   **Age of admission:** At the age of four years, four months and four days, 'Maktab' ceremony or 'Bismillah' was performed to indicate the beginning of the child. This was considered as an auspicious moment for initiation or starting education. Good wishes were offered to the child. 'Surah-i-Iqra' a chapter from the holy Quran was recited on this occasion.

(9)   **Education of sons of Nobles and Rulers:** The Muslims nobles as well as rulers engaged tutors to teach their children at home.

(10) **'Wide- spread Maktabs':** Almost every village had at least, one 'Maktab'. There were several 'Maktabs' in town and cities.

(11) **Curriculum and Mode of Instruction:**

(i)   During those days there were no printed books for the beginners. Wooden books (taktis) were used.

(ii)   **The Quran :** After alphabets, words were taught to students

(iii)   **Stress on Calligraphy:** beautiful and fine handwriting was an important element of instruction.

(iv)   **Teaching of Grammar:** Grammar was taught as it was considered very valuable in teaching the languages.

(v)   Religious Instruction: Instruction imparted in the 'Maktabs' was religious through and through.

(vi) Books other than Quran: After the Quran, the 'Gulistan' and the 'Bostan' poems of poet Firdausi were taken up.

(vi) 'Paharas': Students also learned 'Pahars' (multiple of numbers). Students memorized these while uttering collective in a loud voice.

(12) Buildings: In general, the students sat on the ground in the rows under the shade of a tree and the teacher used mat or dear-skin to sit at. He also attended to the students while standing.

The Madrasahs or Madrasas

The 'Madrasahs' imparted secondary and higher education. Often these Madrasahs were attached to mosques. The term 'Madrasahs' is derived from Arabic word 'dars' (a lecture) and means a place where lecture is given. There was difference in principles between the Madrasahs and other mosques. When a particular room was set apart in a mosque for the teaching purposes it was called a Madrasahs. Sometimes it was quite close to a large mosque. It functioned as college of higher education where eminent scholars taught different subjects by using the lecture method supplemented by discussions. Management was usually private supported by state grants and endowments. The content of the curriculum was both religious and secular and covered a period from 10 to 12 years. Religious education comprised deep study of the Quran, Islamic law

and Sufism. Literature, logic, history, geography, astronomy, astrology, arithmetic, agriculture and medicine were the secular subjects taught in madrasahs. Some madrasahs had hostels attached to them which provided free boarding and lodging.

HINDU SYSTEM OF EDUCATION DURING THE MEDIEVAL PERIOD

Chief features of Hindu system of Education in India during the medieval period

(1)   Lack of state support: With the advent of the Muslim rule, the state support for the Hindu system of education almost ended. Now it depended upon the rich people, scholars and village communities. Of course where there were no Muslim rulers, it received state support. Gradually there remained a few such areas.

(2)   Religion Oriented Education: The system of education, by and large was dominated by religion.

(3)   The 'Pathshalas': Elementary education was imparted in 'pathshalas' which existed both in villages and towns.

(4)   Building of pathshalas: Usually pathshalas were held in the veranda of some house or under trees. There were also separate houses for pathshalas. Specific type of buildings for them did not exist. Premises of the temples were also used.

(5)   Fees: No regular fees were charges from the students. The parents gave presents to the teachers. Students were required to render personal service to the teachers. Sometimes teacher also engaged themselves in part time work to supplement their income.

(6)   Instructional Methods at the Elementary Stage: There were four stages of Instruction at the elementary stage. In the first stage writing letters of the alphabet on sand was taught to students. In the second stage, the teacher wrote on palm leaves and the students traced over them with red pen and charcoal ink .These cold be rubbed very easily.

In the third stage, the student wrote and pronounced compound components. Excessive practice was given to the students in this regard. Common names of persons were used for this purpose. At this stage also, the student was taught to use the words in the formation of sentences. He was also taught to make a distinction between written and colloquial languages. The students were

taught to rules of arithmetic and multiplication tables repeated by the entire class. In the fourth stage, students were taught to use paper for writing .

(7) Curriculum at the elementary stage:

(i) Knowledge of weights and measures was considered essential therefore; arithmetic was a compulsory subject at the elementary stage. According to Dr. Krishnalal Ray,(1989),the elementary schools were mainly for giving instruction to these R's and them practical application (such as composition of letters and business documents.).

(ii) Literature was included in the curriculum; real literature taste was not cultivated.

(iii) Moral and religious instruction also had a secondary place in these schools.

(iv)In some schools, salutation to Goddess Saraswati (the Goddess of learning) was learnt by heart by the students.

(v) Instruction in mythology and sacred love of the Hindus was also given in some schools.

(4) Points to remember

4.1 Ancient education emerged from the Vedas. They are supposed to be the source of

Indian philosophy of life. Vedas means 'to know'.

4.2 The basis of Indian culture lies in the Vedas, which are four in number-(1) Rig Veda

(2) Sama Veda (3)Yajur Veda (4)Atharva Veda.

4.3 Women were given full status with man during the Vedic age.

4.4 Buddhist education was based on the teaching of Gautama Buddha.

4.5 The chief aim of education was spread of Buddhist religion and attainment of nirvana through it.

4.6 Pabbajja was an accepted ceremony of the Buddhist monasteries.

4.7 The chief aim of medieval education was to bring the lift of knowledge in the followers of Islam.

4.8 Maktabs were primarily schools meant for small children and higher education was imparted through the institution of madrasahs.

Language policy during mughal period

The Education system in mughal period during Akbar was in advance of his age and made an attempt to raise the intellectual level of the people. Although he did not establish a network of schools and colleges all over the country for the benefit of the school-going population and did not allocate a fixed percentage of the state revenue for expenditure on education, he encouraged education in diverse ways.

The mughal education system consisted of primary and secondary schools, and even colleges. Some of them were established and maintained by mughal government, while others depended upon private philanthropy. There was a maktab or primary school attached to every mosque where elementary reading, writing and arithmetic, besides the Quran, were taught. In addition to these, there were madrasahs which may be called secondary schools or colleges. Akbar established colleges at Fatehpur Sikri, Agra, Delhi and other places, and richly endowed them. His example was followed by his courtiers. Quite early in his reign Maham Anga had built a madrasahs near the western gate of Purana Qila at Delhi. Khwaja Muin established a college at Delhi.

There were many such colleges in all important towns with a sufficiently large Muslim population. In these colleges Islamic theology, jurisprudence, philosophy, logic and astronomy were taught by distinguished teachers some of whom had received education outside India. There were schools and higher centres of learning for the Hindus in every part of the country. There was a remarkable revival of our ancient learning during the age of Akbar. There was a school in every village and in fact a school attached to every temple where reading, writing and arithmetic and religious books were taught. In higher centers of learning, Hindu theology, Sanskrit grammar, philosophy, literature, logic, astronomy, higher mathematics and other sciences were studied.

Akbar made an attempt to revise the curriculum and to include certain important subjects in the courses of study meant for grown-up boys at schools and colleges. These subjects were science of morals and social behaviour, arithmetic, notations peculiar to arithmetic, agriculture, geometry, astronomy, physiognomy and foretelling, household economy, public administration, medicine, logic, sciences and history. Students of Sanskrit were required to study grammar, philology, logic, Vedanta and Patanjali. These were to be studied gradually. The teacher was only to assist the pupils to learn. Students were particularly advised to commit moral precepts and sayings to memory, and no one was to neglect "those things which the present time required."

Probably, colleges were required to specialize in some of the above subjects. It is unlikely that every institution was required to teach all the above subjects. Another educational reform introduced during the Mughal period was to open the madrasahs to Hindus. For the first time in medieval India, Hindus and Muslims received their education in common schools and read the same books. The reform was necessitated by the fact that Akbar had made Persian compulsory for all the state officials and by his desire to create a common nationality.

The Mughal educational system produced remarkable men in every walk of life who contributed to the success of the later days of Akbar and of the reigns of Jahangir and Shah Jahan and were able enough to shed lustre on any age and in any country. This is enough to show that the reform had proved efficacious.

Akbar's court was a centre of learning and art. The emperor, his courtiers and officials were liberal patrons of letters. The age consequently witnessed a cultural renaissance of a high order. Works of high literary value were produced in various subjects, particularly on historiography. The Hindi poetry of Akbar's age is unrivalled and has become classical for all time. Such high production would have been impossible without proper educational organization and atmos-phere.

The court played a very important part in the Mughal emperor's scheme of the propagation of education and culture. Akbar encouraged men of letters and arts to produce standard scientific and literary works on a variety of subjects. Books on religion, philosophy, literature, biography, history, mathematics, astronomy, medicine and other subjects were brought

out in large numbers. Poetry was not neglected. Fine arts like architecture, music and painting were also encouraged.

Inspired by the laudable ambition of creating a common culture, Akbar established a Translation Department and had outstanding works in Sanskrit, Arabic and Turki rendered into Persian, so as to enable the Hindus and Muslims to know the best in each other's religion and culture. For the above purpose the services of high-ranking scholars in the country were requisitioned. Many famous scholars from outside India were also invited to assist the indigenous talent in the above work. Many a Sanskrit treatise, including the Vedas and the Ramayana and the Mahabharata, were rendered into Persian. Arabic works of repute on Muslim theology and arts were also translated into Persian.

A school of Indian historiography was founded and a large number of histories were written by eminent historians. Libraries were opened. The royal library in the palace was one of the most wonderful institutions of the kind in the world. It consisted of many thousand books, all of which were manuscripts, sumptuously bound and beautifully illustrated. The books were classified according to their subject-matter and the language in which they were written. There were Sanskrit, Persian, Greek, Kashmiri and Arabic works.

Hindi, which was coming into prominence, was patronized. Although the education in Mughal period, as planned by Akbar was through the medium of Persian which was the court language and compulsory for state servants, schools attached to temples and private institutions founded and maintained by the Hindus must have imparted knowledge through the medium of Hindi. The measures undertaken by the Mughal emperor indicated a desire on his part to raise the moral and intellectual standard of the people. It must, however, be admitted that the scheme was meant mainly for the upper and middle class people.

Language policy during European Settlement or under East India Company

The British first used the Persian language in the commercial arena. In the second half of the eighteenth century, the English trading company was politically responsible for the administration of. the territories in the sub-continent where. Persian was the lingua franca of administration commerce and diplomacy. The Company already had trade relations with the Persian Gulf and their operations in this connection were conducted from its factories in western

India. Naturally, they needed information and knowledge to carry out their commercial ventures. In 1731 when the Company wished to obtain a fannan (royal order) from the Mughal emperor to reduce taxes on their internal trade in India and for other privileges, they had no one in their· Bengal establishment who knew sufficient Persian to carry out the negotiations. They thus had to depend on an Armenian merchant for this vital function. As early as 1757, before acquiring territorial sovereignty over Bengal, the Court had issued an order which provided for sending five servants to Basra and two others annually 'to study Persian and nothing else' in order to come back to Bengal 'and take their standing according to their rank at service' . The pressure was building on the Company officials .James Fraser, an employee of the Company at Surat for nineteen years, learned Persian well enough to write a contemporary history of the court of Nadir Shah, based on a Persian accounts and 'constant correspondence' between Iranians and Mughals. He learned Persian from a Parsi, and studied with a scholar at Company who was famous for his knowledge of Muslim law.

After the battles of Plassey (1757) and Buxar (1764), the East India Company attained legal rights in 1765 from the Mughal Emperor Bahadur Shah over Bengal, Bihar and Orissa as Diwan or Official Controller of the administration of the province in 1765. By 1813, they had control over most parts of north, central and south India, including Awadh, Mysore, and Peshawar. When the English were firmly established on the saddle of the Government of Bengal after 1765, they began for their. Own convenience to bring in English for administrative purposes, side by side with Persian. All state documents would for decades after this still would be in Persian, with English translations.

Language Policy under British Rule

Odia becomes the first language from the IndoAryan linguistic group, the Sixth Classical Language of India. In February, 2014 the decision to accord this status to Odia language indicated that Odia has no resemblance to Hindi, Sanskrit, Bengali and Telugu. This has caused tremendous excitement in the State and its people.

The Classical language issue actually emerged during the British era. During 19t h Century Tamil Scholars those who were conscious of their Tamil heritage have been rging upon the classical character of their mother tongue to be recognised. They claimed that Tamil had rich

original literary and grammatical traditions, had its own script system and an unbroken history. In addition they claimed that Tamil was spoken for the last 2000 years. Their demand had some weight age.

In 1920 Nagpur Session of AICC Gandhi to bring Congress closer to the people suggested the formation of language based provincial congress committees. This helped the Utkal Pradesh Congress Committee to be formed under Utkalmani Gopabandhu Das separating the party from Bihar Pradesh Congress Committee. The popular movement under Gandhi's leadership was not hinting towards the idea that in free India language would become the basis for the formation of the Indian States. Of course, Odisha became the first State under the British to be linguistically organised. In 1940s the north Indian politicians demanded that Hindi should be the 'National Language'. This distanced the south from the Hindi dominating thinking. In the Constituent Assembly when the issue of Official language was discussed it was after a due debate decided that 'Hindi'in 'Devnagari'script shall be official language of India and a 15 years time was given for the Indians to learn and respect the language.

In 2001 census it was found that 30 languages are spoken by more than a million ative speakers and 122 by more than 10,000 speakers. More than three millennia of language contact have led to significant mutual influence among the four language families in India. Two contact languages have played an important role in the history of India. They were Persian and English.

Language policy as given in Indian Constitution

On August 15, 1947, India achieved independence, although the country was immediately partitioned into two separate countries: Hindu India and Muslim Pakistan. The following year, Mahatma Gandhi was assassinated by a Hindu extremist, and the disappearance of the inspirational force behind independence ushered in a new period in Indian history. Nonetheless, on January 26, 1950, India adopted a new constitution that created a federal state known as the Indian Union, a democratic lay republic and member of the British Commonwealth.

The Constitution adopted in 1950 stipulated that English and Hindi would be used for the Union's official business for a period of fifteen years (s. 343(2) and 343(3)). After that time, Hindi was supposed to become the sole official language of the Union. It proved impossible to replace English with Hindi, however, because of strong opposition from the southern states,

where Dravidian languages were spoken. They felt that the federal government was trying to impose Hindi across the country, including the south, and preferred to continue using English, which they found more "acceptable" because, unlike Hindi, it was not associated with any particular ethnic group. Later, the Official Languages Act legally established Hindi and English as the languages used in Congress, while leaving states and territories free to choose their own official languages.

Language Policy & Medium of Instruction after independence

Because many African countries lack a common indigenous language to serve as the national language and medium of instruction, European colonial languages such as English, French, and Portuguese have been used to foster postcolonial multiethnic unity. Tanzania shares with many African countries a colonial legacy in which English is used as an official language and as the medium of instruction in secondary and tertiary levels of education. However, Tanzania is also distinctive in having an indigenous language, Kiswahili (also known as Swahili), which is spoken by most Tanzanians, is the national language, and is the medium of instruction in primary schools.

Equating the use of a foreign language with good education is common throughout Africa. After independence, countries such as Ghana, Kenya, and Zambia insisted on English as the medium of instruction from the first grade,[1] even though vernacular languages had been used in the first few grades during British colonial rule. As Mazrui and Tidy note, it is ironic that independent African countries have sought to introduce English into the educational system earlier than did the British, based on the perceived need to expose students to English at an early age when they learn language best.[2]

The disturbing anomaly of such a policy is that, after primary school, many Africans have little use for English since they do not go on to higher education. In Kelly's view, the policy of using English as a medium of instruction in Zambia has actually impaired learning.[3] The same might be said for Tanzania, where belief in the superiority of education in English affects education in all subject areas, and perhaps especially in the social studies, normally considered the vehicle for forming a new multicultural national identity in postcolonial states.

This belief in the superiority of education in a foreign language, while often not acknowledged by policy makers, is very evident in their policies. One is reminded of Ngugi's observation that "The choice of language and the use to which language is put are central to a people's definition of themselves in relation to their natural and social environment, indeed in relation to the entire universe."4 Language policies of African nations must address the question of decolonizing the mind, so it is encouraging to note that educators in South Africa consider this problem seriously and assert that education can be imparted in any language.5

In this article, I argue that Tanzania's language policy in education, formulated in 1960 from the British colonial education system, is no longer consonant with present realities because English is no longer an effective medium in secondary schools. I argue, furthermore, that the language problem is symptomatic of the larger crisis of a neglected education system in Tanzania, and that Kiswahili has become the scapegoat for declining standards of education. My conclusions are based on my examination of policy decisions and implementation as reported in documents of the ruling party, the Ministry of Education, and research reports, along with my years of experience as a secondary school teacher in Tanzania in the 1980s.

Views of Great thinkers with respect to medium of instruction

a) Rabindranath Tagore

This paper probes the link between western approach to education in India and Tagore's educational view. The focus of this paper is on the thought of Rabindranath Tagore, especially in his educational ideas. Thus, this paper attempts to perceive the approaches and the values in two gigantic educational philosophies, education system from the West and East that is Tagore's. Here, I use the comparative methodology to analyze Tagore's educational philosophy vis-à-vis western educational philosophy. The culture and tradition of the society itself had shaped in development of both philosophies, revealed how far these disciplines are contrast to each other. To accomplish this I will first look at the educational philosophies of these two major international educational players in the history of India. The following comparative analysis will be emphasized on several aspects, namely the originality, principles, aims, medium of learning, distribution of knowledge, and harmonization of national visions.

Introduction

Rabindranath Tagore was a prominent poet and profound thinker. He was born in Calcutta on 6 May 1860. Although he was not educated in any university, he was a clearly a man of learning. He had his own original ideas about education, which led him to establish an educational institution named Vishva Bharati in Shantiniketan with the intention of re-opening the channel of communication between the East and the West. He travelled extensively in different countries of the world, and was a successful mediator between the Eastern and Western cultures.

It has been generally accepted that different places have their own culture and tradition. Generally, Western philosophy of education comprises two schools, traditional and modern. It has its roots in Athens, Rome and Judeo-Christianity, whilst Tagore's philosophy of education draws its inspiration from ancient Indian philosophy of education. However, it could be said that Tagore's philosophy of education may become a representation of the Eastern philosophy apart from others like Islam, Confucianism, Taoism, and Mahayana Buddhism. By looking on Western countries and India, both countries have distinct differences in their ways of developing and shaping an individual, in terms of skills and attitudes. Thus, different cultures will have different philosophies, which results in different ways of doing things, especially in educating the next generation.

Western Education in India

Philosophy of education developed by the West was shaped through philosophical thought, which manifested through an idea characterized by Materialism, Idealism, Secularism, and Rationalism. This philosophical thinking, however, affected the concept, interpretation and the definition of the knowledge itself. Rene Descartes, for instance, uses ratio as the sole criteria to measure the truth. Other western philosophers, such as John Locke, Immanuel Kant, Martin Heidegger, Emilio Betti, and Hans-Georg Gadammer, among others, also emphasize the use of ratio and the five senses as their source of knowledge, by which it creates a variety stream of philosophies and thoughts, such as empiricism, humanism, capitalism, existentialism, relativism, atheism, and many others that profoundly affect a number of disciplines, such as philosophy, science, sociology, psychology, politics, economics, and so on.

Consequently, western philosophy of education is not established on revelation or any religious tenets but being established on a cultural tradition strengthened by philosophical speculation bounded by secular life placing man in the centre as a man of ratio. Hence, the science and its ethical and moral values, administered by human ratio always experience changing. According to Syed Naquib Al-Attas, there are five factors underlying western culture and educational philosophies. First, the use of ratio to guide one in his own life. Second, posing duality between reality and truth. Third, emphasizing an existence projecting secular worldview. Fourth, the doctrine of humanism. Fifth, using history as a dominant element in natural tendency and human existence.[1] Those five factors have a very great impact on western intellectual paradigm shaping educational pattern in the west.

Medium of Education

The medium of education discourse also became an important point pertaining to Tagore's idea. The use of English in education prevented assimilation of what was taught and made education confined only to urban areas and the upper classes rather than rural areas. Therefore, if the vast rural masses were to benefit, it was absolutely essential to switch over to the use of Bengali in the context of Bengal at all level of education. Tagore believed that without knowledge pattern of rural living and an effort by the school to revitalize rural life, academic learning would be incomplete. And this is the reason behind the establishment of his own university, popularly known as Visva Bharati.

Tagore stressed on the unnaturalness of the system of education in India, its lacks of links with the nation and its management, which was in the hands of a foreign government. The working of the government, its court of law and its education system were conducted in a language completely meaningless to the majority of Indians. He contrasted the situation in India with what he had seen in the USSR and in Japan, where the governments had been able to educate their people within a very short time. He argued that to educate India's entire population and restoring the flow of culture from the educated classes to the rural population would not come about unless the mother-tongue was adopted as the medium of teaching.

b) M.K. Gandhi

Education Policy as Envisaged by Mahatma Gandhi:-

With the attainment of freedom in 1947, India embarked on a new era. On 15th August, 1947 people showed a definite and spontaneous indication to embrace the newness of the times. Mahatma Gandhi, whose interest had always been co-extensive with social needs, had all along been advising the Congress to take up the cause of education from pre-independence times. Mahatma Gandhi had, earlier in his career, stated, like Ruskin, that "Speed is not always progress", and according to that idea he had resolutely set his face against accepting all type of education as of equal importance. So, education, according to Mahatma Gandhi, was not exactly a pursuit of freedom of expression, but a modified method to specifically suit the goal of nation building of the new India. He was thinking of a revolutionary type of education for upliftment of the vast rural India as a prime goal, and due to his insistence National Educational Conference was held at Wardha in as early as 1937 to set the ball rolling. A Committee of distinguished educationists, headed by Dr.Zakir Hossain, was entrusted with planning a syllabus for basic education. The report of the Committee along with the detailed syllabus was published in 1938. In 1938 the Indian National Congress at its 51st session at Haripura accepted, certainly under guidance of Mahatma Gandhi, the principle of Basic National Education, and authorized the formation of an All-India Board to work out a practical implement able program. Next month, the Board was formed, under the name and style of Hindustani Tamili Sangh, under the advice and guidance of Mahatma Gandhi, and immediately its work took concrete shape. The basic concepts can be noted as:-

1. Free and compulsory education for seven years on a nationwide scale.

2. The medium of instruction must be in mother tongue.

3. Throughout this period education should centre round some form of manual and productive work, and all other activities to be developed or training to be given should, as far as possible, be integrally related to handicraft pattern chosen with regard to the environment of the child. The idea was to develop a basic craft model adopted to suit different areas of learning, including say basic Mathematics or Science, and it was even envisaged that those craftworks be sold to the

Nation to make education self reliant. Generally speaking, it was felt even at that time that the prevalent education with the colonial legacy led us to learn from books and did not allow us to garner knowledge by perception. The use of craft had been no doubt accepted as an education technique, and the Abbot-Wood report drew the attention of educationists here in India to the subject, but it was never thought of as the medium of instruction before Mahatma Gandhi had boldly placed it as such.

The basic features of the Wardha scheme could be summarized into two relevant factors. They were that education should be imparted through a basic craft at least during the first seven years of basic education, and that the sale of products of craftwork done under the system should make the system self-supporting. The principle that education should be imparted not through passive reception but through a productive activity was an acceptable principle to the educationists of the world. Among all kind of productive activities craftwork was acknowledged to be suitable for educational purposes. Psychologically it was sound as it saved the child from the tyranny of purely academic and theoretical instructions and balanced the intellectual and practical elements in child's experience. It was also envisaged that by sale of craftworks the student might be able to earn some money as well. Few communist thinkers of India in that era welcomed the Wardha scheme, as Mahatma Gandhi kind of insisted that all work should be purposeful and productive even in the context of basic education. The communist intellectuals thought that education through work would be a revolutionary program for leveling and equalizing, where every citizen would be groomed to perform his/her quota of work. The idea was very much in consonance of the life-philosophy of Mahatma Gandhi, as every effort conceived by him was ultimately a struggle for freedom—freedom from ignorance, inefficiency, insecurity, oppression, exploitation, injustice. Naturally, to Mahatma Gandhi, education needed to be designed as a tool to attain freedom, particularly freedom for the rural people of India. Cult of power created by assimilating knowledge without a definite end view would seem to Mahatma Gandhi a dangerous process. He could only conceive education as a dynamic force leading to a definite destination. In Mahatma's own words" My plan to impart primary education through the medium of village handicrafts like spinning and carding, etc, is thus conceived as the spearhead of a silent non-violent social revolution fraught with the most far reaching consequences. It will provide a healthy and moral basis of relationship between the city and the village and thus go a

long way towards eradicating some of the worst evils of present social insecurity and poisoned relationship between the classes. It will check the progressive decay of our villages and lay foundation for a juster social order in which there is no unnatural division between the 'have' and 'have-nots' and everybody is assured of a living wage and right to freedom. Lastly by obviating the necessity for highly specialized talent, it would place the destiny of the masses, as it were, in their own hands."

National Attitude on Mahatma Gandhi's Principle on Basic Education:-

First of all, the sudden death of Mahatma Gandhi in 1948, definitely put his idea on basic education to a halt. It was certainly an unfortunate development, as the Wardha National Education Commission was set up in 1937, and came out with its report as early as 1938, and a National attempt to establish the concept was pursued fairly vigorously. In pre-independent India the provincial governments tried to implement the program in Bihar, Mumbai and UP at to some extent in Orissa. Teacher's training schools to prepare teachers to train students according to Wardha Commission reports were also set up at various centers in India, one being at Balarampur of Midnapore district in West Bengal. There were of course quite a few critics of Mahatma Gandhi's idea of a utilitarian type of basic education, but nevertheless it was accepted by the Congress as a national policy to be implemented in post-independence India and a great deal of interest was shown to put the revolutionary idea at work. But in reality, after Mahatma Gandhi's demise, the whole idea was quietly buried, never to be reopened at any stage in post independent India till date. Whether it was buried because the later generation didn't like the idea, or it was buried for simply logistic problems, or whether the Government of India at that point of time didn't have the will and power to dismantle the running education system inherited from the colonial rulers and initiate the gigantic change, can be a matter of debate. But in reality a great vision was left to rot rather unceremoniously. In effect India could not establish an Indian concept of education, as was the dream of Mahatma Gandhi or Rabindranath Tagore and just let the colonial pattern of education to evolve in unplanned manner in post independent India. As the colonial pattern was basically an alien pattern, the education system in India always maintained the alien streak, we can not really say with conviction that the education we had, could really create a deep resonance in our Indian hearts.

c) **Swami Vivekananda**

The establishment of teacher education system in India is rooted in the history of modern education system for the masses established in the 19th century England and Europe to educate children in the three r's (reading, writing and arithmetic). Given the nature and requirements of these schools, the early models of the 'monitorial and pupil teacher systems' were considered appropriate for a large mass of teachers that was needed to cater to the increasing population of students. These subsequently gave way to the 'normal' school (then prevalent in Europe) which institutionalized teacher training. The evolution of teacher education in India was similar to the developments in Britain wherein' monitorial and pupil-teacher systems' were introduced in several parts of the country. By 1882, there were 106 normal schools in different parts of India. By the end of the 19th century, training colleges that would cater to secondary education became more prevalent and subsequently began to be affiliated to universities for the purpose of licensing. Since traditionally, it was secondary teacher education institutions that developed into university departments of education, elementary education and early childhood education have been neglected as distinct areas of knowledge with their own distinct concerns, concepts and methodological perspectives. Now is the time to rectify -this situation. Reform of teacher education has been one of the key concerns in the reports of major Education Commissions and Committees on education. The early 21st century has seen a significant shift in public policy.

Vision of Teacher and Teacher Education

As we engage in the act of envisioning the role of the teacher and the shape of teacher education unfolding in the coming years, it would do us well to take note of the movement of ideas, globally, that have led to current thinking on teacher education. While the search for a philosophy of teacher education that satisfies the needs of our times continues, we seem to be converging on certain broad principles that should inform the enterprise. First, our thinking on teacher education is integrative and eclectic. It is free from the hold of 'schools' of philosophy and psychology. Teacher education is not to be construed as a prescriptive Endeavour; it has to be open and flexible. The emphasis has to be on changing contexts and the object should be to

empower the teacher to relate himself/herself to them. Second, modern teacher education functions under a global canvas created by the concepts of 'learning society', 'learning to learn' and 'inclusive education'. The concern is to make teacher education liberal, humanistic and responsive to the demands of inclusive education. The emphasis in teaching has to shift from didactic communication to non-didactic and dialogical explorations.

Third, modern pedagogy derives its inspiration more from sociological and anthropological insights on education. There is increasing recognition of the worth and potential of social context as a source for rejuvenating teaching and learning. Multi-cultural education and teaching for diversity are the needs of contemporary times. Fourth, the existence of a diversity of learning spaces and curriculum sites (farm, workplace, home, community and media), apart from the classroom has to be made visible. Accordingly, the diversity of learning styles that children exhibit and learning contexts in which teachers have to function - oversized classrooms, language, ethnic child, social diversities, children suffering disadvantages of different kinds have also to be appreciated. Lastly, it has to be stressed that the so called knowledge base of teacher education has to be understood in terms of its tentative and fluid nature. This makes reflective practice the central aim of teacher education.

As such pedagogical knowledge has to constantly undergo adaptation to meet the needs of diverse contexts through critical reflection by the teacher on his/her practices. Teacher education needs to build capacities in the teacher to construct knowledge, to deal with different contexts and to develop the abilities to discern and judge in moments of uncertainty and fluidity, characteristics of teaching-learning environments.

Why swami Vivekananda, as the first in the series of thinkers, is to be introduced

The various apex level bodies in our country including the regulatory ones are getting drawn towards the responsibility of promoting concern for values and professional ethics. As such they are already making a strong avocation for creation of credit or noncredit based modular courses in human values, professional and moral ethics and sundry other courses designed to directly and indirectly contribute towards the development of competence and commitments of the professionals in this regards. As such, Swami Vivekananda has been sighted

as the first in our series of producing such materials/discourses. It is derived from our understanding that the exposure of this type will enthuse and inspire the young professionals to adopt and assimilate the essential human values and evolve standards of professional ethics drawn from our cherished tradition and cultural heritage.

As cogently put by A.D. Pusalker, Swami Vivekananda is universally acclaimed as a pioneer in the field of national liberation in India. He was complex personality being a lover of humanity, a world teacher of religion, a great patriot, and a leader of the Indian people. Truly has he been regarded as a patriot-saint of modern India and an inspirer of her dormant consciousness, who instilled a freshness and vigor into it. He presented the rare combination of being a patriot and a saint, in whom patriotism was deified into the highest saint ship and loving service to fellow men into true worship.

Almost on a similar wave length A.L. Basham holds that even now a hundred years after the birth of Narendranath Datta, who later became Swami Vivekananda, it is very difficult to evaluate his importance in the scale of world history. It is certainly far greater than any Western historian or most Indian historians would have suggested at the time of his death. The passing of the years and the many stupendous and unexpected events which have occurred since then suggest that in centuries to come he will be remembered as one of the main moulders of the modern world.

Conclusion

In conclusion, despite multilingualism being well established as the predictable condition of all human society, historically nation-states have absorbed and legitimized discourses and self-understanding as homogenous and unilingual states. Yet this daily and ubiquitous linguistic pluralism clashes with the official declarations and preferences for monolingualism, a monolingualism that privileges dominant languages and pushes education systems to promote secure, bounded, hierarchically ranked languages with uncontested literary canons. These are immense challenges whose depth and importance will be with us for decades into the future even as they are transformed further by migration, technology, and new understandings of

communication. We need a new optimism that education language planning can be put to the service of multiliterate, multicultural, and multilingual future global citizens.

Questions for Discussion and Reflection

1. Explain the importance of Language in Education.
2. Discuss the Language policy given in Indian Constitution.
3. Compare and contrast the medium of instruction and language policy during Vedic period and Buddhist period.
4. Explain the views of great thinkers with respect to medium of instruction.

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Unit – IX Midday Meal Scheme as a Socialisation Process

Objectives:

After the completion of the unit, the learners will be able to:

1. obtain knowledge about meaning and concept of Midday Meal Scheme.

2. grasp the benefits of Midday Meal Scheme.

3. analyse the process of Midday Meal Scheme in Tamil Nadu.

Introduction

The concept of midday meal scheme is not new in India as its roots can be traced back to pre-independence era when British administration initiated a Midday Meal Programme for disadvantage children in Madras Municipal Corporation in 1925. Like this many such programmes were initiated in different states. Tamil Nadu became the first state in India to introduce a noon meal programme in primary schools. In 1984 this scheme was introduced in Gujarat. From time to time the meal scheme was taken up by different states and later on it was taken up as a national scheme.

Government of India launched *National Programme of Nutritional Support to Primary Education*(Commonly known as **Mid-Day Meal Scheme)** on August 15, 1995 to provide mid-day meal to the children studying at primary stage. In 2002, the Supreme Court directed the Government to provide cooked Midday Meals in all Government and Government aided primary schools. It was revised in September 2004 and in September 2006.

Objectives of Midday Meal Scheme

1. Improving the nutritional status of children in classes I – VIII in Government, Local Body and Government aided schools, and Education Guarantee Scheme (EGS) and Alternative and Innovative Education (AIE) centers, National Child Labour Project (NCLP) Schools and Madarasa and Maqtabs supported under Sarva Shiksha Abhiyan (SSA).

2. Encouraging poor children, belonging to disadvantaged sections, to attend school more regularly and help them concentrate on classroom activities.

3. Providing nutritional support to children of elementary stage in drought-affected areas during summer vacation.

History of Midday Meals Scheme (MDMS)

Initiatives by state governments to children began with their launch of a midday meal programme in primary schools in the 1962–63 school year. Tamil Nadu is a pioneer in introducing midday meal programmes in India, Thiru K. Kamaraj, then Chief Minister of Tamil Nadu, introduced it first in Chennai and later extended it to all districts of Tamil Nadu. In 1982, July 1st onwards, the Chief Minister of Tamilnadu, Thiru. M.G.Ramachandran upgraded the existing Mid-day meal scheme in the state to 'Nutritious food scheme' keeping in the mind that 68 lakhs children suffer malnutrition.

Benefits of Midday Meal Scheme

1. Beyond the immediate impact on hunger and nutrition, the Midday Meal Scheme has provided a strong incentive for parents to send their children to school.

2. Previous studies on primary education in rural India have suggested that midday meals enhance school participation, especially among girls.

3. Providing meals puts an end to the phenomenon of classroom hunger

4. Midday meals contribute to socialisation, in a caste and class-ridden society. It has been noted that the experience of sharing a common meal helps erode caste prejudices and class inequities.

5. drop-out rates have shown a decline.

Implications of MDMS on School Education

Tamil Nadu has also covered high school students under the midday meal scheme. The centre's mid-day meal scheme is only for the primary and middle school students. The contribution of state government in addition to what the centre allocates for mid-day meals is much higher in comparison to that of other states. Tamil Nadu has gone about implementing the scheme in a more organised way. The payment to the noon meal organiser (NMO) in the state is

Rs 7,000, the cook and helper gets Rs 5,000 each. Tamil Nadu is the only state which recruits NMOs to organise midday meals. Civil society is now pressing the Tamil Nadu government to expand its menu. "Besides eggs and potatoes, we are demanding inclusion of millets and other coarse grains in the scheme".

MDMS as a Socialization Process

In addition to higher allocation of funds, the state has also worked on community participation in providing school mid-day meals. The state has constituted vigilance committees at panchayat level to supervise mid-day meals.These committees are very active in Tamil Nadu and thecommittees carry out tocheck every schools thrice in a week. The committee members include parents of students apart from teachers and local representatives.

Impact of MDMS in Tamil Nadu

Tamil Nadu, in fact, could serve as a model for the rest of poor performing states as far as implementing mid-day meals is concerned. The state has not only provided kitchen infrastructure to more than 92 per cent schools but has also started upgrading and modernising it by providing cooking gas facilities. Complaint boxes have been installed in every school, BDO offices, district and state offices to redress grievances. Tamil Nadu has also covered high school students under the mid-day meal scheme. The Centre's mid-day meal scheme is only for primary and middle school students. The contribution of state government in addition to what the Centre allocates for mid-day meals is much higher in comparison to that of other states.Under this programme, almost 80 per cent of students of state get covered, which costs the state exchequer around Rs 1,500 crore.

Conclusion

The experience so far clearly shows that mid-day meals have much to contribute to the well-being and future of Indian children. However, qualitative improvements are urgently required if the meals are to achieve their full potential.

Questions for Discussions and Reflections

1. Analyse the impact of Midday Meal Scheme in rural area.
2. Examine the benefits of Midday Meal Scheme in Education.
3. "Midday Meal Scheme is an effective tool for socialisation of children". Discuss.

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Unit – X Emerging Trends in Education

Objectives:

After the completion of the unit, the learners will be able to:

1. know the impact of globalization, privatization and liberalization.

2. understand about the life-long learning.

3. know about online courses.

Introduction

Globalisation is expected to have a positive influence on the volume, quality and spread of knowledge through increased interaction among the various states. In a globalized world, as technology becomes its main motor, knowledge assumes a powerful role in production, making its possession essential for nations, if they are successfully to pursue economic growth and competitiveness.

Concept of Globalization on Education

Globalization means integration of world economies through cross country free flow of information, ideas, technologies, goods, services, finance and last but not the least people. Globalization is a process, which has affected many areas of human life, one of those being education. This means bringing the education system of different economies under common roof which requires unification of teaching curriculum, methodology and up gradation of knowledge and systems to attain the goals of life. In the twentieth century, many developing countries have experienced growth in the educational facilities available to them due to the entry of institutions from the West.

Impact of Globalization on Education

Through Globalisation of education knowledge is getting transferred from the Western countries into developing countries, to improve the skills and capabilities of the people. The direct inter relation between the industries, corporate world and higher education has brought a transformation in the skills required for various jobs. The process of globalization has brought

significant transformation in the world trade, communications, educational activities and economic relations since the latter part of 20th century Education is an important investment in building human capital that is a driving force for technological innovation and economic growth. It is only through improving the educational status of a society that the mufti-faceted development of its people can be ensured. In the post-industrialized world, the advanced nations have derived major proportion of their national income not from agriculture or industry but from the service sector. Since the service sector is based on imparting skills or training to the students and youth, the education sector is the most sought after. It must provide gainful employment so that the sector is developed in a big way. It has also given rise to controversies relating to introducing changes in the inter-sectorial priorities in the allocation of resources leading to the misconceived policy of downsizing of higher education. It has also advocated privatization of higher education without realizing the danger of making the system a commercial enterprise.

Liberalisation

Liberalization will bring a constant stream of funding which will also facilitate a research-based career and make it a viable option for the future of Indian teachers and students.It will expand the supply which is in shortage and the competition among educational institutions will ensure that they do not charge excessive premium for education. Increase in the supply of education will automatically result in the fall education expenditure.

Concept of Liberalization

Liberalization refers to relaxing certain reforms and policies in India. These reforms can be termed as relaxation of previous government's restrictions usually in areas of social or economic policy. Usually the term is used in reference to Economic Liberalization. Though India is Economically Liberal, the Education System is not Liberal. There are many reasons, one of them is that the national education industry does not want competitiveness and Government does not want to give away it's control. The higher education system in India suffers from lack of autonomy and burden of affiliation. It is characterized by extreme rigidity and lack of flexibility. The real weakness of the higher education is in the structure itself, and there is a need for introspection and reflection. Also the public mind-set is for short cut and easy going. Our policy

in terms of education is focused more on only expanding the system with no focus on for quality education.

Impact of Liberalisation on Education

Positive Impact

The Indian economy which is majorly fuelled by the service industry will get a boost with education sector becoming a large chunk of economic source. Hundreds of thousands of Indian students study abroad at an annual estimated cost of around US$ 1 billion and it can even stem the exodus of thousands of students who left the country to study abroad. This will save India immense capital. Allowing corporate would ensure the development of better industry oriented graduates with specific skill sets. Increased in educated population implies rapid developments in technology and communications. It also implies the shift of society from industrialization based towards information based society.

Liberalisation offers students an option of studying close to home with the added benefits of a degree which will be valid worldwide. It also curbs brain drain which is also a nation's loss.

Negative Impact

Students and local institutions in developing countries are also similarly unregulated. Uninformed or simply dubious institutions in developing countries may form partnerships with low-quality colleges and universities in India.

There is also the risk of fake institutes which are looking to stuff their pockets whenever the opportunity arises. Corruption is rampant in India. There is little left to the imagination as to what might be the outcome of such a policy in terms of bribes, false degrees, partial marking etc. There may be unforeseen outcomes which come to light only after the outcome occurs. Local institutes which have limited capital will not be able to survive, rendering many jobless. Even the reputed one's will face competition as their national certificates will be less valued as compared to the world recognised certificates.

Privatisation

Since the impact of privatization is penetrating all sectors of the economy, it is bound to affect education sector as well. As it is very difficult to meet the democratic aspirations of the people for further expansion of educational system due to paucity of resources it is therefore, being felt that the private sector is inducted in education so that it car share the burdens of the state in funding education.

Concept of Privatization on Education

The wave of privatization is sweeping across the world. Within an economy, it is aimed at breaking the monopoly of the public sector in a number of areas, more especially areas connected with infrastructure. The essence of privatization lies in the induction of private ownership in publicly owned enterprises. This can range from total denationalization (zero public ownership) to various degrees of private ownership in the form of joint ventures. This is the narrow sense in which the concept is used, but in a broader sense, it connotes besides private ownership. Introduction of private management and control in public enterprises

Components of Privatization on Education

The major components of privatization of education include the following: Establishment, in the private sector of institutions imparting education and skills viz., schools, colleges, polytechnics, research laboratories, professional colleges in agriculture, engineering, medicine, management etc. Withdrawal of subsidies by introducing full costing in the individual and the institutional domain. To grant the right to the management to start or stop courses in response to market signals and to persuade the users of the output of educational institutions to contribute towards the funding of education.

Impact of Privatization on Education System

At the level of secondary, higher secondary and the college and university as well, public sector has played a dominant role in the A stage has now come when the state is finding it very difficult to meet the democratic aspirations of the people for further expansion of educational system due to paucity of resources, because the demand for funds for the educational sector has to compete with the demand for resources for the other sector. It is, therefore, being felt that the

private sector be inducted in education so that it can share the burdens of the State in funding education.

Secondly, the expansion of the horizons of knowledge is taking place at a rapid pace all over the world; the underdeveloped economies must keep pace with this explosion of knowledge. Emphasizing this point the World Bank has stated: "Today knowledge explosion is dividing the world into fast moving, rich economies that use knowledge effectively and slow moving, poor economies that do not. Education or knowledge industry is becoming a key factor in the process of development.

This being so, education is no longer viewed as a social service, it is considered a necessary economic input and as such investment in education is treated as a factor contributory to human resources development. In this effort towards human resource development, the private sector is also expected to play its part since it is a major beneficiary of the knowledge industry.

Concept of Life Long Learning

Lifelong learning (Colloquialism) is the "ongoing, voluntary, and self-motivated" pursuit of knowledge for either personal or professional reasons. Therefore, it not only enhances social inclusion, active citizenship, and personal development, but also self-sustainability, as well as competitiveness and employability. Although the term is widely used in a variety of contexts its meaning is often unclear, a learning approach that can be used to define lifelong learning is heutagogy.

Need and Importance of Lifelong Learning

Homeschooling involves learning to learn or the development of informal learning patterns

- Waldorf education which teaches children to love learning for its own sake
- Adult education or the acquisition of formal qualifications or work and leisure skills later in life
- Continuing education which often describes extension or not-for-credit courses offered by higher education institutions
- Knowledge work which includes professional development and on-the-job training

- Personal learning environments or self-directed learning using a range of sources and tools including online application.

Concept of Online Education

Online Education is available at most colleges and universities or to individuals learning independently. The education sector in India is no longer bound to just classrooms. Thanks to new start-ups and higher internet and Smartphone penetration, the online learning space in India is growing manifold. The online training in India focuses equally on school and college-based courses as well as mid-level professional courses.

Need and Importance of Online Education

The online courses aims to help students focus on the right subjects and contents rather than swim blindly in an ocean of study materials available across different media. It also focuses on convenience-based training because online capability enables students to get access to subjects anytime and anywhere. The future of education in India will depend on online courses. Better salary hikes and promotions are also the reasons why people undertake new online courses. Even online courses are being offered for free by many institutions.

<u>**Questions for Discussion and Reflection**</u>

1. Discuss the impact of Globalization on Education.
2. What is Liberalization of Education? Elaborate the need for Liberalization of Education.
3. Analyse the effect of Privatization of Education.
4. Bring out the need for Life-long learning.
5. Examine the trends of On-line Education.

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TAMIL NADU TEACHERS EDUCATION UNIVERSITY

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Course Material for B.Ed.(First Year)

(2016-2017)

Course 7 (a): Pedagogy of Economics

(Part –I Methodology)

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UNIT I Aims and objectives of teaching Economics

Objectives:

- To obtain knowledge on the nature and scope of Economics.
- To understand the aims and objectives of teaching of Economics.
- To examine the need and significance of teaching of Economics.
- To explore the values of teaching of Economics.

INTRODUCTION

Most of the people learn informally in the society through their experiences as they get exposed to certain real life situations. However, those who want to make a career in different dimensions, they need to learn it formally. For this, they need to learn it properly, that is possible through pursuing a formal course structure. This gives them a proper understanding of economics. They can apply this knowledge in different context. According to Samuelson and Nordhaus ("Economics"; sixteenth edition; 2000), "Often economics appears to be an endless procession of new puzzles, problems, and difficult dilemmas. But experienced teachers have learned, there are a few basic concepts that underpin all of economics. Once these basic concepts have been mastered, learning is much quicker, and more enjoyable".

MEANING

Economics is the social science that is concerned with the production, distribution and consumption of good and services. The term economics comes from the Ancient Greek – oikonomia, "management of household, administration" from oikos, "house" + nomos, "custom" or 'law", hence :rules of the house (hold)". Economics deals with the study of various activities of man directed towards acquisition of wealth and earning of money.

NATURE

Economics is the science that deals with production, exchange and consumption of various commodities in economic systems. It shows how scarce resources can be used to increase wealth and human welfare. The central focus of economics is on scarcity of resources and choices among their alternative uses. The resources or inputs available to produce goods are limited or scarce. This scarcity induces people to make choices among alternatives, and the knowledge of economics is used to compare the alternatives for choosing the best among them. The numerous human wants are to be satisfied through the scarce resources available in nature.

Economics deals with how the numerous human wants are to satisfied with limited resources. Thus, economics not only covers the decision making behaviour of individuals but also the macro variables of economies like national income, public finance, international trade and so on.

"Economics aims to explain how economics work and how economic agents interact. Economic analysis is applied throughout society, in business, finance and government, but also in crime, education, the family, health, law, politics, religion, social institutions, war, and science. The expanding domain of economics in the social science has been described as economic imperialism". This shows the nature of economics in modern context. It tells that economics can be used for raising the living standard of people and their welfare, however, it also wants that economic issues or economic, objectives might become a tool in the hands of people, who want to exploit it for unknown motive like separation from others.

SCOPE

Scope means province or field of study. It is very difficult to define economics because economics is very dynamic subject. Its scope keeps on changing rather expanding. There are divergent views about the scope of economics due to continuous growth in the subject matter of this subject.

1. **Economics – A Science and an Art**
   a) **Economics is a science:** Science is a systematized body of knowledge that traces the relationship between cause and effect. Another attribute of science is that its phenomena should be amenable to measurement. Applying these characteristics, we find that economics is a branch of knowledge where the various facts relevant to it have been systematically collected, classified and anlyzed. Economics investigates the possibility of deducing generalizations as regards the economic firms can be very easily measured in terms of money. Thus, economics is a science.

   Economics – A Social Science: in order to understand the social aspect of economics, we should bear in mind that labourers are working on materials drawn from all over the world and producing commodities to be sold all over the world in order to exchange goods from all parts of the world to satisfy their wants. There is, thus, a close inter-dependence of millinons of people living in distant lands unknown

to one another. In this way, the process of satisfying one has, thus, to study social behaviour i.e., behaviour of men in-groups.

b) **Economics is also an art**: An art is a system of rules for the attainment of a given end. A science teaches us to know; an art teaches us to do. Applying this definition, we find that economics offers us practical guidance in the solution of economics problems. Science and art are complementary to each other and economics is both a science and an art.

2. **Positive and Normative Economics**

   Economics is both positive and normative science.

   a) **Positive Science**: it only describes what it is and normative science prescribes what it ought to be. Positive science does not indicate what is good or what is bad to the society. It will simply provide results of economic analysis of a problem.

   b) **Normative science**: It makes distinction between good and bad. It prescribes what should be done to promote human welfare. A positive statement is based on facts. A normative statement involves ethical values. For example, "12 per cent of the labour force in India was unemployed last year" is a positive statement, which could be verified by scientific measurement". "Twelve per cent unemployment is too high" is normative statement comparing the fact of 12 per cent unemployment with a standard of what is unreasonable. It also suggests how it can be rectified. Therefore, employment is a positive as well as normative science.

3. **Subject Matter of Economics**

   Economics can be studied through a) traditional approach and b) modern approach.

   a) **Traditional approach:** Economics is studied under five major divisions namely consumption, production, exchange, distribution and public finance.

   1. **Consumption**: The satisfaction of human wants through the use of goods and services is called consumption.

   2. **Production**: Goods that satisfy human wants are reviewed as "bundles of utility". Hence production would mean creation of utility or producing (or creating) things for satisfying human wants. For production, the resources like land, labour, capital and organization are needed.

   3. **Exchange**: Goods are produced not only for self-consumption, but also for sales. They are sold to buyers in markets. The process of buying and selling constitutes exchange.

4. **Distribution**: The production of any agricultural commodity requires four factors, viz., land, labour, capital and organization. These four factors of production are to be rewarded for their services rendered in the process of production. The land owner gets rent, the labourer earns wage, the capitalist is given with interest and the entrepreneur is rewarded with profit. The process of determining rent, wage, interest and profit is called distribution.

5. **Public finance**: It studies how the government gets money and how it spends it. Thus, in public finance, we study about public revenue and public expenditure.

b) **Modern Approach**

The study of economics is divided into: i) Microeconomics and ii) Macroeconomics.

1. **Microeconomics**

Microeconomics analyses the economic behaviour of any particular decision making unit such as household or a firm. Microeconomics studies the flow of economic resources or factors of production from the households or resource owners to business firms and flow of goods and services from business firms to households. It studies the behaviour of individual decision making unit with regard to fixation of price and output and its reactions to the changes in demand and supply conditions. Hence, microeconomics is also called price theory.

2. **Macroeconomics**

Macroeconomics studies the behaviour of the economic system as a whole or all the decision-making units put together. Macroeconomics deals with the behaviour of aggregates like total employment, gross national product (GNP), national income, general price level, etc. so, macroeconomics is also known as income theory.

Microeconomics cannot give an idea of the functioning of the economy as a whole. Similarly, macroeconomics ignores the individual's preference and welfare. Hence, the study of both micro and macroeconomics is essential to understand the whole system of economic activities.

AIMS AND OBJECTIVES OF TEACHING ECONOMICS AT THE HIGHER SECONDARY LEVEL

Placing India in the categories of economics, it comes under the developing economy. It has poverty, overpopulation and unemployment as its major problems. The most important feature of our country is that 70 per cent population is residing in the rural area and major part of economy is based on its agriculture. No doubt, India, as a developing country, has achieved a considerable growth and development in the area of agriculture, industry, and important improvements in the area of education for the constructive attitudinal change towards the social and economic development in the country. Therefore, the teacher may have the important aims of teaching economics in his mind to make his students able to understand the application of economics in their daily lives and the whole economic structure of the country as follows:

1. To make the students able to know the impact and consequences of British rule on the Indian Economy.

2. To make the students able to acquire knowledge of various economic terms like various definitions of economics and economy, capitalistic, socialistic and mixed economy, developed and developing economy.

3. To make the students able to understand the various causes of population explosion, consequences and its various remedial measure in India.

4. To make the students aware about institutional set-up and main sectors of the Indian economy like private and public sectors.

5. To make the students able to understand the various causes of poverty, unemployment, price rise, inflation and their remedial measures.

6. To make the students able to understand the economic explosion of consumers, rights of consumers in the society.

7. To make the students able to understand the complete infrastructure of the Indian economy, like transport and communication network, power and irrigation and various monetary and financial institutions.

8. To make the students able to understand the significant contribution of agriculture to national income, employment, state revenues, industries, food, equipment and trade.

9. To make the students able to understand the mutual relationship of agriculture and industry and a balanced industrial structure, the importance of small and large-scale

industries and its various regional disparities and future aspects of industrial developments.

10. To make the students able to know the importance of foreign trade in Indian economy, its volume and composition and direction of export and imports;

11. To make the students aware about the role of state in the promotion of economic development, and other terms like fiscal and monetary policies, economic planning and its need, objectives and various strategies and the whole economic development under the various five-year plans since independence of the country;

12. To make the students able to draw various types of diagrams, tables, charts, and graphs used in showing data on the various aspects of Indian Economy and

13. To develop the attitudes of the students towards the constructive social and economic development of the nation as a whole.

NEED AND SIGNIFICANCE OF TEACHING OF ECONOMICS

Man is a social animal. The social nature of man and the instinct of living together and cooperating with one another, needs adjustment of behaviour according to some accepted rules. This relationship of dependence of man on each other has been growing and developing with the development of civilisation and culture. It is not only growing but also becoming complex.

In the present day society human needs have grown so enormously that now it has become very difficult to say which human need is main and which one is a subsidiary need. In such a situation human needs always remain unfulfilled and the individual is in a constant trouble for the achievement of needs and fulfilment of wants. To achieve this aim of satisfying his wants the individual is always busy in performing various types of activities. In the present day society all you to needs and wants can be satisfied only if you have enough wealth and money. Thus, all human activities are directed towards earning money and acquiring wealth. It means that most of the human activities are economic activities.

Economics deals with the study of various activities of man directed towards acquisition of wealth and earning of money.

In India we have very old Economic traditions. 'Arthashastra' of Kautilya was used during 'Gurukul' system. Then the morality in economics was stressed more. In present context,

economics today may be considered as the boon of British rule in India which brought the subject of economics to Indian school education. Today the growth is seen by quantity of consumption, where items are used & thrown fast. Economics has become the centre of various activities. Each and every subject is viewed from its economical angle because one always likes subjects which fetch more money in one's future life. Economics has both practical and economic value. It occupies an importance position in Education and curriculum has become an integral part of education system.

VALUES OF TEACHING OF ECONOMICS

The value of the study of economic is as follows:

Conceptual Values

1. **A Field of Information**

   The study of economics helps the students to broaden their knowledge. Students can be aware about most of the interesting and logical facts about the behaviour of human beings. The students increase their knowledge through the study of various economic theories, important principles, laws and generalisation. New facts and problems in economics also induce the reservoir of information among the students.

2. **A Field of Training in Mental Horizon**

   It is the reasoning power that leads human beings towards achieving certain goal of their lives. This reasoning power is increased through the study of economics. Mental horizon of the setback is sharpened. The teacher put an economic problem before the students. The students try best possible to make good analysis of economics problems. In economy students study various theories of value, of wages, and interest, international trade, solution of various financial problems and demand and supply of various goods and services in different form of market etc. these theories develop mental power of the students.

3. **A Field of Cultural Value**

   The cultural values are developed through the better correlationship of material and non-material things of the society. Economics makes study about material and non-material things. It studies how individual produce and make better utilisations of the goods and

income in his life and his human behaviour in utilising these goods and services. Developing human behaviour through utilising different material goods leas to various cultural values in the society. Proper balance is required to develop cultural and the teaching of economics provide better understanding about the food use of various things in life.

4. A Field of Mutual Cooperation

Being social instructs in human beings, he has to make social relationshiop with others in his social surroundings. He has to fulfil his basic requirements to sustain his life. It is not possible to complete these requirements without the help of others. He satisfies his various wants with the cooperation of others. This process leads to a sense of mutual cooperation among the persons. On the basis of cooperation all the activities of economy is possible. The students learn through the study of various concepts in economics, liked cooperative marketing, cooperative banking system, terms of trade, successful functioning of industry etc.

5. A Field of Citizenship

Every country desires to make its good citizens. The study of economics provide intelligent and good citizens to the society. The students of economics learn completely how to make better utilization of goods and services of the country. The formal training is given to all the student through teaching various economic concepts from the very beginning of schooling like from grade I to X grade in the form of social studies. Later on, most of the interested students offer economics as a disciple to make higher study for their profession. No doubt they contribute better in the constructive development of the society that leads to a sense of good citizenship. They have good faith in democratic values of life. They appreciate and solve the various problems of agriculture, industrial production, a system of banking and circulation of money more clearly in the social forces of the country.

Practical Approaches

A subject is supposed to be useless if it does not contribute practical value in the life of the individual in the society. The importance of the study of economics to the society and the individuals is clear on account of its use in daily life of the individuals. Economics helps human beings in the proper management of their home. Every individual desires to achieve the maximum utility or satisfaction from the use of his limited resources. It is the theory of consumption that leads the individual to become good householder. An understanding of economics is essential for successful businessmen. Various economic theories, principles, law and other concepts regarding economy provide number of techniques to the businessmen in their daily routine to carry on their business. Most of the students offer economics in schools and colleges in the field of social sciences. They offer this course only because of its professional importance. The students of economics get employment in trade, banking, agriculture, industries, insurance and other private and public sectors.

Every society is to think firstly about the strong structure to improve better income of the people. It is the main aim of social reformers and economists to serve the human beings in the society. The complete development of the society depends upon economic growth plus social change. In democratic system of the country, people elect a number of pliticians and ministers to form a government. For the better function of government, good politicians and ministers are needed. They must have the complete understanding of political as well as economic structure of the country. To remove poverty and unemployment is the basic aim of any type of economy. The standard of living ot the people can only be possible through e economic growth and economic development. The people of the country would be able to understand economic structure well who have studied the economics. These people can contribute better to make economics structure strong. This strong and effective economics structure ultimately helps the people to raise their standard of living in the society.

CONCLUSION

Economics as a discipline of social science has a practical approach to enrich economic value among the students for their daily life as well as for profession. Most of the students offer Economics as an important discipline of study in schools and colleges. The whole system of the society depends upon the effective economic structure and strong economy of the society. Each and every individual tries to maintain standards of living in the society. Society comprises its rich and poor people. The study of economic is required formally or informally to make the best

possible utilisation of their limited resources in their daily life to maintain certain norms and conduct of society.

Questions for Discussion and Reflection

1. Discuss the nature and scope of Economics.
2. Enumerate the aims and objectives of teaching of Economics.
3. Describe the need and significance of teaching of Economics.
4. Critically analyse the values of teaching of Economics.
5. Economics – Is it a Science or Art? Justify.

UNIT II PLANNING FOR INSTRUCTION

INTRODUCTION

Planning is essential in any sort of activity and more so when a teacher is going to a classroom for teaching a subject. Especially for an Economics teacher, it is absolutely essential that he plans the topic well in advance so as to make his teaching interesting and efficient by organizing simple activities. Planning helps the teacher in systematic presentation of subject matter. The teacher has to plan every step and should go to the classroom with a written plan. Effective lesson planning requires the knowledge of the physiological developments and the intellectual maturity of the students. It also requires knowledge about the needs, interests and abilities of the students. The knowledge of psychology of learning, principals of teaching, previous knowledge of the students, and effective mastery of the subject matter are essential for lesson planning.

LESSON PLANNING

Different teaching methods are available for teaching Economics and all these methods are discussed in an earlier unit. Similarly various teaching aids are available for transacting the curriculum. Before going to the classroom the teacher has to select the appropriate method for teaching the topic and also the proper teaching aid which will help the learner to understand the concepts in the topic. This is sometimes called planning the strategy.

- The lesson plan stimulates the teacher to think in an organized manner. It helps the teacher to outline the objectives properly.
- The lesson plan helps in creating the interest of pupils towards the lesson.
- A proper correlation is established between the new and old lesson.
- The lesson plan provides guidance to the teacher as to what and how he should teach.
- This compels the teacher to think about using teaching aids.
- This helps the teacher to choose the best teaching method.
- The lesson plan inspires the teacher to ask proper and important questions.
- This helps the teacher to teach, keeping in the mind the individual differences.
- The subject matter is organized in a time frame and with proper sequence.
- This develops self-confidence in the teacher.
- This helps the teacher in evaluating his teaching.

Definition of Lesson Plan

Bossing defines, "A lesson plan is an organized statement of general and specific goals together with the specific means by which these goals are to be attained by the learner under the guidance of the teacher on a given day."

In the words of Lester B. Stands. "A lesson plan is actually a plan of action. It includes the working philosophy of the teacher, his knowledge of philosophy, his knowledge about students, objectives, material to be taught and his ability to utilize effective methods."

Components of a Lesson plan

Teacher should follow specific steps in writing lesson plans. J.F. Herbart and other educationists after him have emphasized the following steps. These steps are called as Herbartian Formal steps. They are:

1. Preparation or Introduction.
2. Presentation.
3. Comparison or Association.
4. Generalization.
5. Application.
6. Recapitulation.

1. Preparation or Introduction

According to J.F. Herbart the mind of the students must be prepared to receive new knowledge. It is first like preparing the land before sowing the seed.

This step should be brief and nothing new to be told to the students. The teacher should ascertain what the students know already related to the topic and should provide a link between the previous knowledge and the new lesson. This step may involve.

(a) Testing the previous knowledge of the students
(b) Arousing curiosity by the novelty of experimentation or activity.
(c) Use of charts, pictures and models.
(d) Skillful discussion.

This is most important step because "well-begun" is half done."

1. Presentation

Immediately after the preparation, the aim of the lesson should clearly be stated. This becomes the second step.

In the second step the actual lesson begins. Students get new ideas and knowledge. The teacher presents the subject matter to the students. The students passively listen and learn the ideas told by the teacher. The teacher may demonstrate any experiment, use any aid or do any activities.

2. Comparison or Association

The new ideas or knowledge learnt should be compared and associated with already known ideas and facts. It is felt that knowledge is not like piling up of bricks, but it is like a tree that grows. This step is most important when the teacher is estabilishing principals or generalizing definitions.

3. Generalization

In most of the economics lessons teachers have to arrive at certain generalizations. Formulas, principles or law are to be established. As far as possible the students should draw out the conclusion themselves. Sometimes the student's generalizations may be incomplete or irrelevant. At this time the teacher should guide them to make corrections.

4. Application

A lesson of economics will be incomplete if the rules or formulas are not applied to new life situations. It is always the desire of the students to make use of generalizations and to verify whether they really work in new situations. Knowledge becomes clear and meaningful in this stage.

5. Recapitulation

This is the last step in the process. Here the teacher ascertains whether the students have understood and grasped the subject matter or not. It is generally done by on of the following ways:

> (a) Asking suitable questions on the topic taught.
> (b) Applying a short objective type test.
> (c) Asking the students to label the unlabeled sketch.

It should be remembered that these forms of Herbartian steps are not final. These are tentative guidelines. We should not always try ton rigidly follow them. Moreover it is not possible to follow all these steps in all types of lessons.

In the modern days these Herbartian steps are included in four steps, which are as follows:

1. Preparation
2. Development
3. Review
4. Assignment

In this you know very well about preparation. The second step development involves the activities of both teacher and students. Teacher helps the students to learn the lesson. Both the students and teacher participate in the development. The teacher is expected to develop the lesson with students' participation. The third step review is equivalent to recapitulation. The forth step assignment is the homework to be given to the students. These are the four steps involved in the lesson plan.

Advantages of lesson planning

Lesson plan is actually a plan of action. A teacher without lesson plan ends his efforts to keep proper discipline in the class and discouraged with his failures. A teacher with good plans is also tried, but his tiredness is tempered with the joy of satisfaction. The advantage of lesson plan can be listed as follows:

1. It makes the teacher's work regular, well organized and systematic.
2. It prompts confidence and self-reliance in the teacher.
3. It helps the teacher to proceed with particular aims in view and thus makes him conscious of interests and attitudes to be developed in the students.
4. It renders a saving in time, for the students have a better understanding of the subject and develop some desirable attitudes in a specified time, while in the absence of a plan it might have taken more time for the similar understanding.
5. Lesson plans establish proper connections between different lessons of study. Therefore, they provide continuity in the teaching process.
6. It stimulates the teacher to introduce striking questions and illustrations.
7. It provides greater freedom in teaching, for a teacher who has properly planned his lesson, enters the classroom with confidence; without any anxiety, ready to attack the problem and prepared to carry it out like a skilled workman.
8. It helps the teacher to plan the teaching aids to be used din the class, well in advance and also ensure their workability.
9. It avoids wastage of time.

Criteria of a Good Lesson Plan

The following are the criteria of a good lesson plan. Any lesson plan should contain these criteria.

1. A lesson plan should be written and well prepared assuming that teacher has gone through the matter from all aspects.

2. General Objectives also called non-behavioural objectives objectives of the lesson should be clearly stated.

3. Specific objectives also called behavioural objectives should be clearly stated.

4. Types of aids that are to be used along with the situation in which they are able to be used should be used.

5. Content, learning experiences and evaluation tools and procedure should be stated.

6. Review and assignment should be written at the end of the lesson.

7. A good lesson plan should reveal the type of activities to be performed by the teacher and the students.

8. Active participation of the students should be made possible in the lesson plan.

9. Questions should be well planned and unambiguous.

10. There should be provision for individual attention.

STRUCTURE OF A FOUR FOLD LESSON PLAN

Content

The teacher elicit the content to be taught to the students in the classroom . The students develop skills in terms of cognitive, affective and psychomotor domain after attending the teaching session of this content.

Specification of Behavioural Outcomes

Specification of behavioural outcomes helps us to state the instructional objectives of various school subjects. These objectives, however, are too vague for the teacher. They should be specific and must be expressed in behaviours terms. Vague, general objectives often do not offer an adequate enough direction to the teacher. As a result, he cannot prepare and organize appropriate learning activities for his pupils. Hence the need for specifications. We have also discussed that the term specifications mean specific objectives or behavioural objectives. The

statement of a specification contains an action verb. The statement of specification should be in the form of the students achievement and not in the form of the teachers intentions.

Learning Experiences

Learning Experiences results from the active participation of students in the stimulus situation which the teacher provides in the classroom. It is the interaction of the learner and the situation provided by the teacher. It should be purposeful, continuous, interactive based on facts, concepts, principles, generalization for making learning experience more functional and effective in teaching learning process.

Evaluation

The teachers can adopt internal and external methods of evaluation to assess whether their transaction is proper according to the pedagogy of teaching in economics classrooms. So the objectives, learning experience and evaluation are the three interrelated and interdependent aspects in the teaching learning process.

MODEL LESSON PLAN - ECONOMICS

Name of the School: Name of the Student Teacher:

Standard: XI   Name of the Guide Teacher:

Subject: Economics   Date:

Topic: Course of Prices   Time: 45 Minutes

Instructional Objectives: The Pupil

1. acquires knowledge about the causes of price rise in India.
2. understands the various aspects of problems of price rise.
3. analyses the situation of price rise and also various policy measures taken by the government.
4. develops skill in drawing inference about forthcoming price rise problem due to recent oil price rise.

Specifications: The pupil

1. recalls and recognises the economic problems of the price rise in India.

2. understands the relationship between prices and purchasing power of money.

3. compares the prices of different commodities from time to time and from place to place.

4. explains the effect of rising price on the growth and development of an economy.

5. list out the various types of indicators of price trend

6. examines the necessity of revising trend of prices.

7. classifies various causes of price rise.

8. illustrates the course of prices and various types of policy measures taken by the government.

9. understands the place given to the problem of rising prices in various plans.

10. explains about the need for price stability.

Teaching aids:

Charts, graphs, pictures showing price rise in India

Content	Specification of behavioural outcomes	Learning Experiences	Evaluation
On August 2, 1990, Iraqui armed forces invaded state of Kuwaot. This event gave rise to an international economic problem of rising price of oil. Due to this prices of other commodities also rise.	recalls and recognises	Pupils answers the following questions: 1. Iraqi occupation of Kuwait gave rise to which international economic problem? 2. What is the implication of raising transport cost on the prices of the commodities?	
Course of prices. Price mechanism has a significant place in a planned economy. Changes in prices bring changes in the purchasing power of money also.	understands explains	Student understands the relationship between prices and purchasing power of money. Student explains the effect of rising price on the growth and development of an economy.	What do you mean by purchasing power of money? What happens to the purchasing power of money when the prices rise?

At high prices money commands lesser commodities and at lower prices more commodities.	compares	Student compares the prices of different commodities from time to time and from place to place	Rising of price of petrol affected which sector of economy directly?
Rising in oil prices economically hit international community.	explains	Student explains the effect of rising price on the growth and development of an economy	What is the effect of rising price on the growth and development of an economy
Indicators of price trends	List out	List out the various types of indicators of price trend. Defines the word deflation.	What do you mean by GDP?
Trend of prices in India	Examines	The student examines the necessity of revising trend of prices in order to understand nature and complexity of the problem.	The rising trend of prices in India started at what time?
Second world war leads to the trend of price rises	classifies	The student classifies various causes of price rise.	What was the reason for price rise?
Immediately after independence the Government formulated various economic policies	illustrates	The student illustrates the course of prices and various types of policy measures taken by the government.	When the economic planning was adopted in India?
Economic planning in India began on an optimistic note.	understands	The student understands the place given to the problem of rising prices in various plans.	A rupee of 1969 is worth only 11 paise presently. Why?
Domestic supply situation was favourable and could easily meet the rising demand pressure	explains	The teacher explains that every plan has been eloquent about the need for price stability.	What happened to the general price index?

Assignment:

1. Trace in brief the trend of prices in India beginning with first five year plan.
2. Describe about the general price index.

Name of the Guide Teacher   Name of the Student Teacher

UNIT PLAN

 Unit Plan

"A unit may be defined as a means of organizing materials for instructional purposes which utilizes significant subject matter content, involve pupils learning activities through active participation intellectually and physically and modifies the pupils behavior to the extent that he is able to cope with new problems and situations more competently".
H.C. Morrison

What is a Unit?

A unit is a large subdivision of subject matter with a common fabric of knowledge. The unit is not just blocks of subject matter, but is composed of both method and content. Thus, a unit organizes instruction and increases the probability that instruction will be presented in a cohesive, meaningful and logic way. A properly planned unit integrates many type of activities, some of which provide new information and others help pupils evaluate and retain this information. Units of break up a course into meaningful segments that is larger than lesson plans. They are organized around specific topics so they are neither a block of subject matter nor a series of independent lessons, but represent a careful organization of subject matter and learning experiences. So a unit can be treated as a 'compound' of lessons and not a 'mixture' of lessons.

Definitions of a Unit

Burton: 'the important thing to provide a combination of subject matter and processes which will have real meaning for the learner which will aid him in continuously integrating his learning is through h a unit'.

Preston: 'A unit is as large a block of related subject matter as can be over viewed by the learner'.

Stanford: 'A unit is an outline of carefully selected subject matter which has been isolated because of its relationship to pupil's need's and interests'.

Characteristics of a Good Unit

- It should keep in view, the needs, the capabilities and the interest of the pupil

- It should take into account the previous experience and background of the pupil

- It should provide for new experiences which the students have not done before

- The length of the unit should maintain interest of the pupil till the last

- The material of the unit should consist of familiar and related topics and not as remote and strange one

- It should be related to social and physical environment of the pupil

- It should help to anticipate and satisfy some of the future needs of the pupil

- It should be a part of the sequence that permits growth from year to year

- It should be a results of the co-operative planning of the teacher as far as possible

- It should provide the basis for its evaluation

- It should be flexible enough to provide individual differences

- It should permit a variety of field trips, experiments, demonstrations, and projects etc.

- It should be practicable in the given setting

Steps in Unit Planning

1. Content analysis (the What of the unit)

2. Objectives with specifications (the Why of the unit)

3. Learning activities (the How of the unit)

4. Testing procedures (evidence of achievement)

i. Content analysis

In unit planning emphasis is placed on analyzing the content into terms, facts, concepts, situations, processes, generalizations, principles, laws etc. the analysis helps the teacher to get a thorough I n-depth of the subject understanding and this also increases the confidence of the teacher.

ii. Objectives and specifications

After analyzing the content, teacher should identify the general and specific objectives of the content.

iii. Learning activities

Learning is not a pouring in process, but a gradual process that comes about as a result of experience. Activities like field trips, experiments, demonstrations and projects can be used in different settings. The experience can be backed up with reference books films and slides. Keeping in mind of the individual differences, the psychology of learning, the content and objectives, suitable learning activities can be planned to which the students will be exposed during the course of the unit.

iv. Testing procedures

The last step is the choice of suitable evaluation tools and techniques through which teacher can evaluate the content coverage and teaching method used.

Format of a Unit Plan

1. ----------

2. ----------

3. ----------

Sl.No.	Concepts	Process skills	Activities/ strategies	Learning materials	Product	Evaluation	No. of Periods

Advantages of Unit Planning

1. It is establishes general as well as specific aims of teaching.
2. It breaks up the entire work into smaller sections, small enough so that pupils can easily grasp the scope of these during a brief overview. Short tasks are easily completed than long ones.
3. It helps to cater the needs, nature and aptitude of the students.
4. It is economical in terms of time.
5. Since several activities are involved it helps to develop the skills in the students.

6. It develops self confidence among students because it provides opportunities for meaningful experience wherein they can organize and review their learning.

7. It gives an overall view to handle each and every lessons as the unit structure.

BLOOMS TAXONOMY OF EDUCATIONAL OBJECTIVES

One of the most important aspects of teaching learning process is the specifications of instructional objectives. The over-increasing aspects of various courses, services and activiites in secondary schools make more emphasis on instructional objectives. Dr.Benjamin S Bloom (1956) gave the idea of classification of educational objectives. He classified educational objectives in to three main areas or domains called Cognitive, Affective and Psychomotor. The three domains are interrelated and mutually dependent.

Cognitive Domain: The cognitive domain comprises the acquisition and manipulation of factual information. It is also concerned with intellectual skill and abilities of the students.

Affective Domain: The changes in interests and values and the development of applications

Psychomotor Domain: The development of manipulative or motor skills

The three domains of learning do not occur in isolation but rather work together to make up one whole being.

Cognitive Domain

Cognitive domain includes those objectives which deal with the recall and recognition of knowledge and development of intellectual abilities and skills. **Blooms et al.**

Benjamin S Bloom and his co-workers have done the taxonomical classification of this domain in 1956. The domain contains six major objectives arranged in an order on the basis of increasing complexity of tasks. Each of these six is further divided in to specified behavioural objectives.

Categories in the Cognitive Domain

1. Knowledge

This is the first and the lowest level of cognitive domain. It includes recall of information such as specifies, facts, methods, processes, generalizations, patterns etc., Thus, the knowledge objective emphasizes what can be described as memory.

2. Comprehension

This second category includes translation, interpretation and extrapolation. This is also related to the use of ideas. It refers to a type of understanding of the materials or literal message contained in a communication.

3. Application

This third level includes the ability to apply abstract ideas to a concrete situation. The abstraction may in the form of general ideas, rules or procedures or generalized method.

4. Analysis

It means the "breakdown of the materials into the constituent parts and detection of the relationship of the parts and of the way they are organized". Analysis includes analysis of elements, analysis of relationship and analysis of organizational principles.

5. Synthesis

This category is just the opposite of analysis. Synthesis is the "putting together of elements and parts so as to form a whole. This involves the process of working with pieces, parts, elements and arranging and combining them in such a way as to constitute a pattern or structure, not clearly there before".

6. Evaluation

It is the assignment of symbols to phenomenon, in order to characterize the worth or value of a phenomenon, usually with reference to some social, cultural or scientific standards. Evaluation involves judgments in terms of internal evidence as well as external criteria.

 To conclude, it may be pointed out that the above six major categories in the cognitive domain do not always appear in isolation from one another.

Affective Domain

This domain involves attitudes, interest, values and appreciation. The affective domain is concerned with 'feeling'. The objectives under affective domain are difficult to define and evaluate. The hierarchy of objectives in affective domain has been developed by Krathwohl, Bloom and Masia in 1964. The order of objectives is in such a way that each category is more abstract and complex than the previous one.

Categories in the Affective Domain

1. Receiving:

This is at the lowest point o the affective domain. Receiving may be defined as "sensitivity to the existence of certain phenomenon and stimuli, that is, the willingness to receive or attend to them".

2. Responding:

Responding refers to a behavior which goes beyond merely attending to the phenomenon; it implies active attending, doing something with or about the phenomenon, and not merely perceiving them.

3. Valuing:

Valuing implies "perceiving them as having worth or value. The three sub-categories of this objective are, acceptance of value, preference for a value and commitment.

4. Organizing:

This involves building up of organized system of values. The individual organizes a set of values such as truth, goodness and helping others, in determining their relationships and deciding their need and priority.

5. Characterizing:

In this category the individual displays the integration of values and it becomes a lifestyle with him. He gets these values organized into some kind of internally consistent system, which has controlled the behavior of the individual for a sufficient time. This category is concerned with one's view of the universe and one's philosophy of life.

Categories in the Psycho-motor Domain

Psychomotor domain concerns with the attainment of neuro-muscular coordination. Here the objectives which deal with manual or motor skills. As the level of coordination goes up, the action becomes more refined, speedy and automatic. Simpson, Kibler were working on this area for systematically classifying educational objectives. R.H. Dave has given the classification of educational objectives under this domain 1969. The order of objectives in such a way that coordination is to be brought about among different parts of a given act or different acts performed with required articulation.

1. Perception

Skill of keen observation, skill of sensing a problem and skill of developing self-motivation are the specific objectives under this category.

2. Imitation

Skill of repeating actions and skill of reflective thinking are the specific objectives under this category.

3. Manipulation

Skill to operate upon with intelligence and manage cleverly are the specific activities that fall in this category.

4. Precision

Skill of experimentation, skill of precise movements and neat execution of skills are the activities which fall under this objective.

5. Articulation

Skill of logical thinking, reflective thinking, skill of mind and body and development of mathematical skill are specific objectives to attain this step.

6. Naturalization

As we practice a skill, in due course it becomes our natural habit. Skill of attaining success and skill of multiple actions are the specific activities under this objective.

TYPES OF TEST ITEMS

Achievement tests are conducted using different types of test items. Hence economics teacher should master the skills of constructing test items. A constructor should take the following precautions while framing the test items.

- The items should cover as far as possible, the whole range of topics prescribed in the syllabus.
- No item or part of the item should be set which is outside the syllabus.
- More items should be set to test higher objectives. For this purpose items should be in the context of new situations.
- Items should provide clear direction to the students regarding the scope and length of responses
- The language of the items should be simple and within the easy grasp of students

A. Objective Type test item

An objective type test item is one in which the response will be objective. The responses are made fixed and hence the freedom of the respondent to deviate subjectively is restricted. Objective type test item can be broadly classified into two they are

1. Supply Type (Recall Type)
2. Selection Type (Recognition Type)

For supply type test items the respondents have to supply the response where as for the selection type they have to select the responses from among the given responses. Usually five different forms of objective type items are in vogue. They are true-false type, multiple choice types, matching type, simple recall type and completion type. Of these simple recall and completion type items are supply type and the other three belongs to the selection type.

a) True – False Items (Alternate Response Type)

A true – false. The respondent is asked to read a statement and indicate in some specific manner suggested, whether it is true or false, right or wrong, correct or incorrect, agree or disagree, yes or no. it tests the ability to discriminate between misconceptions and scientific truth. It is suitable for young children who have poor vocabulary. Large sample of subject matter can be covered within a short period.

b) Multiple choice Test Items (Changing Alternative type)

These are items presenting four or more responses in which one is either correct or definitely better than the others. The examinee has to find this out and record this in the manner required in the paper. Here the chances of guess work are minimized. Multiple choice items consist of two parts.

The fast part of the item is called stem presented in the form of a direct `question or incomplete statements. The second part of the item is called options or alternatives or responses, usually four or five in number among the options one is the keyed response and others are called distracters or misleads or foils. The stem gives data for the selection of the keyed response. The respondent has to read the stem and options and select the correct or best alternative. The different forms multiple choice test items in vogue are correct answer form, best answer form, multiple response form, etc.

Scoring Formula or Correction Formula for Multiple Choice Test Item

Scoring formula is used for reducing the chances of guessing. An item with four options has a chance of 25% guess work, which is rather very high. The formula based on statistical assumptions (Theory of Probability) is

$$S = R - \frac{W}{N-1}$$

Where

S = resultant score that a respondent deserves

R= Number of right responses

W= Number of wrong responses

N= Number of alternatives in an item

c) Matching Type Test Item

This is a modified version of the multiple choice test items. In fact matching type is an economized form of combining a number of multiple choice items in the same question- a condensation of several multiple choice items. It consists of two parallel columns, with each phrase, word or number or symbol in one column (Usually the first) being matched to a word, phrase or sentence in the other column. The items in the column for which a match is sought are called premises or stem and items in the column from which selection is made is called responses or options. The respondent is required to make some sort of association between each premise and each response in the two columns.

d) Simple Recall Type Test Items

This test requires the respondent to recall a response to a direct question. The typical response should be short preferably a word, a number or a small phrase. It eliminates the chance of guessing.

e) Completion Type Test Item

A completion type item consists of a series of sentences in which certain words are omitted and replaced by blanks. The respondents are expected to fill in the blanks with a word or a number or at the most a phrase. The probability of guess work is completely eliminated.

Advantages of Objective Type Item

1. As a large number of question are set, a wide coverage of the syllabus is possible.

2. Questions can be set which are designed to assess one particular educational quality. For example ability to apply.

3. Marking of such tests is objective and can be done speedily

4. They are more valid and reliable, since the response/ answers are definite

5. There is greater administration use and control

6. They have higher diagnostic value

7. They are less time consuming

Disadvantages of Objective Type Items

1. Such tests do not encourage verbal fluency or a student's ability to development argument

2. Chancing of guessing are high

3. An objective test is difficult and expensive to construct

4. Emphasis on testing superficial knowledge

5. Inefficiency in testing complicated skill.

6. Objective type items are often ambiguous, particularly for the better students.

7. Such tests when over used can have a negative effect on teaching, since they encourage the student to learn bits of knowledge rather than the whole.

B. Short Answer Type

A question requiring value points at the most may be defined as a short answer question. The term value points indicates a point to be given credit in the expected answer. Thus the length of the answer expected from a short answer question becomes very short. This diminishes subjectivity. In this way it is an improvement upon essay type question. Such question are of great helping having wide coverage of content and each item can be set to a test a definite objective. Because of this reason, a fair proportion of such questions should be included in a test.

Advantages of Short Answer Type

1. Questions of this form can be made stimulating

2. Students can be trained to select relevant information and present it in a few short, crisp sentences.

3. Short answers are easy to score

4. Reliability of scoring is high

5. Questions can cover a wider content area than easy type test items. It is possible to achieve a   more expensive sampling in the short answer test than in the essay type test

6. The short answer test is especially useful in diagnosis. In part, this follows from the factor of extensive sampling

Disadvantages of Short Answer Type

1. It is more subjective than the objective type of items

2. It's excessive use may encourage a student to memorize facts and develop poor study habits

3. Mechanical scoring is not possible because of the subjectivity involved

C. Essay Type

According to dictionary by Good, essay test is a type test is a type of examination in which the subject or examinee is asked to discuss, enumerate, compare, state, evaluate, analyze, summarize or criticize and involves writing at specific length on a given topic involving the processed listed above.

The essay type questions get its name from the manner in which the examinee responds. The term essay implies a written response which may consists of many sentences to several pages. The student is allowed freedom with respect to what his answer will include its wording length and organization.

Advantages of Essay Type

1. They are easy to construct

2. They can be used to test the student's language mastery, expression and organizational ability of a student

3. Chances of copying are minimal

4. A student's ability to use knowledge effectively can be assessed. It helps to develop a variety of skills. In addition to self-expression, students have to select pertinent material, organize this material into a coherent discussion and arrive at conclusions.

5. Guessing creates few problems

6. It encourages good study habits. A student preparing for an essay test is likely to highlight important units, look for relationships and exercise judgement in deciding points of emphasis.

Disadvantages of Essay Type

1. Subjective bias could creep in as these test are based on the examiner's moods and whims

2. Essay type encourages rote memory. The higher levels of the cognitive domain cannot be completely assessed by this method.

3. Sampling is limited. Adequate sampling is essential in good testing. But time limitations make it impossible to achieve good sampling in an easy test, assuming that a large body of subject matter has been covered.

4. There is danger of bluffing. The "gift of gap" can be encountered in written as well as in oral communication. It requires a discerning teacher to realize that nothing much is been said.

5. Essay type test are difficult to score. Besides no two teachers agree on the score given to a

 particular paper, the hand writing, presentation and so on. Thus score rating cannot be generalized.

CONSTRUCTION OF AN ACHIEVEMENT TEST (FORMATIVE EVALUATION)

Formative Evaluation

Formative evaluation is concerned with making decisions relating to forming or development of students as well as of the courses. It provides feedback at appropriate stages of the teaching learning process which helps in making changes in the curriculum, teaching strategies and the learning environment. Formative evaluation is done during the process of teaching learning with the following main purposes

- To monitor student learning for the purpose of providing individualized instruction
- To evaluate teaching effectiveness

- To evaluate courses and curricula with the purpose of modification, updating or replacement if necessary
- To evaluate curriculum materials
- To evaluate the learning environment with a view to improving it.

Since evaluation is an integral part of teaching and learning, students are observed in various situations continuously with a view to assess their level of achievement in terms of what have been expected of them. Written examination is one of the most commonly employed and widely acceptable techniques for measuring student's achievement. The construction of an achievement test has its importance in student evaluation.

Steps involved in the Construction of an Achievement test

1. Planning of the test
2. Preparation of a design
3. Preparation of the Blue print
4. Writing of Items
5. Preparation of the Scoring key and Marking scheme
6. Preparation of Question wise Analysis

Planning of an Achievement Test

A test is meant to serve many essential and important purposes. Therefore, it should be well planned and systematically developed. The first consideration which is of utmost importance is what the paper setter intends to find out through the achievement test. There are certain outcomes of learning which any teacher would like to realize by teaching every unit. The paper setter should aim at testing the achievement of these objectives. The next step is to determine the maximum time, maximum marks and the nature of the test. These should be decided in terms of the nature and scope of the sub units or units involved in t he testing.

Preparation of a design for the Test

After determining the board scope of the test, a design has to be developed in tune with it. The objectives, content, forms of questions, difficulty levels of items, scheme of options and the scheme of sections are the most important factors to be considered in such of a design.

i. Weightage to objectives

This indicate what objectives are to be tested and what weightage has to be given to each objective. Suppose the teacher wants to make his pupil acquire knowledge of certain facts, develop understandings of certain concepts and principals, the ability to apply these in new situations and the skill to perform certain task, while teaching the specific subject matter for which the test is being designed. He should decide the relative importance of each of these objectives after carefully studying the prescribed curriculum and in tune with the nature of the content covered. This step will ensure objective basedness to the test, which is required for scientific evaluation.

ii. Weightage to Content

The content refers to the topics where the achievement test is to be conducted. The content is taken for properly distributing marks in each unit by which proper coverage is made possible. This indicates the various aspects of the content to be tested and the weightage to be given to each of these aspects.

iii. Weightage to Form of Questions

This indicates the forms of questions, objective type, short answer type and essay type to be included in the test and the weightage to each form of questions. The setter should select those forms of questions that are suitable to the objectives and content to be tested.

iv. Weightage to difficulty level

It is desirable to construct the test with some questions with some questions as easy, some difficult and the others of average difficulty. A good test will contain some question which even the dull pupils can answer. Some items which only the bight one's can answer and many items that most can answer. This would help us to discriminate between the bright, average and the dull students.

v. Scheme of Options

Scheme of option means the option or choices given to the students to select certain questions. There may be external option as well as internal options. External option (overall option) means the choice is given to the students for selecting a given number of questions only from among the total number of questions provided. For example the students are asked to attend any eight questions out of the given ten. But in case of internal options the choice is given within a question for example write an essay on one of the following.

vi. Scheme of sections

The test will be in three sections. Section A will contain only objective type items and Section B short answer and section C essay type items.

Design of Achievement Test in Economics

Standard: XI   **Time: 1 1/2 hour**

1. Weightage to Curricular Objectives

No.	Objectives	Marks	%
1	Knowledge	4	16
2	Understanding	6	24
3	Application	8	32
4	Skill	7	28
	Total	25	100

2. Weightage to Content

No.	Objectives	Marks	%
1	Course of prices	9	36
2	Causes of price rise in India	7	28
3	Consequence of price rise	9	36
	Total	25	100

3. Weightage to Form of Questions

No.	Objectives	No. of Question	Marks	%

1	Objective	10	5	16
2	Very Short Answer	8	8	24
3	Short Answer	5	7.5	32
4	Essay	1	4.5	28
	Total	24	25	100

4. Weightage to Difficulty Level

No.	Objectives	Marks	%
1	Easy	4	16
2	Average	17	68
3	Difficult	4	16
	Total	25	100

Questions for Discussion and Reflection

1. State the criteria of a good lesson plan.
2. Choosing a topic from XI Std. Economics content develop a lesson plan, indicating the different steps involved.
3. What do you mean by 'unit plan'? Explain the steps involved in developing a unit plan.
4. Discuss Bloom's Taxonomy of Educational objectives and its importance.
5. Mention the various types of tests employed in assessing achievement in economics.
6. Discuss briefly the steps involved in the construction and standardization an achievement test in economics.

UNIT- III Practising the teaching skills in Economics

Objectives:

- To obtain knowledge on the meaning of Teaching.

- To understand the teaching skills.

- To analyse the major steps in teaching a mini-lesson.

- To explore, observe and feedback on integration of teaching steps in mini-teaching

INTRODUCTION

An educational institution performs a significant function of providing learning experiences to lead their students from the   darkness of ignorance to the light of knowledge.

The key personnel in the institutions who play an important role to bring about this transformation are teachers. As stated by NCTE (1998) in Quality Concerns in Secondary Teacher Education, ‒The teacher is the most important element in any educational program. It is the teacher who is mainly responsible for implementation of the educational process at any stage. This shows that it is imperative to invest in the preparation of teachers, so that the future of a nation is secure. The importance of competent teachers to the nation's school system can in no way be overemphasized. There is widespread consensus, however, that our education systems are failing to adequately prepare all students with the essential 21st century knowledge and skills necessary to succeed in life, career and citizenship.

MEANING OF TEACHING

Teaching includes all the activities of providing education to other. The person who provides education is called teacher. The teacher uses different method for giving best knowledge to his students. He tries his best to make understand students. His duty is to encourage students to learn the subjects. Teaching means interaction of teacher and students. They participate for their mutual benefits. Both have their own objective and target is to achieve them. Teaching skill is a group of teaching acts/ behaviours intended to facilitate student's learning directly/ indirectly.

UNDERSTANDING MAJOR TEACHING SKILLS

Teaching skills would include providing training and practice in the different techniques, approaches and strategies that would help the teachers to plan and impart instruction, provide appropriate reinforcement and conduct effective assessment. It includes effective classroom management skills, preparation and use of instructional materials and communication skills.

1. Introducing

This is an important skill required for a teacher. Well begun is half done is a saying which indicates the importance of introducing a lesson. It is the duty of a teacher to bring the students into the classroom mentally. The skill is intended for making effectiveness in introducing of the content. This is always done at the start of a class. Here teacher gives a brief introduction about the lesson in order to pre-dispose the pupil's mind to it.

There are many ways to present an introduction. Here are a few:

o   Asking questions to get the students thinking about the topic of the lesson.

o   Showing pictures that relate to the lesson topic.

o   Telling a story to show the importance of the topic.

o   Bringing in real objects related to the lesson.

2. Explaining

Teaching is not primarily telling. It's helping other people learn. That means the focus is on the learners, not the teacher. People learn best through experiencing something themselves, so when you are striving to teach something, you are constantly trying to Get into the shoes of the learners so that you can better understand where they are and what they need from you to learn the subject understudy.

Explaining can be defined as an activity to bring about an understanding of a concept, principle etc. it is an activity to fill the gap in someone's understanding.

In classroom the teacher explains ideas and concepts. It is the most commonly used skill and is the essence of instruction. Explanation is a key skill. Generally, the skill of explanation is complex Explanation is to explain or to give understanding to another person. It leads from the known to the unknown, it bridges the gap between a person's knowledge or experience and new phenomena, and it may also aim to show the interdependence of phenomena in a general sable manner. It assists the learner to assimilate and accommodate new data or experience.

In a classroom, an explanation is a set of interrelated statements made by the teacher related to a phenomenon, an idea, etc. in order to bring about or increase understanding in the pupils about it. The teacher should practice more and more of desirable behaviours like using explaining links using beginning and concluding statements and testing pupil understands behaviours like making irrelevant statements, lacking in continuity, using inappropriate vocabulary, lacking in fluency, and using vague words and phrases as far as possible.

A class in not homogeneous group. Some pupils are intelligent some have normal intelligence, some are mature and others are immature. But the teacher has to impart knowledge to all. To present the subject matter in the simplified form before the pupils and making it acquirable is called the skill of explanation. It is necessary in all the subjects. In its absence the presentation of the subject matter is not possible. In the skill of explanation, such words are used in the statements by which the statements exhibit the clarity of their meanings.

The explanation serves two purposes: (1) to introduce the subject by giving some background about its usefulness and application; and (2) to describe the subject in a simple, complete, and tantalizing way. The explanation should create a desire to become proficient in the subject under study

The components of skill of explaining involved

- Clarity

- Continuity

- Relevance to content using beginning and concluding statements

- Covering essential points

- Simple

- Relevant and interesting examples appropriate media

- Use of inducts, deductive approach, it can be functional, causal or sequential

3. Questioning

Successful teaching highly dependent on questioning technique employed in the teaching sessions. Questioning is an important teaching skill that a teacher must learn. The teacher should learn to ask suitable, appropriate and meaningful questions. Questioning is definitely a skill. We can very easily answer a question but it is too difficult to ask a question.

A question is any sentence which has an interrogative form or function. In classroom settings, teacher questions are defined as instructional cues or stimuli that convey to students the content elements to be learned and directions for what they are to do and how they are to do it. Questioning promotes involvement, initiates thinking, creates motivation and enhances learning.

Effective questioning is a real compliment to the instructional skills. It shows the ability to understand the student's real needs. It shows that for meaning that's deeper than the spoken message. Effective questioning is a powerful, learned skill.

For students, questioning strategies help to categorize and anticipate exam questions, allowing for more effective preparation. The strategies are also useful for study groups, focusing efforts and allowing members to test each other. They improve the student's ability to

clarify, reorganize, and accurately explain new information. Questioning also aids in self-assessment and self-monitoring.

4. Skill of closure

This skill is useful for a teacher to close his teaching properly. The teacher is to summarise all the teaching during the period and provide opportunities for the students to correlate the learnt matter with the past and future knowledge. This is to be done by statements or by asking questions.

5. Skill of Reinforcement

This skill is the most important one than other teaching skills. Reinforcement, the term implies the use of the technique for influencing behaviour of individuals in desired direction. The concept of reinforcement is based on the hedonistic principles, which envisages that all individuals tend to repeat the pleasant experiences and avoid unpleasant ones. The skill is being used to utilize good behaviours of the learners and to avoid the undesirable behaviours of the learners. The teacher would like the student's desirable behaviours and criterion responses to be retained and undesirable behaviours to be eliminated. For reinforcing student's desirable behaviours and criterion responses he uses positive verbal and non-verbal reinforcers. These reinforcers not only strengthen the student's desirable behaviours but also develop confidence in them. Besides, they enhance their positive self-concept. Absence of positive reinforcers for student's desirable behaviours may erode their confidence and lead to poor self-image. Positive reinforcements encourage students to participate actively in classroom interactions. It stimulates them to achieve more, thereby, creating a sense of achievement.

Skilled use of reinforcers helps a teacher to promote student's learning. The skill of reinforcement refers to the effective use of reinforcers. It, can therefore be defined as 'the effective use of reinforcers to modify student's behaviour in the desired direction".

6. **Skill of varying the stimulus**

Varying the stimulus is described as a deliberate change in the behaviours of the teacher in order to sustain the attention of the learners throughout the lesson. The variation in the stimulus helps in avoiding monotony and in generating interest among the students which in turn makes learning effective.

Learning in the classroom depends, to a large extent, on the attention of the students on the learning task. It is therefore, essential for the teacher to secure and sustain student's attention for making his teaching effective. Continuous use of the same stimulus or activity for longer period induces inattention. The inattention is caused in two ways: one is continued focus of the students on the same stimulus for a long time restricts his postural mobility which leads to fatigue. Next is the continued use of the same stimulus for longer duration introduces the element of monotony, which brings in dullness. This will be further aggravated because of the short span of student's attention. Their attention tends to shift from one stimulus to another frequently. They find it difficult to attend to one stimulus for more than a few minutes. The problem of inattention is a challenge to t he teacher, unless he is in a position to secure and sustain student's attention. It is therefore, essential for the teacher to secure and sustain student's attention towards the topic of the lesson.

One of the significant ways to secure and sustain students' attention is to introduce the elements of variation in teaching. The variation can be introduced in several ways depending upon the teaching activity. Appropriate variation in different dimensions can help a teacher to secure and sustain students' attention. The set of teacher behaviours that tend to secure and sustain student's attention in teaching learning situation in the classroom constitutes the skill of varying the stimulus.

Some of the components of varying the stimulus are as follows:

- ❖ Movement

- ❖ Gestures

- ❖ Change in voice

- ❖ Focusing

- ❖ Change in interaction pattern

- ❖ Pausing

- ❖ Student's physical participation

- ❖ Aural visual switching

7. **Non- verbal cues**

Non-verbal communication has been defined as communication without words. They are usually made with the help of the movements of the eye, hand, head, body, and facial expressions. Facial expression will lead to encourage pupil to participate actively in learning situations. Positive non-verbal cues include smiling, nodding the head, a delighted laugh, patting on the shoulder, asking the students to clap. The students can be asked to clap their hands for correct answers given by a student.

Disapproval without suing words has the effect on negative reinforcement. Negative non-verbal cues include staring, looking angry, shaking the head, beating, caning, bruising, raising the eyebrows, tapping foot impatiently and walking around etc.

8. Fluency in communication

Communication in general is a process of sending and receiving messages that enables humans to share knowledge, attitude, and skills. Communication is a series of experiences of hearing, seeing, smelling, tasting, and touching / feeling. Although we usually identify communication with speech, communication is composed of two dimension: verbal and non-verbal. Both verbal and non-verbal plays a significant role in teaching learning process. Verbal communication is divided into Intra verbal: intonation of word and sound and extra verbal: implication of words and phrases, semantics.

The teacher uses knowledge of effective verbal and nonverbal communication techniques as well as instructional media and technology to foster active inquiry, collaboration, and supportive interaction in the classroom.

MINI-LESSON

- It is a teaching training technique for learning teaching skills.

- It employs real teaching situation for developing skills and helps to get deeper knowledge regarding the art of teaching.

- A mini lesson is a basic precursor to a bigger or broader topic. It is a short lesson that can be taught in just a few minutes, but it can benefit the students in lessons to come.

- For instance, you may teach a basic topic like fact versus opinion by sharing a variety of statements and having students tell you if the statement is fact or opinion.

- This practice may take only 20 minutes, but teaches a valuable lesson to the students and sets the foundation for further discussion of writing styles or reading concepts.

PRACTISING A MINI-LESSON WITH MULTIPLE TEACHING SKILLS

Name : **xxxxx**

Subject: **Economics**

Topic : Causes of Price Rise in India

Date :

Time :

Objectives:

- Acquires knowledge on the Causes of Price Rise in India.

- Understands the factors on the Demand side.

- Examines the role of rise in population.

- Analyse the factors on the supply side.

Materials

o Charts showing the Price Rise in India.

o Photographs and audio visual aids related to Price Rise in India.

Content Outline

India has been facing a critical problem of rising prices. Inflationary price rise hinders economic growth and development. Disparities in income and wealth further sharpen. So government has formulated a policy to check the price rise. Price rise in India is a cumulative effective of a number of factors. Black money is an important factor that has pushed the demands for goods. Slow increase in agriculture production is also a problem. Industrial production in India has been slow to pick up as compared to the requirements.

Teaching skills

Important skills are as follows:

1. **Introducing**

   Teacher introduces the lesson by explaining the effect of price rise on growth and inequalities and stress that in formulation of a policy to check this rise in price.

2. **Explaining**

   The teacher explains the various factors of price rise, working on the demand side of the market causing price rise in India. The teacher explains that during last four decades the Government expenditure is increasing. Then the teacher explains that effect of increase in government expenditure on demand for goods and services. The teacher explains the meaning of deficit financing and how it causes an increase in demand for goods that increase in supply. The teacher explains meaning of foreign exchange remittances and how it has caused rise in prices in India. The teacher explains slow increase in agricultural production working on supply side as factor causing price rise. The teacher explains the industrial development as it is taking place in recent years.

3. **Questioning**

   What happen to growth and development when price rise at a fast rate?

   What do you mean by a welfare state?

   What do you mean by deficit in general?

   How the supply of money increases in an economy?

   Which necessities of life do agricultural sector supplies?

4. **Varying the stimulus**

There can be variation of teachers' position in the classroom while he is teaching. Variation in voice represents another dimension. Use of media like photographs, audio visuals and Chart showing causes of price rise in India provides yet another area of variation. There can also be variation in the classroom interaction pattern.

5. **Non verbal cues**

Positive non-verbal cues include smiling, nodding the head, a delighted laugh, patting on the shoulder, asking the students to clap etc can be used while the class is going on. The students can be asked to clap their hands for correct answers given by a student.

6. Reinforcement

Positive verbal reinforcers like saying good, very good, excellent, fantastic, splendid, right, yes, correct, fine etc can be used in the class for the desirable behavior of the students like being calm, clarifying their doubts, answering the questions, drawing the graphs on the board etc.

7. Closure/Summing up

The topic will be summed up by various factors of price rise, working on the demand side of the market causing price rise in India. What are the important cause of recent rise in prices?

8. Fluency in communication

The topic will be discussed by explaining and interacting with the students by asking questions and making the students to observe the audio-visuals and charts. The teacher uses knowledge of effective verbal and nonverbal communication techniques as well as instructional media and technology to foster active inquiry, collaboration, and supportive interaction in the classroom.

OBSERVATION AND FEEDBACK ON THE PRACTICE OF INTEGRATION OF TEACHING SKILLS

The complex teaching act can be split into component skills, each simple, well defined and limited. These skills can be identified, practiced, evaluated, controlled and acquired through training.

McIntyre et.al (1977) defined teaching skill as a set 'set of related teaching behaviours which is specified the achievement of specified types of educational objectives'.

Passi (1976) defines teaching skill as 'a group of teaching acts or behaviours intended to facilitate pupils learning directly or indirectly'.

The teaching skills developed through training are to be observed by the peers/ teacher educators. Immediate feedback may be given to the student-teachers individually using the feedback forms.

Integration of teaching skills feedback form:

Name of the student teacher: **Duration: 20 minutes**

INTEGRATING SKILLS IN MINI TEACHING (Assessment by Peers/Teacher Educators)

Teaching skills	AVERAGE (SCORE 1)	GOOD (SCORE 2)	VERY GOOD (SCORE 3)	TOTAL
Introducing				
Explaining				
Questioning				
Varying the stimulus				
Non verbal cues				
Reinforcement				
Closure				
Fluency in Communication				
Total				

Range of scores:8-24

OVERALL ASSESSMENT OF MINI-TEA CHING

AVERAGE _____   GOOD _____ VERY GOOD_____

Interpretation of scores

Average   : 8

Good   : 9-16

Very Good   :17-24

Signature of the Observer

UNDERSTANDING MAJOR STEPS IN TEACHING A MINI-LESSON

Instructional Procedures and Activities: Provide a detailed discussion of the mini lesson (15-20 min) using the following headings:

Motivation

This step is considered to be the preparatory step, wherein the teacher is trying to prepare the minds of the students ready to receive the subject matter. Hence, this step identifies the mental readiness of the students. The teacher will be able to check the students' entering behavior before he starts teaching the lesson. Thus testing students' previous knowledge develops interest in the minds of students and helps to maintain curiosity of the students.

Presentation

It is the key step and only through which the actual process of teaching is going to take place. Here the aims of the lesson should be stated clearly and the heading shold be written on the blackboard. We have to provide situation for both the teacher and the students to participate in the process of teaching and learning. Our ultimate aim of the presentation is to make the concepts understandable to the students. Therefore, use of simple language is recommended. Appropriate and specific examples and illustrations of the concepts will make the understanding better. The interest of the students on the subject matter should be maintained continuously by the way of asking questions from time to time in this stage. Use of instructional aids like charts, audiovisuals, specimen etc in an appropriate manner is strongly recommended during presentation.

Interaction

Interaction in the classroom will be done by speaking, sharing opinion, listening to others and establishing a mutual consent. Students in the learning process support when they are done by interacting directly with the object of learning and communicating in groups and also provide the ability of gaining mastery over the subject.

Reflection

Students will be given opportunity to express their ideas, experiences and opinions. Students will be cooperative, respect the opinions of others, responsible, honest on information receiving and able to give decisions.

Summing-up

This stage is meant for the teachers to know whether the students have grasped and understood the concepts taught or not. This can be achieved by reviewing the lesson and by giving assignments to the students. Only through this step achieving closure is possible.

PRACTICING A MINI-LESSON WITH FIVE TEACHING STEPS

INSTRUCTIONAL PROCEDURES AND ACTIVITIES: Provide a detailed discussion of the mini lesson (15-20 min) using the following headings:

INTRODUCTORY ACTIVITIES

1. *Motivation* **(Skill of Introduction – use of previous knowledge)**

The pupil recalls and recognises the various groups into which the various factors which cause price rise can be put. The teacher asks the students questions related to their knowledge of causes of price rise in India, as follows:

- o What happen to growth and development wen prices rise at fast rate?
- o How price rise affects disparities in income and wealth?
- o A market has two sides. What are they?

DEVELOPMENT ACTIVITIES (*Presentation, Interaction, Reflection*)

2. Presentation

- o The teacher announces the topic as, "Causes of Price Rise in India" and writes it on the black board. India has been facing a critical problem of rising prices. Inflationary price rise hinders economic growth and development. Disparities in income and wealth further sharpen. So government has formulated a policy to check the price rise. Price rise in India is a cumulative effective of a number of factors.The teacher explains the various factors of price rise, working on the demand side of the market causing price rise in India. Teacher explains the various factors, working on demand side, causing price rise in India. The teacher explains that during last four decades the Government expenditure is increasing. Then the teacher explains that effect of increase in government expenditure on demand for goods and services. The teacher explains the meaning of deficit financing and how it causes an increase in demand for goods that increase in supply. The teacher explains meaning of foreign exchange remittances and how it has caused rise in prices in India. The pupil **understands** the effect of foreign exchange remittances on the domestic price level in the economy. Black money is an important factor that has pushed the demands for goods.The teacher explains slow increase in agricultural production working on supply side as factor causing price rise. The teacher

explains the industrial development as it is taking place in recent years (**Skill of Explaining – Cognitive link**).

o The teacher uses aids like chart and audio-visual aids to show the causes of price rise in India. (Skill of Explaining – uses of Illustrations)

1. **Interaction: (Skill of Questioning –specificity)**

   o How Government finance the deficit in its budget?

   o What do you mean by black money?

   o Explain the slow increase in agricultural production has caused price rise.

   o How stagnant industries has caused price rise in India?

   o What are the important causes of recent rise in prices?

2. **Reflection: (Skill of Stimulus Variation – Audio visuals)**

   o The pupil **explains** the various factors of price rise working on the demand side of the market. The pupil **examines** how the increase in government expenditure affect the demand for goods and services in an economy. The pupil **records** and **recognizes** the meaning of welfare state. The pupil **examines** the stagnant situation of industrial sector as a factor responsible for price rise in India.

   Concluding Activities (*summing Up/Closure*)

   India has been facing a critical problem of rising prices. Inflationary price rise hinders economic growth and development. Black money is an important factor that has pushed the demands for goods. Industrial production of India has been slow to pick up as compared to the requirement. During the last few years this situation has taken a serious turn. Industry has been faced with serious shortages of such important inputs as power, coal, railway wagons, raw materials etc. besides, frequent labour unrest has also caused a heavy loss of industrial production.

EVALUATION AND ASSESSMENT

List how the pre-service teachers (peers) will demonstrate their learning. That is, how will you know the mini-lesson has been successful?

Distribute a copy of both Assessment formats (skills & steps) to the pre-service teachers (peers)

OBSERVATION AND FEEDBACK ON INTEGRATION OF TEACHING STEPS IN MINI-TEACHING

Name of the Student teacher: **Duration: 20 minutes**

INTEGRATING THE STEPS IN MINI TEACHING (Assessment by Peers/Teacher Education)				
TEACHING STEPS	**AVERAGE (SCORE 1)**	**GOOD (SCORE 2)**	**VERY GOOD (SCORE 3)**	**TOTAL**
Motivation				
Presentation				
Interaction				
Reflection				
Summing Up				

Range of scores: 5-15

 OVERALL ASSESSMENT OF TEA CHING STEPS

AVERAGE _____   GOOD _____ VERY GOOD_____

Interpretation of scores

Average   : 5

Good   : 6-10

Very Good   :11-15

                                        Signature of the Observer

CONCLUSION

        Teaching   means interaction of   teacher   and   students.   They participate   for their mutual benefits. Both have their own objective and target is to achieve them. Teaching skills would include providing training and practice in the different techniques, approaches and

strategies that would help the teachers to plan and impart instruction, provide appropriate reinforcement and conduct effective assessment. Thus teaching skills can be identified, practiced, evaluated, controlled and acquired through training.A mini lesson is a basic precursor to a bigger or broader topic. It is a short lesson that can be taught in just a few minutes, but it can benefit the students in lessons to come. This practice may take only 20 minutes, but teaches a valuable lesson to the students and sets the foundation for further discussion of writing styles or reading concepts.

Questions for Discussion and Reflection

1. Write the meaning of 'teaching'.
2. Give the Characteristics of Teaching Skill.
3. Explain any three teaching skill in detail.
4. Write a mini-lesson with five teaching skill for Class XI in the Economics subject.
5. Critically analyse the Skill of varying the stimulus.

UNIT IV METHODS OF TEACHING ECONOMICS

INTRODUCTION

Teaching is an art and there are some born teachers, but majority of the teachers that we have today are not successful in delivering their acquired knowledge to their learners, and those teachers who have no inherent flair for teaching are unable to arouse in their learners. The flair for teaching and the ability to get acquainted with the trends and developments in teaching learning pedagogy can be improved by knowledge of different methods of teaching. A teacher has got freedom to choose any of the method of teaching according to his knowledge, interest and experience. A single method is not preferred for all topics as the best one, but the combination of methods can be used as more effective.

Methods of Teaching in Economics

Teaching is a process of building a person's mind and character through methodology. Methodology is the systemic and logical study of the principles guiding scientific investigation. Methodology as a normative discipline differs sharply from the factual study of scientists at work as conducted e.g. by the sociology of knowledge history of science.

The term methodology in its original and proper usage refers to the systematic study of principles guiding scientific and philosophical investigation. The term method denotes any procedure which applies some rational order or systematic pattern to diverse objects. It is the technique used by the teachers for teaching a class, some subject or topic. It denotes the logical process used in discovering or in demonstrating the truth. It should be conceived as a dynamic function of education and not as static aspect of the process of teaching.

Methods of teaching Economics can be classified into two types

1. Teacher –centred

2. Pupil Centered

1. Teacher Centred Teaching

The teacher –centered teaching is mainly expository in type in which the focus is on telling, memorization and recalling information. The students are passive recipients of knowledge. The teaching environment is very much formalized and the teacher occupies a central position in the classroom.

2. Pupil-centered Teaching

In the pupil centred teaching the whole teaching learning process is geared to the needs, requirements, capabilities and interest of the pupils. The purpose is to develop the learner's skills and abilities in independent learning and problem solving.

TEACHER-CENTERED METHOD

I. LECTURE METHOD

This is a method generally followed in colleges and schools with big classes. In this method only the teacher talks: the students are passive listeners and they do not take any active part in the development of the lesson. Student listen, get bored, yawn and sometimes go to sleep as well. The teacher acts like a chatterbox, talking and talking all the time without ascertaining whether the students are following him or not. The students are spoon fed and their powers of observation and reasoning the exercise of which are not essential in learning process are not stimulated. Perhaps this method originated in very ancient times, when printing press was not invented and hand-written manuscripts were very few, hardly for the use of teacher. The lecture is one of the most basic pedagogic tool which is generally followed in schools and colleges, here the teacher talks and the pupil listens. The lecture is an exposition of knowledge, facts, principles or other information which a teacher wishes to present to her students. In short a lecture means one person addressing many students.

When to use lecture method?

Although lecture method has more disadvantages than advantages yet we cannot reject it outright. This method may not be very helpful for teaching lower classes. However, it can prove very successful for higher classes when we want to:

  i.   Cover the syllabus quickly.

 ii.   Introduce some new and difficult topics.

iii.   Arrive at generalization from the facts students already possess.

 iv.   Impart factual knowledge.

  v.   Explain certain difficult points.

 vi.   Revise and summarise the lessons already learn.

vii.   Give some background material for a topic.

So lecture method can be more useful in the above circumstances.

Phases of a lecture

There are three phases of a lecture. They are preparatory phase, development phase and consolidation phase.

I. Preparatory Phase (Warm up Phase)

In this phase students are to be prepared to receive the contents of a lecture. Variety of formal and informal techniques can be used to prepare the students or to arouse their level of motivation or curiosity. In the classrooms normally teacher relates the contents of the lecture to the previous knowledge of the students.

II. Development Phase

This is the most important phase of the lecture. The entire body of the lecture is delivered in this phase only. Some activities of this phase are using analogies, giving suitable examples, proper illustration, comparison and differentiation, use of proper aids and in recent time's proper use of audio visual technology in classrooms.

III. Consolidation Phase

This is the end part of the lecture. Here the lectures pin point the important aspects of the lecture once again by summarizing. Now proper reviewing can be done to check the level of understanding by asking questions. Provide assignments, feedback and can relate the topic to the future learning content.

Skills associated with good lecture

1. Use of body language

2. Use of communication boosters

3. Varying the stimulus

4. Voice modulation

5. Use of proper language

Area of application of Lecture method

- To introduce new and difficult topic

- To revise the topics already covered

- To give some background of a certain topic

- To present the life histories of great persons and their struggles and achievement in life

- To explain about certain procedures

- To impart factual knowledge

- To explain too deep theoretical factors

Merits:

1. **Attractive and concise**: It is very attractive, concise and very easy to follow without much botheration on the part of the teacher and the taught. The teacher feels secure and satisfied.

2. **Economical**: It is economical because it can be applied easily at higher grade level where the size of the classes are very large in number.

3. **Speedy:** Lengthy syllabi can be covered in a short time by this method.

4. **Useful for Factual Information:** Factual information and historical anecdotes can be easily imparted by this method.

5. **Useful for Logical Sequence:** The logical sequence of the subject can be easily maintained. Since the teacher has to plan the lectures in advance, there cannot be gaps or over-lapping in the development of the lesson.

6. **Time Saving:** In this method there is no student activity, no project no demonstration, therefore there is hardly any wastage of time and lesson can go at top speed.

7. **Inspirational Value:** Good lectures have high inspirational value. Sometimes students pick up motivation, inspiration, instigation, zeal, ambitious ideas and do something creative in life.

Demerits

1. **Memory based:** It lays too much stress on memory work, experimental work is neglected and the power of observation of a child is seldom exercised.

2. **Spoon feeding:** It does not encourage independent thinking, discovering, exploring and taking initiative. It is a type of spoon feeding and all the faculties of the child are not allowed to develop.

3. **Teacher centered:** When the teacher lectures, there is no guarantee whether the pupils are concentrating and understanding all what the teacher is teaching.

4. **Too rapid:** the rate of imparting knowledge and information may be too rapid and the students may not get necessary connections of thought.

5. **Unpsychological:** In this method the teacher is active participant while the students are passive listeners, which is opposed to the principles of psychology. The interests, aptitudes and capabilities of the pupils are ignored.

6. **Authoriatarian:** This method is undemocratic the pupils are encouraged to depend upon one authority i.e., the teacher. They cannot challenge or question his verdict.

7. **No critical Thinking:** It fails to develop critical thinking and reasoning power, so essential for democratic living.

8. **Useful for higher classes:** This method may not be very helpful for teaching lower classes. However, it can prove very successful for higher classes i.e. tenth, eleventh, and twelfth classes when we want to ;-

   - Cover the syllabus quickly.
   - Introduce some new and difficult topics, such as evolution of man, discovery of natural magnet etc.
   - Arrive at generalizations form the facts, gathered by students.
   - Impart factual knowledge.
   - Explain a practical demonstration which is to be done or which has been done.
   - Revise and summarize the lessons already learnt.
   - Give some background material for a topic.
   - Give biographical sketch of a scientist or relate some of his anecdotes.

9. Any lecture has to be planned well in advance. Selecting the content, objectives of teaching the content, structuring the lecture, summarizing at every step and also at the end must all be planned.

10. **Notes-taking:** while making use of this method, it will be beneficial if the teachers give some training in the art of notes taking while the lecture is on.

11. **Student's Question:** At the end of the lecture, time should be given for the students to ask questions ad such questions be answered by the teacher without any hesitation. In this way the teacher can make sure whether the students have understood the lesson or not.

Conclusion

Lecture technique is useful for communicating information to students. As there is little opportunity for getting feedback from students, it is a less effective method of teaching..

II. LECTURE CUM DEMONSTRATION METHOD

"It is a physical display of the form, outline or a substance of object, or events for the purpose of increasing knowledge of such objects or events. Demonstration involves showing what or showing how". Demonstration is relatively uncomplicated process in that it does not require extensive verbal elaboration.

This method includes the merits of lecture method and demonstration method. The teacher performs the experiment in the class and goes on explaining what she does. It takes into account the active participation of the student and is thus not a lopsided process like the lecture method. The students see the actual apparatus and operations and help the teacher in demonstrating experiment and thereby they feel interested in learning.

This method follows maximum from concrete abstract wherein the students observe the demonstration critically and try to draw inferences. Thus with help of lecture cum demonstration method their power of observation and reasoning are also exercised.

B. LEARNER-CENTERED METHOD

Learner-centered methods are those methods where the focus of attraction is learners than teachers. It is through the involvement of learners the method develops. The recent psychological approaches in the classrooms give more importance to learner centered methods than teacher centered methods.

I. HEURISTIC METHOD

The term 'Heuristic' refers to Armstrong who was the exponent of this strategy. Pollion and Dankar (1945) called it 'problem solving'. Logical imaginative thinking are prerequisites for this type of teaching strategy it is an economical and speedy strategy.

A problem is placed before the learners and they are asked to find the solution of the problem through various literacy means like library, laboratory, and workshops etc. teacher's role is to initiate the learning and pupils are active throughout the learning process. By using their creative thinking and imaginative power, they try to find out the relevant solutions on some logic. They learn by self-experience.

This teaching strategy is focused on:

- To develop problem solving attitude.
- To develop scientific attitude towards the problem.
- To develop power of self-expression.

Its basic principles are:

o To teach as little as possible at one time

o To encourage learner to learn himself as much as possible.

II. PROBLEM-SOLVING METHOD

It is a method in which a specific problem is given to the students and they are required to find out the solution through objective reasoning and thinking. This method is also highly suitable for teaching of economics. In this method, the teacher is going to act as a guide and will be in the background and the students should take active participation in finding out the solution to the problem in hand.

The students should know what he is doing and why he is doing. The problem should be of educational importance and should have educational value and must be selected from the real life situation. Also the problem chosen should be worthwhile and should have practical value. The problem should be chosen in such a way that it can be fitted well in the present curriculum organization in the school to avoid various administrative difficulties.

Steps in problem-solving method

The following steps are involved in the problem solving method.

A. Recognizing the problem

B. Defining and interpreting the problem

C. Collecting data related to the problem

D. Organizing and evaluating the data of problem

E. Arriving at final conclusion

  F. Verifying the result

A. Recognizing the problem

In this step, the teacher should organize a discussion of a problem or problems with the students and based on the discussion, the teacher should create a problem in such a way that the students should feel that it is their own problem and they should solve it. The teacher should organize the problem in such a manner that it should arouse student's interest to study and solve it.

B. Defining and interpreting the problem

The teacher should explain the problem given to the students in detail or may be interpreted by the students themselves through discussion. All the attributes constituting the problem must be made clear to the students and the problem must be defined in a systematic manner.

C. Collection of data related to the problem

In this method, the teacher should suggest the available resources like books, journals, periodicals, etc. with respect to the problem given to the students. Also he must encourage the students to collect data from different sources.

D. Organizing and evaluating the data of problem

The data collected must be well organized by the students and all the unwanted superfluous matter should be deleted. In this stage, the teacher can help the students in arranging and classifying the materials collected in a scientific way.

E. Arriving at final conclusion

After analyzing all the important points with respect to the problem, a tentative solution may be discussed among the students and finally they will arrive at a conclusion collectively.

F. Verification of the result

Finally the solution to the problem must be verified by applying this result in a new situation to detect the discrepancies if any, in the facts already discovered.

Merits

- The students will get training in the art of solving a problem in actual life situations
- Reflective thinking and the power of reasoning can be developed with this method
- Self-confidence among the students can be developed through this method.

- It helps the students in developing the power of critical judgement as they have to think a lot to arrive at correct solution to the problem through practice
- It inculcates the habit of open-mindedness and tolerance.

Demerits

- It is difficult for the teachers to organize the content of economics according to the need of the students and therefore, he cannot always give real life problems.
- It is a time-consuming process
- Textbooks and other written materials are not available as per the guidelines of the problem-solving method.
- This method is useful only for the students studying higher classes and for those who have higher level of thinking.
- All the lesson or topics cannot be taught by his method.

III INDUCTIVE AND DEDUCTIVE METHOD

A: The Inductive Method:

Induction "is the process of reasoning from a part to the whole, from particulars to generals or from the individual to the universal." Bacon described it as "an ascending process" in which facts are collected, arranged and then general conclusions are drawn.

The inductive method was employed in economics by the German Historical School which sought to develop economics wholly from historical research. The historical or inductive method expects the economist to be primarily an economic historian who should first collect material, draw gereralisations, and verify the conclusions by applying them to subsequent events. For this, it uses statistical methods. The Engel's Law of Family Expenditure and the Malthusian Theory of Population have been derived from inductive reasoning.

The inductive method involves the following steps:

1. The Problem:

In order to arrive at a generalisation concerning an economic phenomenon, the problem should be properly selected and clearly stated.

2. Data:

The second step is the collection, enumeration, classification and analysis of data by using appropriate statistical techniques.

3. Observation:

Data are used to make observation about particular facts concerning the problem.

4. Generalisation:

On the basis of observation, generalisation is logically derived which establishes a general truth from particular facts.

Thus induction is the process in which we arrive at a generalisation on the basis of particular observed facts.

The best example of inductive reasoning in economics is the formulation of the generalisation of diminishing returns. When a Scottish farmer found that in the cultivation of his field an increase in the amount of labour and capital spent on it was bringing in less than proportionate returns year after year, an economist observed such instances in the case of a number of other farms, and then he arrived at the generalisation that is known as the Law of Diminishing Returns.

Merits of Inductive Method:

The chief merits of this method are as follows:

(1) Realistic:

The inductive method is realistic because it is based on facts and explains them as they actually are. It is concrete and synthetic because it deals with the subject as a whole and does not divide it into component parts artificially

(2) Future Enquiries:

Induction helps in future enquiries. By discovering and providing general principles, induction helps future investigations. Once a generalisation is established, it becomes the starting point of future enquiries.

(3) Statistical Method:

The inductive method makes use of the statistical method. This has made significant improvements in the application of induction for analysing economic problems of wide range.

In particular, the collection of data by governmental and private agencies or macro variables, like national income, general prices, consumption, saving, total employment, etc., has increased the value of this method and helped governments to formulate economic policies pertaining to the removal of poverty, inequalities, underdevelopment, etc.

(4) Dynamic:

The inductive method is dynamic. In this, changing economic phenomena can be analysed on the basis of experiences, conclusions can be drawn, and appropriate remedial measures can be taken. Thus, induction suggests new problems to pure theory for their solution from time to time.

(5) Historic-Relative:

A generalisation drawn under the inductive method is often historic-relative in economics. Since it is drawn from a particular historical situation, it cannot be applied to all situations unless they are exactly similar. For instance, India and America differ in their factor endowments. Therefore, it would be wrong to apply the industrial policy which was followed in America in the late nineteenth century to present day India. Thus, the inductive method has the merit of applying generalisations only to related situations or phenomena.

Demerits of Inductive Method:

However, the inductive method is not without its weaknesses which are discussed below.

(1) Misinterpretation of Data:

Induction relies on statistical numbers for analysis that "can be misused and misinterpreted when the assumptions which are required for their use are forgotten."

(2) Uncertain Conclusions:

Boulding points out that "statistical information can only give us propositions whose truth is more or less probable it can never give us certainty."

(3) Lacks Concreteness:

Definitions, sources and methods used in statistical analysis differ from investigator to investigator even for the same problem, as for instance in the case of national income accounts. Thus, statistical techniques lack concreteness.

(4) Costly Method:

The inductive method is not only time-consuming but also costly. It involves detailed and painstaking processes of collection, classification, analyses and interpretation of data on the part of trained and expert investigators and analysts

(5) Difficult to Prove Hypothesis:

Again the use of statistics in induction cannot prove a hypothesis. It can only show that the hypothesis is not inconsistent with the known facts. In reality, collection of data is not illuminating unless it is related to a hypothesis.

(6) Controlled Experimentation not Possible in Economics:

Besides the statistical method, the other method used in induction is of controlled experimentation. This method is extremely useful in natural and physical sciences which deal with matter. But unlike the natural sciences, there is little scope for experimentation in economics because economics deals with human behaviour which differs from person to person and from place to place.

Further, economic phenomena are very complex as they relate to man who does not act rationally. Some of his actions are also bound by the legal and social institutions of the society in which he lives. Thus, the scope for controlled experiments in inductive economics is very little. As pointed Out by Friendman, "The absence of controlled experiments in economics renders the weeding out of unsuccessful hypo-these slow and difficult."

B. The Deductive Method:

Deduction Means reasoning or inference from the general to the particular or from the universal to the individual. The deductive method derives new conclusions from fundamental assumptions or from truth established by other methods. It involves the process of reasoning from certain laws or principles, which are assumed to be true, to the analysis of facts. Then inferences are drawn which are verified against observed facts. Bacon described deduction as a "descending process" in which we proceed from a general principle to its consequences. Mill characterised it as a priori method, while others called it abstract and analytical.

Deduction involves four steps: (1) Selecting the problem. (2) The formulation of assumptions on the basis of which the problem is to be explored. (3) The formulation of hypothesis through the process of logical reasoning whereby inferences are drawn. (4) Verifying the hypothesis.

Merits of Deductive Method:

The deductive method has many advantages.

(1) Real:

It is the method of "intellectual experiment," according to Boulding. Since the actual world is very complicated, "what we do is to postulate in our own minds economic systems which are simpler than reality but more easy to grasp. We then work out the relationship in these simplified systems and by introducing more and more complete assumptions, finally work up to the consideration of reality itself." Thus, this method is nearer to reality.

(2) Simple:

The deductive method is simple because it is analytical. It involves abstraction and simplifies a complex problem by dividing it into component parts. Further, the hypothetical conditions are so chosen as to make the problem very simple, and then inferences are deduced from them.

(3) Powerful:

It is a powerful method of analysis for deducing conclusions from certain facts. As pointed out by Cairnes, The method of deduction is incomparably, when conducted under proper checks, the most powerful instrument of discovery ever wielded by human intelligence.

(4) Exact:

The use of statistics, mathematics and econometrics in deduction brings exactness and clarity in economic analysis. The mathematically trained economist is able to deduce inferences in a short time and make analogies with other generalisations and theories. Further, the use of the mathematical-deductive method helps in revealing inconsistencies in economic analysis.

(5) Indispensable:

The use of deductive method is indispensable in sciences like economics where experimentation is not possible. As pointed out by Gide and Rist, "In a science like political economy, where experiment is practically impossible, abstraction and analysis afford the only means of escape from those other influences which complicate the problem so much."

(6) Universal:

The deductive method helps in drawing inferences which are of universal validity because they are based on general principles, such as the law of diminishing returns.

Demerits of Deductive Method:

Despite these merits, much criticism has been levelled against this method by the Historical School which flourished in Germany.

1 .Unrealistic Assumption:

Every hypothesis is based on a set of assumptions. When a hypothesis is tested, assumptions are indirectly tested by comparing their implications with facts. But when facts refute the theory based on the tested hypothesis, the assumptions are also indirectly refuted. So deduction depends upon the nature of assumptions. If they are unrealistic, in this method, economists use the ceteris paribus assumption. But other things seldom remain the same which tend to refute theories.

2. Not Universally Applicable:

Often the conclusions derived from deductive reasoning are not applicable universally because the premises from which they are deduced may not hold good at all time and places. For instance, the classicists assumed in their reasoning that particular conditions prevailing in England of their times were valid universally. This supposition was wrong. Prof. Lerner, therefore, points out that the deductive method is simply "armchair analysis" which cannot be regarded as universal.

3. Incorrect Verification:

The verification of theories, generalisations or laws in economics is based on observation. And right observation depends upon data which must be correct and adequate. If a hypothesis is deduced from wrong or inadequate data, the theory will not correspond with facts and will be refuted. For instance, the generalisations of the classicists were based on inadequate data and their theories were refuted. As pointed out by ircholson, "the great danger of the deductive method lies in the natural aversion to the labour of verification."

4. Abstract Method:

The deductive method is highly abstract and requires great skill in drawing inferences for various premises. Due to the complexity of certain economic problems, it becomes difficult to apply this method even at the hands of an expert researcher. More so, when he uses mathematics or econometrics.

5. Static Method:

This method of analysis is based on the assumption that economic conditions remain constant. But economic conditions are continuously changing. Thus this is a static method which fails to make correct analysis.

6. Intellectually:

The chief defect of the deductive method "lies in the fact that those who follow this method may be absorbed in the framing of intellectual toys and the real world may be forgotten in the intellectual gymnastics and mathematical treatment."

RECENT TREND IN TEACHING ECONOMICS

I PROJECT METHOD

Project is a scheme of something to be done. Project as a method of teaching is a natural, whole-hearted problem solving and purposeful activity carried to completion by students in a social environment under the guidance of their teacher. It is the outcome of pragmatic philosophy of education propounded by John Dewey.

The project method is generally associated with W.H. **Kilpatrick's** advocacy of purposeful acitivity, problem solving and the needs and interests of the individual child in action, learning and conduct. Its intellectual origins were associated with the child study and scientific movement and the educational progressives' stress on the development of the whole person, the relevance of the curriculum to social existence and the need for flexibility in schools.

This method is based on the following principles:

- Students learn better through association, co-operation and activity.
- Learning by doing
- Learning by living.

A project is a kind of life experience which is the outcome of a desire of the students and teaching by this method is therefore, based upon the use of this desire. "Learning by living" is the better meaning of project method, because life is actually full of projects and we try to carry out these projects every da.

Projects work out best with small groups or classes. Economics can be best taught through projects. Suitable planning and organization is essential for any investigation. Students should be classified into groups with a leader for each group. Every student should be assigned a

definite task the leader being responsible for collecting all the information together at the end. Students should take down notes as and when observations are made

Steps in a project

1. Providing a situation

The teacher should always be on the look out to find out situations that arise and discuss them with their students to discover their interest s. situations may be provided by different methods. The teacher can talk to the students on the topics of common interests, for example about their hobby, how do they spend the leisure time and holidays. By talk and discussion with the students the teacher should provide situations for the students to tell about a project, which can be completed by project method.

2.Choosing and Proposing

The project should be chosen and proposed by the students. The teacher should not choose the project himself and compel the students directly or indirectly to accept the proposal. The teacher should tempt the students and the proposal should finally come from the students. The teacher should continue his discussion till the students propose the project. When a project has been proposed the teacher should see that the purpose of the teacher is clearly defined and understood. In case the students make an unwise choice the teacher should carefully guide them for a better project by providing some other situation.

3.Planning

The success of a project depends on the planning. This planning is to be done by the students. All the details of the project are to be planned well in advance. The teacher should guide the students in planning by giving some suggestions. The teacher should not impose his plan on the students. Everything should be told by the students.

4.Executing

It is the most important and longest step in the project method and therefore needs a great deal of patience on the part of the teacher and the students. The project must be executed by the students because they have chosen and planned parts among the students. The work of the project is to be assigned to the students according to their tasks, interests, aptitudes and capabilities. All the work of the project cannot be done by every member of the group. Every students should get a chance to do something. Those who are backward in one subject, may be excellent in others, and therefore can contribute their might towards the execution of the project.

The teacher is simply to keep a close watch, and encourage and guide the students wherever necessary.

5.Evaluating

It is very valuable to review the whole project, after the project has been completed and find out the mistakes, if any. Students should evaluate their own work and they should be able to look their own failures and findings.

6.Recording

The students should keep a complete record of the project. They should record the discussion, the proposal, the plan, allotment of duties, books referred, places visited, maps drawn, places surveyed, materials collected and lessons learnt.

Criteria of a Good Project

1. The project selected should be purposeful it should be useful and practicable to the students in their daily life.
2. The experience gained should be fruitful. The students should learnt to co-operate and share their interests and should develop into a democratic individual.
3. The project should cater for the activities of the students.
4. Students should be given full freedom to work on their own accord.
5. The project should be selected by the active participation of both students and teacher.
6. The project should be economical and the purpose of the project should be achieved without any waste of time or money.
7. It should be timely and drawn in relationship with seasons of the year and the interest and needs of the community.
8. It should be challenging.
9. It should be feasible.
10. It should help individuals to see and understand life in its unity.

Role of the Teacher in Project Method

1. The teacher is a friend, guide, and a working partner.
2. He should provide opportunities for shy students to contribute something for the success of the project.

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3. He should try to learn more along with the students.

4. He should help the students in developing character and personality by allowing them to accept the responsibilities and discharge them efficiently.

5. He should move freely with the students so that democratic atmosphere prevails in the class.

6. He should be alert and active all the time to see that the project runs in the right line.

7. He should have a thorough knowledge of the students so as to allot them work according to their interest and ability.

8. He should be well experienced and should have initiative, tactics and taste for learning.

Merits

1. This method is based upon the laws of learning. They are as follows:

a. Law of readiness

The students are made ready to learn by creating interest, purpose and life situations.

b. Law of exercise

The student's carry out activities in the real life situations, the experiences gained thus are very useful in the later life of the students.

c. Law of effect

The sense of success and satisfaction should follow the learning process. This law makes it essential for the teacher to make the student satisfy and feel happy in what he is learning.

d. It promotes co-operation and group interaction.

e. It is a democratic way of learning. The students choose, plan and execute the project themselves.

f. It teaches dignity of labour.

g. The correlation of subject is best sought. There is no division of subjects into watertight compartments.

h. It gives opportunity to develop keenness and accuracy of observation and to experience the joy of discovery.

i. It calls for wholehearted purposeful activity.

j. It sets up a challenge to solve a problem and this stimulates constructive and creative thinking.

k. It helps to widen the mental horizons of students.

l. Students learn the matter very easily because the subject is associated with activities.

Demerits

1. The project method absorbs a lot of time.

2. It gives the students superficial knowledge of so many things but leaves an insufficient basis of sound fundamental principles.

3. It requires much work on the part of teacher for planning and carrying out projects.

4. It presumes that the teacher is the master of all subjects and has an all-round knowledge of everything to impart correction.

5. The books written on these lines are not available.

6. It is more expensive because the students have to bear the expenses of excursions, outdoor activities, purchase of material and do experiments.

7. In this method, the teaching is not well organized, regularized and continuous. The timetable is almost upset.

Suggestions

1. This method is suitable for teaching to primary and middle school students. This can also be used for secondary school students with some modifications.

2. There is no need for text books and materials. The red project can be carried out in its natural setting and so local material can be made use of.

3. The problem of expenditure can be easily solved by taking some such projects in which we can earn something. The time table may be so arranged that in the forenoons subjects may be taught and in afternoons project will be carried out.

II ASSIGNMENT METHOD

The Assignment method is the most common method of teaching especially in teaching of Economics. It is a technique which can be usually used in teaching and learning process. It is an instructional technique comprises the guided information, self-learning, writing skills and report preparation among the learners. The Assignment method is an important step in teaching and learning process

Objectives

• It provides good training for information seeking and retrieval behaviour.

- It inculcates the self-learning attitude among the students.

- It provides information analysis and research attitude to the learners.

- It develops the learning experiences from various sources.

Steps / Stages in Assignment

The assignment must be lesson concerned and related with the text books and curriculum.

- The topic / unit of the assignment must be explained with the availability of resources.

- The core of the subject or unit must be clarified.

- The hard and difficult portions of the assignment need to be explained well.

- The topics / units irrelevant to the assignments must be defined very well

Features of Good Assignment

- Assignment must be relevant to the subject taught to the student.

- This should reflect the affinities with the subject contents in the text book concerned.

- Assignment must be simple and enable the students to complete it within the stipulated time.

- Assignment must avoid ambiguous, complex information and instructional structure.

- Objectives of the assignments must be clear and definite.

Types of Assignment

➢ Traditional

This is generally completed with the help of textbooks and the teaching aids.

➢ Modern or Psychological

This is based on the interests, aptitudes and working and liking of the students.

Demerits

- It results in wastage of time and creates lack of concentration.

- There is an acute dearth of material, in our country required for completion of assignment.

- This technique is useful only secondary classes.

III DISCUSSION

Discussion is one of the most valuable methods of teaching economics and they say, "two heads are better than one" but, when a number of heads combine to solve a problem, wonderful results could be achieved.

A problem, an issue, a situation in which there is difference of opinion, is admirable fit for discussion method. Ideas are initiated, there is exchange of opinion accompanied by a search for its factual basis. Speech is free and responsible. Values are not quarrelled about; they are created. The participants are engaged in a process of competitive cooperation. Agreement is the declared purpose of discussion. Discussion, is in fact, an ordered process of collective decision making. It seeks agreement but if it is not reached, it has the value of clarifying and sharpening the nature of agreement.

Discussion as a method of teaching economics, may be used for the following purposes:

- o Laying plans for new work;
- o Making decision concerning future action;
- o Sharing information;
- o Obtaining and gaining respect for various points of view;
- o Clarifying ideas;
- o Inspiring interest; and
- o Evaluating progress.

The steps involved in using the discussion method are:

- To locate and define problems of common interest and significance;
- To work together to find ways of solving the problems;
- To allocate responsibilities for the solutions suggested; and
- To evaluate the effectiveness of the suggested solutions and their implementations.

IV BRAINSTORMING METHOD

This technique calls for an activity in which a deliberate attempt is made to think and speak out freely creatively about all possible approaches and solutions to a given problem, the group participating in spontaneous and unrestrained discussion which usually involves evaluative feedback.

Characteristics

o **Problem-centered** – The participants are involved in a conscious effort to solve a perplexing problem.

o **All possible solutions are exhausted** – the giving out of solutions goes on rotation, each participant will give one idea per turn. As soon as the last participant shares his own suggestion, the chance is given back to the first one. All ideas will be listed out and evaluated. This session stops only when everyone runs out of any solution to the problem.

o **It is highly a creative undertaking** – Solutions are necessarily the result of originality, imagination and resources.

V TEAM TEACHING

Introduction

The present system of education demands too much from a teacher curtailing his freedom. He has to teach same subject-matter every year and he is forced to teach the same content to two or three section of the same class. It is very boring for him and stifles his interest in the subject. Sometimes he is assigned to teach the subject in which he has no interest to teach but he is forced to do so. More-over the present day classrooms are appropriate only for the average students. Team teaching is one of the most modern techniques in the field of educational technology. The concept of team teaching arose in 1957. Although begun in some secondary schools, the team teaching idea was given momentum by activities of the Commission on staff utilization of the national Association of Secondary School Principals (U.S.A).This is the result of numerous and successive January issues of the bulletin of the national association of secondary school principals beginning in 1958.Noall has defined team teaching as "a combination of two or more teachers who work with variable size group of students during an adjustable period which covers two or more regular section". The best-know

and commonly used plan is the trump plan of teaching, so named after Professor J. Lloyd trump, associate secretary of the national association of secondary school principals.

Origin of Team Teaching

The concept of 'Team – Teaching' has it is origin from America during the mid-1950. It reached England in the 1960. J.Freedom's team teaching in Britain gives an account of its growth in the country. It has occupied a place for itself itself in schools and colleges.

Harvard University is the first institution which has initiated an internship plan in 1955. The second mile stone in team teaching is the project in Lexington (1957-64) which has been influenced by the Hardvard programme.

Francis Chase of the University of Chicago has developed the need of team teaching to use the best teachers more effectively.

J. Leyod Trump made valuable contribution for the success of team-teaching. Team-Teaching was not only confined to educational institutions but its use was extended to armed forces for teaching purpose during second world war.

It is difficult to trace the origin of team teaching because so many individuals and organizations have been conducting studies in their own areas for last two decades all over the world.

In India many educationists are aware of this system; but they are not confident to implement it even though it will best suit to our teaching learning situations.

Meaning of Team Teaching

The term 'team teaching' has been defined by several persons because they have designed and conducted experiments to understand the nature of team teaching. Warwick has tried to define the term more comprehensively. According to him "Team-teaching is a form of organization in which individual teachers decides to pool resources, interests and expertise in order to devise and implement a scheme of work suitable for the needs of their pupils and the facilities of their schools."

According to J. Lloyd Trump, teaching is "an arrangement whereby two or more teachers with assistants plan, instruct and evaluate co- operatively two or more classes in order to take advantage of their respective special competencies as teachers".

According to **Harold S. Davis**, "Team Teaching may be considered to be any form of teaching in which two or more teachers regularly and purposefully share responsibilities for the planning and correlating of lessons to one or more classes of students".

Definition of Team-Teaching

Carlo-Olson has defined team-teaching as:

"An instructional situation where two or more teachers possessing complementary teaching skills cooperatively plan and implement the instruction for a single group of students using flexible scheduling and grouping techniques to meet the particular instruction."

Another definition of term-teaching is:

"An arrangement whereby two or more teachers, with or without teaching-aids cooperatively plan, instruct and evaluate one or more class groups in an appropriate instructional space and given length of time so as to take advantage of the special competencies of the team members."

It may be inferred from the definitions of team-teaching that it has the following of the team members."

- It involves two or more teachers to teach a class.
- In this type of teaching, a group of teachers is responsible rather than an individual teacher.
- A team or group of teachers of the same subject work together to deal a significant content to same group of students jointly.
- It can be termed as co-operative teaching, in which individual teachers plan to pool resources, interests and their experts for teaching a content for the same group or class of students.
- Every individual teacher gets appropriate instruction space and length of time so as to use special competencies of teaching a content to a group of students.
- A group of teachers shares responsibilities of planning, organizing, teaching, controlling and evaluating the same class of students.
- In team-teaching the group of teachers has to consider the needs of their pupils and they should teach jointly to satisfy their needs and remove the difficulties of their students.

Chaplin has defined team teaching in the following lines:

"Team teaching is a type of instructional organization involving teaching teams and the students assigned to them, in which two or more teachers are given responsibility, working together, for all or a significant part of instruction of the same group of students".

We can generalize that "team teaching is any form of teaching in which two or more teachers purposefully share responsibility for the planning, organizing and evaluating the learning of a large group of students. It has shared responsibility with a purpose that teachers can accomplish more by working together with their different expertise".

Purpose of Team Teaching

Team Teaching offers an opportunity for better education to a large group of students through a team of teachers. Some of the purpose are as follows:

1) The goal of team teaching is the improvement of teaching through a better utilization of a group of teachers.
2) It utilizes teacher's specialized expertise, interests, instruction skill, time and energy.
3) It ensures preparation of lessons, materials and other .ids to create motivation among the students and better learning situations.
4) The team concept itself increases the possibility of variety of instruction based on pooled talent to the teachers.

Characteristics of Team Teaching

The theoretical design for team teaching is based on the co-operative planning but there are many other aspects of team teaching such as.

1. Role differentiation of team members.
2. Regrouping of students.
3. Rescheduling of time.
4. Redesign of teaching space.
5. Common time for planning.
6. Integration of learning in a meaningful way, and
7. Development of resource centres.

The teaching involves much different combination of teachers and other staff personnel, for example one team may consist of a subject matter specialist and a guidance and counselor. This large class would then be broken down periodically so that each specialist might meet small

class discussion groups with those students whose interests or course requirements call for problems more deeply in the various areas of specialization. Still other types of teams use a master-teacher, regular teacher combination with master teacher conducting the large group lesson and the regular teachers being the instructional leaders in the subdivided small group classes.

Types of Team-Teaching

There are different styles of organizing team teaching in schools. One of the common methods adopted is that the teachers teaching the students of same standard and subject join together, collaborate and perform the task. The whole team can plan the lecture and discuss which teacher is best suited to lecture, for small group discussion, for guiding library work, for setting up demonstration and visual aids that can be used in presentation in large groups and for preparing evaluation materials. Each of the members in the team has a specific assignment.

All the students of four sections meet at the large hall for large group instruction. One teacher gives a lecture and another teacher demonstrates. This lecture is arranged after thorough preparation in consultation with the other teachers in the team. The purpose of the lecture is to motivate the students and initiate them in the learning activity.

Team teaching can be effective only when this lecture in a large group is immediately followed by small group discussions under the guidance of all the teachers in the team. The large group is split up into small groups of homogeneous abilities and the teachers pay individual attention and work as counsellor or consultant to these small groups. This homogeneous grouping can be accomplished on the basis of students abilities, interests, needs and achievements.

Another style of team teaching can be that the team members join together, discuss the topics, plan the work, prepare the teaching aids and then go to their respective classes and teach the subject matter.

In yet another approach, when a topic of common concern to different disciplines is to be discussed, teachers of these subjects after proper planning together, can go to the same class and teach the subject matter in coordinated manner. One teacher is followed by another teacher and the discussion is completed from each one's point of view. This may bring about the interrelatedness of knowledge through discussion by different subject teachers.

Objectives of Team-Teaching

The teaching strategies have been designed to achieve certain objectives. The team-teaching has been evolved to realize the following objectives:

1. To make the best use of expertise of teachers under team-teaching.
2. To improve the quality of teaching. The services of the expert teachers are shared by a large number of students.
3. To develop the feelings of co-operation or group work in teaching-learning situation.
4. To help the students, to satisfy the needs and difficulties relating to the special content.

Principals of Team-Teaching

The team-teaching is based upon certain general principals which are helpful in organizing team-teaching. The principals provide a guideline for planning and organizing team-teaching. The following are the important principals of this team-teaching.

1. Principal of Size and Composition: The size of the group or class should vary according to the objective or purpose of team-teaching. For example, if the purpose of team-teaching is to remove the difficulties of the students in certain topic of a subject, obviously, the size of the group should be small involving the students who have similar type of difficulties.

2. Principal of Duties Assigning to Teachers of the Team: the team-teaching involves two types of tasks: lead lecture and group work cum follow-up work. Therefore, this task must be assigned to a competent person.

3. Principal of Learning Environment: Every subject requires its own learning situation or environment. Therefore, learning environment must be generated by employing appropriate teaching aids and equipments, e.g., laboratory, workshop, field work, good library and lecture room, etc.

4. Principal of Time Factor: The team-teaching is a well-organized teaching task, and therefore time schedule should be prepared by allotting appropriate time for lead lecture task and group-work or follow up task. In this type of teaching, time arrangement should be fairly fluid.

5. Principal of Supervision: The focus of team teaching is to develop the mastery over subject-matter by employing the expertise of teachers. The supervised-study is essential for assimilating the knowledge of a topic or concepts. The nature and duration of the supervision of the students activities depend upon the purpose of team teaching.

Procedure of Organizing Team-Teaching

The team-teaching serves several purposes of teaching and it has different forms or types. Therefore, it is difficult to provide a general procedure for organizing team-teaching, but it involves the following steps:

Step 1 – Planning, Step 2 – organizing and Step 3 – Evaluating. The details of activities of these steps have been given in the following paragraphs:-

Step 1-Planning of Team-Teaching:

This step involves the following activities which are decided by the team members.

- Deciding the topic to be taught.
- Writing the terminal objectives in behavior terms.
- Identify the entering or initial behavior of the learners of the group.
- Preparing a tentative schedule of teaching.
- Assigning duties to teachers, considering their interest and competencies during

    Lead lecture (2) follow-up work and (3) supervision.
- Fixing up the level of instruction.
- Selecting appropriate teaching aids and demonstration equipments for generating learning environment; deciding ways and means for evaluating the students performance: oral or written questions for practical work, etc.

    These activities are finalized by the team of teachers who are taking part in the team-teaching expertise of every teacher must be fully utilized. There should not be imposition of activities on them.

Step 2-Organizing Team Teaching:

    The organization of team-teaching is decided by considering the purpose or needs of the learners of the groups. The following are the general activities which are usually performed by team of teachers:

- Determining the level of instruction: Some questions are asked to explore the background of the learners.
- Presentation of lead lecture by a competent teacher of the team: other teachers listen to the lecture and note down the elements of topic which are not easily understand able to the learners group or not appropriately presented.

- Follow up work, the other teachers have to supplement the lead lecture by explaining the elements of the topic in a more simple way so that learners can understand easily.

- Providing motivation or reinforcement by teachers to the learners in both the situations: lead lecture and follow up work.

- Supervision of students-activities which are assigned in lead lecture or group work or follow-up work. This stage is considered to be important for assimilation.

  Every member of the team should be conscious about time schedule and about the duty assigned to him.

Step 3- Evaluating Team-Teaching :

The evaluation is an important aspect of any type of teaching. It is a helpful to measure the performance of learners which determines the level of achievement of the objectives. It also provides the reinforcement to team members. Thus, it involves the following activities:

- Asking oral questions, writing questions and practical work. Each question should measure a particular objective of team-teaching.
- Taking decision about the level of performance and realization of the objectives.
- Diagnosing the difficulties of the learners and provide the remediation.
- Revising the planning and organizing phases of team-teaching on the basis of evaluation of students.

  Team Organization

  This is based on hierarchy whose basic unit is a teacher. The teacher's experience, skill and speciality are the criteria of joining the team. There is joint responsibility for instruction but the teacher enjoys his status and prestige. Typically, from three to eight teachers take responsibility for the instruction of 75 to 240 students of similar age and class. The clerical and secretarial needs of the team are cared by the clerical staff.

  Types of teams:

1) **Single Subject Team**

   In single-subject teams, two or more teachers agree to teach the same subject at a particular class level to the same group in a common period. The strength of the students varies according to the number of teachers.

2) **Interdisciplinary Teams**

   In these teams teachers of different subjects assume responsibility for the same large group and are given a block of time in which to work with them.

3) **Hierarchical Teams**

Some teams are hierarchical in nature consisting of teachers, clerks and assistants. Job descriptions give the difference of roles played by each member.

In these teams one professional teacher is taken as team leader and functions as administrator in-charge. The remaining teachers performs professional duties. Similarly, clerks perform secretarial work and prepare cyclostyled materials.

4) **Synergetic Teams**

These are some teams, which work together as a team, and there is a minimum of hierarchical approach.

Facilities Required

Team Teaching necessitates flexibility. Time schedules must be organized in such a way that there are large blocks of time allotted by the combined large group-small group lesson. The school building itself must be flexible so that large rooms can be easily transformed by movable partitions into separate rooms for small class discussion. School organization must be flexible so that students get to know one another better. Such fine support is necessary for effective group discussion.

Advantages

The team-teaching is a perspective and economical device of teaching to cater to the needs of the students. It is highly flexible. It has the following major advantages:

- The team-teaching utilizes the competencies of the teachers.
- It creates the learning environment for better comprehension and mastery over the subject among the learners.
- It provides an opportunity for free discussion in the small group work..
- It provides an opportunity to the teachers to develop the professional status and competency in teaching by mutual sharing of ideas..
- It develops the team spirit and the team members utilize the best use of multimedia..
  Time and energy are saved by the team teaching. It maintains the discipline in the class and creates a conductive environment of learning.
- It is highly flexible method of teaching while traditional methods of teaching are rigid.
- It enables the students to become more aware of their own approach, knowledge of content and simultaneously to the other experts of the same area. It brings excellence of teaching in them.

Limitations

With all the advantages, the method has got some demerits.

- It is very difficult to seek co-operation among teachers to work jointly in teaching-learning situation. There is no mutual regard and respect among the teachers. Every teacher considers himself expert of the subject. Every teacher has his own style of teaching.

- The teachers do not like to deviate from the routine method of teaching and they do not prefer any change in system of education. Generally they are of the opinion that is can be used in Western countries not in Indian schools.

  This type of attitude of teachers hampers in the progress and improvement of educational system.

Suggestions regarding the Use of Team-Teaching

The team-teaching can be used effectively by incorporating the following suggestions:

- The research studies has established for its workability and effectiveness but its success will depend upon the way it works in practice. The meaning and understanding of team-teaching should be given to the school teachers and favourable attitude would be developed among them towards team-teaching

- The success of team-teaching rests upon the co-operation and devotion of the teachers. Only those teachers who are willing to work in a team must be invited for this method.

- The teachers should not be assigned the duties but they themselves should prefer the activities of teaching. They should be given full freedom to work at various stages of team-teaching. It is always better to have a leader for the team.

- In teacher education departments and institutions, pupils-teachers should be trained for this type of teaching.

- Anderson, Warwick and other experts and other experts in the fields of team-teaching consider hierarchical structure and composition as a very logical and attractive arrangement. The success of team-teaching plan largely depends upon a balanced team in which all the teachers feel their responsibility and co-operate willingly in organizing teaching.

VI WORKSHOP

In education, workshop is a brief intensive course, seminar or a series of meetings emphasizing interactive and exchange of information among a usually small number of participants.

VII SYMPOSIUM

Here the participants present to the audience their views about various aspects of a selected problem or topic through speeches or proper reading. In the words of Struck, "we think of a symposium as a group of comments, either spoken or written, which portrays contrasting or at least different points of view", the chief purpose of the symposium is to clarify thought upon controversial questions.

VIII INDIVIDUALIZED INSTRUCTION

Any of a number of teaching manoeuvre's whereby teaching and learning are tailored to meet a learner's unique characteristics.

Individualized instruction focuses on the needs of the individual student. Teaching is specific and targets one need at a time. This teaching method can be used on its own, or it can be part of differentiated teaching. Some students who receive individualized instruction need teachers to help them understand and learn. Other students using the same teaching method can skip topics they already know and go on to advanced information.

IX PROGRAMMED INSTRUCTION

Programmed instruction is a method of presenting new subject matter to students in carefully designed steps through a sequence of instructional "frames" (Miller, 2006). Students work through the programmed material by themselves at their own speed and after each step test their comprehension by answering questions. They are then immediately shown the correct answer or given additional information. Computers and other types of teaching machines are often used to present material, although textbooks have also been developed in programmed format (Columbia Electronic Library, 2007).

B. F. Skinner was inspired to develop a mechanical device after attending his daughter's fourth grade math class, where he analyzed the deficiencies of the group-based traditional instruction, and felt that the teacher was "violating almost everything we knew about the learning process" (Molenda, 2008). The instructional format used in his machines became known as programmed

instruction. This teaching method allowed the students the opportunity to work at their own pace and made it virtually impossible for students to make errors (Casas, 2002).

The components of Skinner's programmed instruction include:

- Behavioral objectives
- Small frames of instruction
- Self-pacing
- Active learner response to inserted question
- Immediate feedback   (Skinner, 1958)

Benefits of Programmed Instruction

Programmed Instruction, as discussed previously, was designed to enable students to work independently at their own pace with minimal repetition of errors while advancing through material only as they prove competency. Upon first introducing programmed instruction, proponents stated its benefits to be:

1. Instruction that was less labour-intensive, and therefore, less expensive. The technology of programmed instructive allowed more students to engage in the material without the need for hiring additional human instructors.

2. Programmed instruction enabled students to learn more extensively in a limited amount of time.

3. Programmed instruction utilized *'branching'* which tailored instruction and feedback according to the needs and responses of each individual learner.

4. Programmed instruction adhered to Thorndike and Pressey's laws of recency, effect, and exercise by reinforcing the positive/correct responses of students and limiting the repetition of mistakes. In this manner, immediate feedback was given to address and correct student responses in order to support optimal, true learning. (Molenda, 2008)

Other benefits of benefits of programmed instruction included the idea that PI materials could meet fixative, manipulative, and distributive measures (Uhumuavbi, 2009). For example:

5. Programmed instruction materials could be recorded and used at a later date according to the flexibility needs of each student's schedule (fixative).

6. The focus of instruction and materials could be edited and arranged so that events/subject matter that might have been missed in live instruction could be made more observable and noticeable (manipulative).

7. Programmed instruction materials can be reproduced and displayed to a large group or to mutliple individual as often and in as many various locations as are needed (distribution).

8. The technology of programmed instruction does not treat students any differently based on assumptions of gender or race. According the Uhumuavbi's article on student achievement and programmed instruction "research findings have shown that male and female students have different classroom experiences with regard to science, technology, and math courses because human teachers tend to treat them differently. Expectations for females in some subjects are usually lower as they are declared to be for certain sex, racial ethnic groups (Uhumuavbi, 2009)".

The benefits of programmed instruction additionally include:

9. Because programmed instruction steps outside of the traditional classroom, it tends to appeal to students and leads to an improved attitude toward studying.

10. Additionally programmed instruction increases student independence and student achievement.

11. When class size increases in a traditional classroom achievement tends to decrease, but with programmed instruction this is not an issue. Student achievement is not affected by an increase in class size. (Boden, 2000)

Based on the multitude of positive effects shared above, one cannot deny that programmed instruction can indeed be very beneficial to education for both students and teachers. Although it may not be the end-all answer to educational issues, it can be used as an effective tool for learning in several circumstances.

X COMPUTER ASSISTED INSTRUCTION

Computer Assisted Instruction refers to instruction or remediation presented on a computer. Many educational computer programmes are available online and from computer stores and textbook companies. They enhance teacher instruction in several ways.

Computer programs are interactive and can illustrate a concept through attractive animation, sound, and demonstration. They allow students to progress at their own pace and work individually or in a group. Computers provide immediate feedback also. Programs provide differentiated lessons to challenge students who are at risk, average or gifted.

CONCLUSION

One of the main aims of teaching is to achieve the maximum in the shortest possible time and for attainment of this aim various methods and techniques have been evolved. They present the subject matter in a different form. If a particular method is useful for one stage of education, another method of is suitable for another stage of education. Thus the above discuss explains the various methods and techniques which can be effectively used for teaching of Economics.

Questions for Discussion and Reflection

1. What is 'lecture method' of teaching? When the lecture method can be effectively used?
2. What is team-teaching? How could it be organized in schools?
3. Define 'Project Method' of teaching. Explain briefly the various steps involved in it.
4. What are the different ways of organizing the problem-solving method of teaching?
5. How a seminar is conducted? Mention its advantages and limitations.

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UNIT V Resources for Teaching Economics

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Objectives:
- To obtain knowledge on the Print resources in teaching of Economics.
- To understand the audio resources in teaching of Economics.
- To analyse the visual resources in teaching of Economics.
- To explore the ICT resources in teaching of Economics

PRINT RESOURCES:

Newspaper: A newspaper is a serial publication containing news, other informative articles (listed below), and advertising. A newspaper is usually but not exclusively printed on relatively inexpensive, low-grade paper such as newsprint. Newspapers are typically published daily or weekly.

Magazines: Magazines are publications; usually periodical publications that are printed or electronically published they are generally published on a regular schedule and contain a

variety of content. In the case of written publication, it is a collection of written articles. A "magazine" is a periodical with a popular focus, i.e. aimed at the general public, and containing news, personal narratives, and opinion. Articles are often written by professional writers with or without expertise in the subject; they contain "secondary" discussion of events, usually with little documentation.

Journal: A "journal" is a scholarly periodical aimed at specialists and researchers. Articles are generally written by experts in the subject, using more technical language. They contain original research, conclusions based on data, footnotes or endnotes, and often an abstract or bibliography. The Journal of Physical Chemistry, The Chaucer Review, The Milbank Quarterly, and Labor History are examples of journals.

Economics Encyclopedias: Economics Encyclopedias is, any system of knowledge that is concerned with the physical world and its phenomena and that entails unbiased observations and systematic experimentation. In general, a economics involves a pursuit of knowledge covering general truths or the operations of fundamental laws. An encyclopedia or encyclopedia is a type of reference or compendium holding a comprehensive summary of information from either all branches of knowledge or a particular branch of knowledge. Encyclopedias are divided into articles or entries, which are usually accessed alphabetically by article name. Encyclopedia entries are longer and more detailed than those in most dictionaries. Generally speaking, unlike dictionary entries, which focus on linguistic information about words, encyclopedia articles focus on factual information concerning the subject for which the article is named.

AUDIO RESOURCES: An audio tape recorder, tape deck or tape machine is an analog audio storage device that records and plays back sounds, including articulated voices, usually using magnetic tape, either wound on a reel or in a cassette, for storage. In its present-day form, it records a fluctuating signal by moving the tape across a tape head that polarizes the magnetic in the tape in proportion to the audio signal. Tape-recording devices include reel-to-reel tape deck and the cassette deck. Talk radio is a radio format containing discussion about topical issues. Most shows are regularly hosted by a single individual, and often feature interviews with a number of different guests. A talk show or chat show is a television programming or radio programming genre in which one person discusses various topics put forth by a talk show host.

DVDs/CDs: A compact disc (**CD)** is a small, portable, round medium made of molded polymer (close in size to the floppy disk) for electronically recording, storing, and playing back audio, video, text, and other information in digital form. Tape cartridges and CDs generally replaced the phonograph record for playing back music. At home, CDs have tended to replace the tape cartridge although the latter is still widely used in cars and portable playback devices.

DVD is an optical disc technology with a 4.7 gigabyte storage capacity on a single-sided, one-layered disk, which is enough for a 133-minute movie. DVDs can be single- or double-sided, and can have two layers on each side; a double-sided, two-layered DVD will hold up to 17 gigabytes of video, audio, or other information. This compares to 650 megabytes (.65 gigabyte) of storage for a CD-ROM disk.

VISUAL RESOURCES

Pictures: Pictures are kinds of visual instruction materials might be used more effectively to develop and sustain motivation in producing positive attitudes towards English and to teach or reinforce language skills. Pictures attract children and motivate them like to learn English so pictures are unlikable things to teach and learn English. Picture is visual presentation of human, places, or things. The use pictures are more effective than the use words because they are easier to remember and retell. Children can see pictures, recall and retell or describe a human, a place, a thing or a specific situation that is shown in picture. It is much clearer than remembering boring words.

Flashcard: A flashcard or flash card is a set of cards bearing information, as words or numbers, on either or both sides, used in classroom drills or in private study. One writes a question on a card and an answer overleaf. Flashcards can bear vocabulary, historical dates, formulas or any subject matter that can be learned via a question-and-answer format. Flashcards are widely used as a learning drill to aid memorization by way of spaced repetition. Flashcards exercise the mental process of active recall: given a prompt, one produces the answer. Beyond the content of cards, which are collected index, there is the question of *use* – how does one use the cards, in particular, how frequently does one and how does one react to errors, either complete failures to recall or mistakes? Various systems have been developed, with the main principle being spaced repetition increasing the review interval whenever a card is recalled correctly.

Charts : A chart, also called a graph, is a graphical representation of data, in which "the data is represented by symbols, such as bars in a bar chart, lines in a line chart, or slices in a pie chart". A chart can represent tabular numeric data, functions or some kinds of qualitative structure and provides different info. The term "chart" as a graphical representation of data has multiple meanings. Charts are often used to ease understanding of large quantities of data and the relationships between parts of the data. Charts can usually be read more quickly than the raw data. They are used in a wide variety of fields, and can be created by hand or by computer using a charting application. Certain types of charts are more useful for presenting a given data set than others. For example, data that presents percentages in different groups are often displayed in a pie chart, but may be more easily understood when presented in a horizontal bar chart. On the other hand, data that represents numbers that change over a period of time might be best shown as a line chart.

Posters: There are many teaching aids available to help improve your student's learning. Educational posters are an excellent teaching aid that can help children with spelling & comprehension, mathematics, language, geography, science, history and many more subjects. Educational posters are an excellent source for students to read and learn from when focusing on a specific subject. It is proven that visual learning is one of the most popular methods of learning that people find most effective. At Teach Starter, we have used this knowledge and developed a number of educational posters that help children learn through the use of visual aids. Educational posters are eye catching and visually appealing. The use of bright colours and bold text is helpful for getting the attention of children and adults. There are many benefits of having educational posters in your classroom or at home. Posters can be interactive as laminating certain posters means that students can write on them and then reuse them in the future.

Photograph: A Photograph is worth a thousand words through which a complex idea can be conveyed with just a single still image. Pictures make it possible to absorb large amounts of data quickly. Using photographs for explaining complex phenomena is one of the teaching aids of modern education system all over the world. As the world is changing day by day so are the methods of instructions as the modern curriculum requires conceptual elaborations. Visual aids have the tendency to materialize the thoughts of students in the form of graphics to give thoughts a concrete frame of reference. Use of photographs is important for students because they are more likely to believe findings when the findings are paired with colored images

describing complex situations during learning as opposed to other representational data such as complex book text.

Models: Many researchers have tried to put together classroom- or school-based models that describe the teaching-learning process. A model is a visual aid or picture which highlights the main ideas and variables in a process or a system.

ICT RESOURCES:

Radio: Radio is a powerful mass medium used in education for disseminating information, imparting instruction and giving entertainment. It serves with equal ease in both developed and developing countries. It spreads information to a greater group of population thereby saving time, energy, money and man-power in an effective way. Radio is a simple and cheap medium readily available as a small toy. Now small and handy transistors are available with even poorest of people. A small transistor can carry the message to any place on - the earth. It needs very little for maintenance and cheaper production can be taken up with more and more resources. Radio speaks to an individual so also to millions at a time. Hence, any listener can think the broadcast is meant for him whereas when listened in group all think the massage directed towards them. Each student takes the broadcast as very intimate to him. Due to its portability and easy accessibility radio could found its place everywhere whether it was a field, a school, a kitchen or a study room. Radio is a blind man's medium and is meant for ears only. It plays with sound and silence where the sound can be anything like voice or word, music and effect. When one hears radio, simultaneously one can imagine happenings in his/her mind. So it is called as theatre of blind or   a stage for the mind. Radio can be listened to simultaneously along with another work like reading also.

Television: Television or Learning show is the use of television programs in the field of distance education. It may be in the form of individual television programs or dedicated specialty channels that is often associated with cable television in the United States as Public, educational, and government access (PEG) channel providers. There are also adult education programs for an older audience; many of these are instructional television or "tele course" services that can be taken for college credit Many children's television series are educational, ranging from dedicated learning programs to those that indirectly teach the viewers. Some series are written to have a specific moral behind every episode, often explained at the end by the character that learned the lesson. In the social aspects of television, several studies have found that educational television has many advantages.

Internet: Teachers whose lesson plans were discussed here engage students in meaningful learning activities that are of high relevance to students. The Internet is serving as a solution to engage students and teachers as equal partners in an educational journey in these electronic settings. Computers and the Internet are a great resource for classroom teachers! Teachers can find suggestions, lesson plans, practical support, information, and materials through the Internet. In fact, using a computer can make a teacher's life easier and more efficient. The LEADERS website provides an extensive list of Internet links designed to help teachers of reading and writing. This list of links covers most of the types of websites discussed below. Here are some of the many ways in which teachers can make computer and Internet technology work for them.

Multimedia: Multimedia is content that uses a combination of different content forms such as text, audio, images, animations, video and interactive content. Multimedia contrasts with media that use only rudimentary computer displays such as text-only or traditional forms of printed or hand-produced material. Multimedia can be recorded and played, displayed, interacted with or accessed by information content processing devices, such as computerized and electronic devices, but can also be part of a live performance. Multimedia devices are electronic media devices used to store and experience multimedia content. Multimedia is distinguished from mixed media in fine art; by including audio, for example, it has a broader scope. The term "rich media" is synonymous for multimedia. Hypermedia scales up the amount of media content in multimedia application.

Interactive whiteboard : An interactive whiteboard is a large interactive display in the form factor of a whiteboard. It can either be a standalone touch screen computer used independently to perform tasks and operations, or a connectable apparatus used as a touchpad to control computers from a projector. They are used in a variety of settings, including classrooms at all levels of education, in corporate board rooms and work groups, in training rooms for professional sports coaching, in broadcasting studios, and others. The first interactive whiteboards were designed and manufactured for use in the office. This board was used in small group meetings and round-tables.

COMMUNITY RESOURCES
Economics Club

To widen the knowledge of students a good economics teacher can involve his students in a number of co curricular activities such as economics club, industrial visits, class magazines

etc. there is no limit to such extracurricular activities and the teacher is free to undertake one or more such activity at higher secondary school level for the benefit of his students. As in some other subjects so also in economics, the students be encouraged to organize themselves into economics clubs under the auspices of there organization, discussion and lectures etc. are arranged. Such functions are quite helpful in creating interest in economics. Under the auspices of such organization certain activities based on some concepts of economics. This is likely to help the students in having an idea of the practical utility of economics in addition to creating there interest in economics. The values of economics clubs may be summarized as under: I) It is useful in arousing and maintaining interest in economics. II) It stimulates the active participation of the students. III) It develops in the students the habit of selective study. This helps them to make a distinction between relevant and irrelevant material. IV) The knowledge gained by students in various functions of such economics clubs activities supplements the class teaching. V) It provides the students an opportunity of free discussion and they are benefited from one another's view. VI) Gifted students get an opportunity to satisfy their needs and interest by actively participating in the activities of economics clubs. VII) It gives the students basic training in organizing such programmes. VIII) It is helpful in maintaining proper utilization if leisure time. IX) Though participation in such clubs students get. Acquainted with the contribution of experts economist in their field.

Organization Of Economics Club: A economics club, if properly organized will be a great help in economics enlivening the teaching of economics such a club should be run by students under the guidance and supervision of his or the teacher. For proper running of a club the most important thing is preparation of a draft consultation of the club. This draft be prepared by the economics teacher in consultation with the head of the intuition. This draft constitution should provide all important details about the name of the club, aims and objectives of the club, details regarding membership and the fees etc. Suggested Activities For This Club 1) Organizing inter class; inter school competitions on some interesting topics of economics. 2) Arranging a lecture by some rewound economics teacher or scholar. 3) Celebrating days and events pertaining to the history of economics. 4) Organizing discussions about the practical application of economics. 5) Organizing recreational activities in economics such as catch problem, etc. 6) Making or collecting charts, models, pictures, graphs, etc. 7) Conducting related project activities 8) Preparing items for wall magazine 9) Organizing exhibition or fairs related to economics 10) Organizing paper reading contest about certain current topics of economics 11) Making arrangements to watch the television programs regarding to current

economics concepts 12) Organizing seminars and carrier courses related to economics Thus we can see that economics club can cover a wide variety of topics related to the subject. If the students participate in such activities wholeheartedly, then we derive great benefit. They will develop love for the subject

Exhibitions and Economics fairs

The roots of the phenomenon "Fairs and Exhibitions" can be traced back to its language origin. "Fair" comes from Latin "feria", meaning "holiday" as well as "market fair". This in turn corresponds to the Latin "feriae", which came to mean religious festival.1) During the 12th century the importance of trade meetings increased; fairs were held close to churches, so that the concepts of religious festival and market fair was combined in the common language.2) The word "exhibition" was mentioned as early as 1649. It is a derivative of the Latin word "expositio", meaning "displaying" or "putting on a show".3) Exhibitions are not just collections of interesting objects brought together at a certain place and time. They are human activities, human enterprises, undertaken for definite reasons and in order to achieve certain specified results. They are a form of human exchange, whereby the promoters and exhibitors on the one hand communicate with the visitors on the other. Their results can only be told in terms of further human thought and activity.

Exhibitions differed from fairs in four major ways: First, exhibitions were usually one-time events. They did not enjoy a recurring life cycle. However, while fairs ran for a short period of time, many exhibitions ran for months, some for a year or longer. Second, exhibitions were housed in permanent facilities built specifically for them. Starting in the 18th century, the practice of building a facility for the express purpose of housing an exhibition was the precursor of the exposition/convention centre industry. Third, although fairs were held regularly, they were not highly organized events. Over time, religious and later civic leaders did take control of the grounds where fairs were held (usually public lands). Exhibitions, on the other hand, were highly organized events. They were initially created by government departments or committees for the purpose of promoting trade. Finally, exhibitions differed from fairs in the very way in which business was conducted. Goods were bought and sold at fairs. At exhibitions, commercial activity or selling of the displayed goods, was not usually involved. However, inherent in displaying the goods was the hope of stimulating future sales. Today this is how most exhibitions still operate.

Fieldtrip: A field trip or excursion is a journey by a group of people to a place away from their normal environment. The purpose of the trip is usually observation for education, non-experimental research or to provide students with experiences outside their everyday activities, such as going camping with teachers and their classmates. The aim of this research is to observe the subject in its natural state and possibly collect samples. Field trips are also used to produce civilized young men and women who appreciate culture and the arts. It is seen that more-advantaged children may have already experienced cultural institutions outside of school, and field trips provide a common ground with more-advantaged and less-advantaged children to have some of the same cultural experiences in the arts.

Qualities of a good economics textbook: Text books are the most widely used of all instructional materials. Now a day's text book has become a course of study. A set of unit plans and a learning guide as well. A text book should really design for the pupils rather than the teacher. Text book should stimulate reflective thinking and cultivate in students the scientific attitude. In the teaching-learning process, the text-book occupies an important place. There is a saying "As is the text-book, so is the teaching and learning". A good text-book can even replace class-room teaching. The Economics text-book should aim at aiding the pupils in the development of their personalities, in developing open mindedness, developing appreciation and understanding of nature and not merely stuffing their minds with facts.

The opportunity of this analysis has been offered to students, future teachers of economics, around the time when they will directly use the textbooks for preparing and teaching the lessons. The main objective of this coordinated exercise of exploring the quality of the alternative economics textbooks is the development of the students' abilities to critically analyze the textbooks which they will use in the near future and for which they will have to express alternative options. The interests of the authors are also focused on the role of the textbooks in the learning process, on the analysis of their contribution to the students' progress in the scientific knowledge but also to their personal development. The textbook, as a source of the basic knowledge of economics as a school subject, but also as a collector of methodological ideas, is a „territory" that is insufficiently explored by students in the initial teaching preparation.

Qualities of an Economics teacher: Economics teachers need characteristics that are common to all good teachers, but, in addition, they need additional qualities specific to their chosen subject area. General Characteristics. Good teachers are dynamic, patient, understanding and caring. Knowledge, Personality and Physical Attributes.

Teaching Style/Approach:

An excellent Economics teacher:

1. Enthusiastic about teaching students the subject matter

2. Treats students with respect and designs curricula to meet the needs of all students, regardless of level of instruction

3. Ability to be discipline, to be firm and fair,

4. Sets an example of integrity inside and outside the classroom and teaches students responsibility and high standards

5. Plans lessons well in advance, gives adequate time for each topic, and integrates subjects

6. Teaches well organized concepts in a conceptually concise fashion

7. Stresses concept learning rather than rote memory

8. Continually reassesses approaches, lectures and tests to insure a fresh, relevant curriculum

9. Ability to inspire and motivate students,

10. Dedication to teaching profession.

Subject Expertise/Teaching Techniques

An excellent teacher:

- ✓ Teaches students how to learn, analyze and think critically, emphasizing good scientific methodology and problem solving skills
- ✓ Prepares lessons that will enhance problem solving ability
- ✓ Develops hands-on activities to illustrate concepts and uses a variety of approaches to assist the learning processes lectures, discussions, demonstrations, field trips, guest speakers, student presentations, films and slide shows
- ✓ keeps up-to-date in the subject matter
- ✓ Ability to inspire and motivate students,
- ✓ Ability to be discipline, to be firm and fair,
- ✓ Dedication to teaching profession.

Teaching Environment

An excellent teacher:

1. Creates an exciting classroom atmosphere with as many living things as possible to enhance learning.

2. Acquires up-to-date equipment for laboratory work

3. Joins committees to improve the school, department, himself/herself

4. Generates new and exciting ideas for students to think about

5. Encourages students to ask questions about the lesson

6. Knows how to administer first aid in case of accidents.

Community Involvement

An excellent teacher:

1. Will use the community resources by inviting guest speakers from nearby institutions

and conduct field trips to public and private sector industries, markets, museums, etc.

2. Develops and promotes advanced and/or continuing education courses in the school district,

if possible

3. Attends other activities in which students are involved such as musicals, sports, art exhibits,

etc.

4. Takes an interest in and gets involved in community activities

5. Solicits support from community businesses to improve facilities and programs in the

schools.

Professional Development

An excellent teacher:

1. Continually updates his/her knowledge by

- ❖ Reading the literature
- ❖ Attending conferences, conventions, workshops and seminars
- ❖ Taking college or in-service courses
- ❖ Visiting local market, bazaar, stock exchange etc.

2. Becomes active in a professional organization and encourages colleagues to join as well

3. Seeks grant support to purchase equipment, to organize or attend meetings or conferences,

and to fund special educational projects.

Questions for Discussion and Reflection

1. Write short notes on the audio resources in teaching of Economics.

2. Give the need for professional development of an Economics teacher.

3. Write an essay on the ICT resources for teaching of Economics in detail.

4. Enumerate the qualities of good Economics textbook.

5. Critically analyse the community resources for teaching of Economics.

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TAMIL NADU TEACHERS EDUCATION UNIVERSITY

Chennai-600 097

Course Material for B.Ed (First Year)

(2016-2017)

Course 7a: Pedagogy of English (Part –I Methodology)

Prepared by

Unit I   Aims And Objectives Of Teaching English

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Unit II   Planning for Instruction

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Unit III   Practising the skills in teaching English

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UNIT: I AIMS AND OBJECTIVES OF TEACHING ENGLISH

Objectives: the students will be able to

1. Understand the aims and objectives of teaching English

2. Understand the rationale for learning English

3. Comprehend the importance of four language skills

4. Learn the significance of spoken skill

THE IMPORTANCE OF ENGLISH IN INDIA

Introduction

English has been playing an important role both in our educational system and in our national life. English was supreme during the pre-dependent India. It was the language of administration, a compulsory subject in schools and colleges. English still occupies an important place in our educational system and life of our country.

Importance of English language in India

1. **As an official language of administration**

    English has been the official language of the country for more than 300 years. All the administrative works are done in English throughout the country.

2. **As a language of the court**

    English still continues to be the language of the courts in India. So far, there is no other suitable language for legal transaction, not only at the Supreme court but also at the High courts.

3. **As a language of International trade and industry**

    English dominates in the fields of trade and industry in India, because most works in these fields are carried in English.

4. **As a window on the modern world**

Jawaharlal Nehru, the former Prime Minister of India has rightly said, "English is our major window on the modern World". English is a window through which we can see the scientific, technological, agricultural and commercial development taking place in the world. English is the only language through which we have distilled the essence of modern knowledge in all fields of human activity.

5. **As a library language**

English is the key to the store-house of scientific, technological and computer knowledge. Most of this knowledge is not yet available in Indian languages. It is in this context that the role of English as a library language becomes important in India.

6. **On the Internet**

English is the only language which dominates on the Internet. Websites are created mostly in English. People send emails using the Internet. Facebook is used in English for most social interactions in the world.

Conclusion

From the above we come to know the significance of English in India. English plays a role of paramount importance in the country's national life as well as educational system.

Rationale for learning English

Students often choose to study a language to which they have an existing cultural, family, or community connection. But there are many other possible reasons. For example, students might be interested in:

- travelling to other countries and learning about other cultures
- learning about celebrations, festivals, and cuisines of other cultures
- exploring and enjoying films, fashion, music and the popular culture of another country Learning more about how languages work
- communicating with friends from around the world via social networking opportunities
- Participating in cultural and sports exchanges.

Learning a second language can bring a great deal of personal satisfaction and pleasure. It can also open up a much broader range of future work opportunities by:

- making it easier to work, travel, and study in other countries
- developing the skills to work across cultures
- providing access to a wider range of ideas and knowledge
- Generally strengthening literacy skills.

Learn more about yourself, and your own culture, too

Learning a second language is not just about opening up opportunities for work and travel – it is likely to prove a journey of personal discovery. Experience of other cultures can help us understand and appreciate our own.

In the broad picture, young people who learn a second language acquire knowledge, skills, and understandings that are important for the social, cultural, economic, and environmental well-being.

Some more reasons for learning English

- ➤ English offers the freedom to explore.

- ➤ English fosters creativity

- ➤ English enables learning

- ➤ English develops thinking

- ➤ English promotes participation

FOUR AIMS OF TEACHING ENGLISH

The following are the four general aims of teaching English:

1. To enable the students to understand English when spoken.

2. To enable them to speak English.

3. To enable them to read English.

4. To enable them to write English.

These aims correspond to the four language skills or abilities viz. listening, speaking, reading and writing. Listening and reading are passive or receptive skills, whereas speaking and writing are active or productive skill. It is easier to learn receptive than productive skills.

OBJECTIVES OF TEACHING ENGLISH

Importance of Aims

Aims are the direct outcome of the purposes for which language is taught. Without aims we are like the traveler who does not know his destination or even the direction in which he is going. Rightly has P.Gurrey observed, "In teaching, it is highly desirable to know exactly what one is hoping to achieve, as it is in all great undertaking.

The aims may also be classified as those of 'reception' and expression'. Reception means understanding spoken and written English. Expression means speaking and writing English.

The aims of teaching English have been interpreted in terms of mastery over words and structures.

The study Group of Teaching of English (1971) recommended the following class-wise division of the syllabus or the level of attainment to be reached in each class in terms of the structures or teaching points (mentioned here as points only) and vocabulary items.

Class VI : Points 1 to 50 : 300 words for active use.

Class VII : Points 51 to 100 : 300 new words for active use.

Class VIII : Points 101 to 170 : 300 words for active use; 200 new words for passive use.

Class IX : Points 171 to 200: 300 New words for active use; 300 new words for passive use.

Class X : Points 221 to 280 : 300 new words for active use; 300 new words for passive use.

By the end of class X, students will have acquired command of the structural basis of English; so in class XI the language learnt so far will be consolidated and extended through suitable texts.

GENERAL PRINCIPLES OF LANGUAGE TEACHING

1. Speech before writing

Listening and speaking should be taught first, reading and writing next.

2. **Basic Sentences**

The teacher should help the students memorize basic conversational sentences as accurately as possible. Short statements and patterns must be taught earlier. Conversational dialogues are preferable to poetry or prose. So, the language teacher should help his students acquire mastery over certain basic sentences in English language.

3. Pattern as Habits

The language teacher should establish the patterns as habits through pattern practice. Knowing words, Individual sentences, and rules of grammar alone does not lead to language mastery. The students must learn to use them.

4. Sound system for use

The language teacher must teach the sound system structurally for use by demonstration, imitation, props, contrast and practice. To help students increase facility and fluency, practice becomes indispensable.

5. Vocabulary control

The language teacher should keep the vocabulary load to a minimum, while the students are mastering the sound system and the grammatical pattern.

6. Writing a representation by speech

Reading and writing should be taught on the basis of the language units and patterns that the students already know. Teacher should understand that teaching reading and writing are distinct from teaching speech.

7. Practice

Practice increases the amount of learning. So, the students must be engaged in practice in most of Learning time.

8. Shaping of responses

When a student gives a partial or incorrect response, the teacher can help the student give a full response by the methods of partial practice (breaking the response into a smaller parts) and props (giving hints).

9. Immediate Reinforcement

While teaching, the student should know immediately the correctness or incorrectness of his response. This improves learning of languages.

10. Content

The meaning of the content of the second language should be taught as it has develop in culture where the language is spoken natively.

11. Teaching for learning outcome

The teacher must teach primarily to produce learning outcome rather than to please or entertain.

PSYCHOLOGICAL PRINCIPLES OF TEACHING ENGLISH

The following are the important principles of language learning and teaching

Importance of habit formation

Learning a language is an art and not a science. The basis of art is practice, the basis of science is knowledge. An art like dancing and painting cannot be required without constant practice. The same is true of language learning.

We know that a child learns his mother tongue through repetition and practice. The second or the foreign language has to be learnt in the same manner. As Palmer says, "Language learning is essentially a habit."

Importance of oral work

Modern techniques of teaching emphasize the importance of oral work. It is because of the following.

(i) When a person learns his mother tongue, he masters speech first.

Likewise, in learning a second language, a pupil should start with speech, and then learn reading and writing.

(ii) Language is primarily a spoken thing, the written representation is secondary. Even the illiterate people know their language although they cannot read or write it.

(iii) Oral practice is the quickest way of getting started because the pupil has simply to imitate the utterances of others. The learner gets a sense of achievement which is an incentive for further progress.

Situational approach to language teaching

A child learns his mother tongue in situations. Likewise, he should learn a foreign language too in situations. The teacher should create appropriate situations to teach the language. For example, while teaching certain words like box, watch, mango, etc. the teacher may show the objects to the students. He may use pictures for animals like elephant, camel etc. He may draw match – stick figures on blackboard to how certain items like bucket, basket, bird, etc. The teacher may perform certain actions like walking, jumping, shutting to door, etc. to teach these verbs.

The teacher should follow the same approach in teaching sentence patterns. For example, to teach the use of the present perfect tense, the teacher writes his name on the blackboard. When he has done so he says, "I have written my name on the blackboard." Examples may be multiplied.

Selection and gradation of language material

We cannot teach the entire system of language whatever the number of years devoted to it is study. This necessitates the importance of selection and gradation of language material, that is, vocabulary and structures.

Natural process of learning

We should follow the natural process of learning the language. Let us examine how the child learns his mother tongue. He listens to the language. Then he learns how to speak language. It is much later that the learns how to read or write the language.

Follow the multi-skill approach

Language learning consists in mastering the four basic skills, viz. listening, speaking, reading and writing. The teacher has to ensure that all these skills are properly developed. No skill should be developed at the cost of others. Some teachers are in the habit of stressing speaking and ignore reading and writing. There are others who emphasis reading but ignore speaking and writing. The teacher must see that all these skills are properly develop.

The Relationship between Language & Culture and the Implications for Language Teaching

Culture refers to the total life system of a particular community race or a human race. Culture involves thoughts ,beliefs ,traditions, language and values of people belonging to a community.

The relationship between language and culture is deeply rooted. Language is used to maintain and convey culture and cultural ties. Different ideas stem from differing language use within one's culture and the whole intertwining of these relationships start at one's birth.

When an infant is born, it is not unlike any other infant born, in fact, quite similar. It is not until the child is exposed to their surroundings that they become individuals in and of their cultural group. This idea, which describes all people as similar at birth, has been around for thousands of years and was discussed by Confucius as recorded in the book by his followers, Analects (Xu, 1997). From birth, the child's life, opinions, and language are shaped by what it comes in contact with. Brooks (1968) argues that physically and mentally everyone is the same, while the interactions between persons or groups vary widely from place to place.

Hantrais (1989) puts forth the idea that culture is the beliefs and practices governing the life of a society for which a particular language is the vehicle of expression. Therefore, everyone's views are dependent on the culture which has influenced them, as well as being described using the language which has been shaped by that culture. The understanding of a culture and its people can be enhanced by the knowledge of their language.

The implications of language being completely entwined in culture, in regards for language teaching and language policy are far reaching. Language teachers must instruct their students on the cultural background of language usage, choose culturally appropriate teaching styles, and explore culturally based linguistic differences to promote understanding instead of misconceptions or prejudices. Language policy must be used to create awareness and understandings of cultural differences, and written to incorporate the cultural values of those being taught.

Questions for discussion and reflections.

1. What are the aims of teaching English?

2. Write a note on situational approach.

3. Write briefly about oral work.

4. What is the relationship between culture and language?

UNIT – II: PLANNING FOR INSTRUCTION

Objectives:

After completion of this unit, the learners will be able:

1. To get knowledge about the instructional objectives with reference to Bloom's taxonomy.

2. To acquaint with designing of lesson plan

3. To familiarize with the steps involved in writing a lesson plan.

4. To hand on writing a model lesson plan.

Introduction

This unit speaks about instructional objectives and its types in addition with, the designing of lesson plan and its framework with reference to bloom's taxonomy in detail and makes platform for further discussion and reflection in this regard.

I – INSTRUCTIONAL OBJECTIVES

Writing Instructional Objectives and Goals

What is a Goal?

Goals are broad, generalized statements about what is to be learned. Think of them as a target to be reached, or "hit."

What is an Objective?

➢ Objectives are the foundation upon which you can build lessons and assessments that you can prove meet your overall course or lesson goals.

➢ Think of objectives as tools you use to make sure you reach your goals. They are the arrows you shoot towards your target (goal).

Are Goals or Objectives Really That Important?

The purpose of objectives is not to restrict spontaneity or constrain the vision of education in the discipline, but to ensure that learning is focused clearly enough that both students and teacher know what is going on, and so learning can be objectively measured. Different archers have different styles, so do different teachers. Thus, you can shoot your arrows (objectives) many ways. The important thing is that they reach your target (goals) and score that bull's eye!

Thus, stating clear course objectives is important because:

➢ They provide you with a solid foundation for designing relevant activities and assessment. Activities, assessment and grading should be based on the objectives.

➢ As you develop a learning object, course, a lesson or a learning activity, you have to determine what you want the students to learn and how you will know that they learned. Instructional objectives, also called behavioral objectives or learning objectives, are a requirements for high quality development of instruction.

➢ They help you identify critical and noncritical instructional elements.

➢ They help remove your subjectivity from the instruction.

➢ They help you design a series of interrelated instructional topics.

➢ Students will better understand expectations and the link between expectations, teaching and grading.

Most people would agree that the goal of education is learning. Most would also agree that education is likely to be more effective if educators are clear about what it is that they want the learners to learn. Finally, most would agree that if teachers have a clear idea about what learners are expected to learn, they can more easily and more accurately determine how well students have learned.

Let's look into instructional objectives, because instructional objectives specify exactly what is supposed to be learned, they are helpful to the teacher as well as the learner throughout the learning process and are invaluable in the evaluation process.

Instructional objectives (also known as *behavioral objectives* or *learning objectives*) are basically statements which clearly describe an anticipated learning outcome. When objectives were first coming into their own in education, they almost always began with the phrase: "Upon completion of this lesson, the student should be able to…." This phrase focused on the outcome of learning rather than on the learning process. In fact, one of the criteria for a well-written objective is that it describe the outcome of learning, that is, what the learners can do after learning has occurred that they might not have been able to do before the teaching and learning process began.

Characteristics of a Well-Written Objective

A well-written objective should meet the following criteria: 1.describe a learning outcome, 2. be student oriented, and 3. be observable (or describe an observable product).

A well-written objective should describe a learning outcome (e.g., to correctly spell the spelling words on page seventeen). It should not describe a learning activity (e.g., to practice the

words on page seventeen by writing each one ten times). Learning activities are important in planning and guiding instruction but they are not to be confused with instructional objectives.

A student-oriented objective focuses on the learner, not on the teacher. It describes what the learner will be expected to be able to do. It should not describe a teacher activity (e.g., to go over the words on page seventeen with the students, explaining their meaning and telling them how the words are pronounced). It may be helpful to both the teacher and the student to know what the teacher is going to do but teacher activities are also not to be confused with instructional objectives.

If an instructional objective is not observable (or does not describe an observable product), it leads to unclear expectations and it will be difficult to determine whether or not it had been reached. The key to writing observable objectives is to use verbs that are observable and lead to a well-defined product of the action implied by that verb. Verbs such as "to know," "to understand," "to enjoy," "to appreciate," "to realize," and "to value" are vague and not observable. Verbs such as "to identify," "to list," "to select," "to compute," "to predict," and "to analyze" are explicit and describe observable actions or actions that lead to observable products.

There are many skills that cannot be directly observed. The thinking processes of a student as she tries to solve a math problem cannot be easily observed. However, one can look at the answers she comes up with and determine if they are correct. It is also possible to look at the steps a student takes to arrive at an answer if they are written down (thus displaying his thinking process). There are many end products that also can be observed (e.g., an oil painting, a prose paragraph, a 3-dimensional map, or an outline.)

Characteristics of a Useful Objective

To be useful for instruction, an objective must not only be well written but it also must meet the following criteria: (1) be sequentially appropriate; (2) be attainable within a reasonable amount of time; (3) be developmentally appropriate.

For an objective to be sequentially appropriate it must occur in an appropriate place in the instructional sequence. All prerequisite objectives must already have been attained. Nothing thwarts the learning process more than having learners trying to accomplish an objective before they have learned the necessary prerequisites. This is why continuous assessment of student progress is so important.

A useful objective is attainable within a reasonable time. If an instructional objective takes students an inordinately long time to accomplish, it is either sequentially inappropriate or it is too broad, relying on the accomplishment of several outcomes or skills rather than a single outcome or skill. An objective should set expectations for a single learning outcome and not a cluster of them.

Developmentally appropriate objectives set expectations for students that are well within their level of intellectual, social, language, or moral development. Teachers, parents, and others who are working with preschool or elementary school children should be especially aware of the developmental stages of the children they are working with. No author or researcher has more clearly defined the stages of intellectual development than Jean Piaget. Familiarity with his work as well as with the work of other child development specialists (e.g., Lev Vygotsky's language development, Lawrence Kohlberg's moral development and Erik Erikson's social development) should produce better instructional objectives.

Kinds of Instructional Objectives

Instructional objectives are often classified according to the kind or level of learning that is required in order to reach them. There are numerous taxonomies of instructional objectives; the most common taxonomy was developed by Benjamin Bloom and his colleagues. The first level of the taxonomy divides objectives into three categories: cognitive, affective, and psychomotor. Simply put, cognitive objectives focus on the mind; affective objectives focus on emotions or affect; and psychomotor objectives focus on the body.

Cognitive objectives call for outcomes of mental activity such as memorizing, reading, problem solving, analyzing, synthesizing, and drawing conclusions. Bloom and others further categorize cognitive objectives into various levels from the simplest cognitive tasks to the most complex cognitive task. These categories can be helpful when trying to order objectives so they are sequentially appropriate. This helps to insure that prerequisite outcomes are accomplished first.

Affective objectives focus on emotions. Whenever a person seeks to learn to react in an appropriate way emotionally, there is some thinking going on. What distinguishes affective objectives from cognitive objectives is the fact that the goal of affective objectives is some kind of affective behavior or the product of an affect (e.g., an attitude). The goal of cognitive objectives, on the other hand, is some kind of cognitive response or the product of a cognitive response (e.g., a problem solved).

Psychomotor objectives focus on the body and the goal of these objectives is the control or manipulation of the muscular skeletal system or some part of it (e.g., dancing, writing, tumbling, passing a ball, and drawing). All skills requiring fine or gross motor coordination fall into the psychomotor category. To learn a motor skill requires some cognition. However, the ultimate goal is not the cognitive aspects of the skill such as memorizing the steps to take. The ultimate goal is the control of muscles or muscle groups.

The Role of Objectives in Teaching and Testing

Objectives can be helpful in instructional planning, during the teaching/learning process, and when assessing student progress. Instructional objectives are often either ignored (by both teachers and students) or are, at best, occasionally referred to. However, it can be argued that instructional objectives should guide the teaching and learning process from beginning to end.

Most lesson plan forms include a place for the objectives of the lesson to be recorded. However, to write an objective down and then to plan the lesson around the topic of the lesson rather than around the learning outcomes to be reached is missing the point. There is good evidence in the human learning literature that different kinds of outcomes are learned differently. Robert Gagne was one of the first researchers to articulate this; it follows from his research that instructional planning must take into account the kind of learning the students will be engaged in as they seek to reach an objective. Effective teachers learn to categorize their instructional objectives and then develop the teaching and learning activities that will help students do the kind of thinking required for that kind of learning.

II – DESIGNING OF LESSON PLAN

Lesson Plan: A lesson plan is a teacher's detailed description of the course of instruction, or 'learning trajectory' for a lesson. A daily lesson plan is developed by a teacher to guide class learning. Details will vary depending on the preference of the teacher, subject being covered, and the needs of the students.

Importance of Lesson Plan

Lesson planning is at the heart of being an effective teacher. It is a creative process that allows us to synthesize our understanding of second language acquisition and language teaching pedagogy with our knowledge of our learners, the curriculum, and the teaching context. It is a time when we envision the learning we want to occur and analyze how all the pieces of the learning experience should fit together to make that vision a classroom reality.

There are a number of benefits to writing a lesson plan. First, lesson planning produces more unified lessons (Jensen, 2001). It gives teachers the opportunity to think deliberately about their choice of lesson objectives, the types of activities that will meet these objectives, the sequence of those activities, the materials needed, how long each activity might take, and how students should be grouped. Teachers can reflect on the links between one activity and the next, the relationship between the current lesson and any past or future lessons, and the correlation between learning activities and assessment practices. Because the teacher has considered these connections and can now make the connections explicit to learners, the lesson will be more meaningful to them.

The lesson planning process allows teachers to evaluate their own knowledge with regards to the content to be taught (Reed & Michaud, 2010). If a teacher has to teach, for example, a complex grammatical structure and is not sure of the rules, the teacher would become aware of this during lesson planning and can take steps to acquire the necessary information. Similarly, if a teacher is not sure how to pronounce a new vocabulary word, this can be remedied during the lesson planning process. The opportunity that lesson planning presents to evaluate one's own knowledge is particularly advantageous for teachers of English for specific purposes, because these teachers have to be not only language experts, but also familiar with different disciplines like business, engineering, or law - fields that use language in specialized ways.

A teacher with a plan, then, is a more confident teacher (Jensen, 2001). The teacher is clear on what needs to be done, how, and when. The lesson will tend to flow more smoothly because all the information has been gathered and the details have been decided upon beforehand. The teacher will not waste class time flipping through the textbook, thinking of what to do next, or running to make photocopies. The teacher's confidence will inspire more respect from the learners, thereby reducing discipline problems and helping the learners to feel more relaxed and open to learning.

Some teachers feel that lesson planning takes too much time. Yet lesson plans can be used again, in whole or in part, in other lessons months or years in the future (Jensen, 2001). Many teachers keep files of previous lessons they have taught, which they then draw on to facilitate planning for their current classes. In other words, lesson planning now can save time later.

Lesson plans can be useful for other people as well (Jensen, 2001). Substitute teachers face the challenge of teaching another teacher's class and appreciate receiving a detailed lesson plan to follow. Knowing that the substitute is following the plan also gives the regular classroom teacher confidence that the class time is being used productively in his or her absence. In addition, lesson plans can also document for administrators the instruction that is occurring. If a supervisor wants to know what was

done in class two weeks ago, the teacher only has to refer to that day's lesson plan. Finally, lesson plans can serve as evidence of a teacher's professional performance. Teachers are sometimes asked to include lesson plans, along with other materials, as part of a portfolio to support their annual performance evaluation. Teachers applying for new jobs might be asked to submit lesson plans as part of their job application so that employers can get a sense of their organizational skills and teaching style.

Elements of Designing a Lesson Plan

The followings are the components of designing a lesson plan,

1) Anticipatory Set - A short activity, dispatch or prompt that focuses the students' attention and ties previous lessons to today's lesson.

2) **Purpose** - An explanation of the importance of this lesson and a statement concerning what students will be able to do when they have completed it.

3) **Input** - The vocabulary, skills, and concepts to be learned.

4) **Modeling** - The teacher demonstrates what is to be learned.

5) **Guided Practice** - The teacher leads the students through the steps necessary to perform the skill using multiple modalities.

6) **Checking for Understanding** - The teacher uses a variety of questioning strategies to determine if the students are understanding.

7) **Independent Practice** - The teacher releases students to practice on their own.

8) **Closure** - A review or wrap-up of the lesson.

Lesson Design Framework

This framework is designed to help you in the construction of your lesson plans and in your preparation for the Teacher Performance Assessment (TPA). This Lesson Design Framework is structured around a series of questions. Although you might not need to respond to each one of the questions as you design your lessons, it is recommended that you consider as many of them as you think are appropriate, practical, and essential for your lesson. You do need to include the basic structures of the lesson in the lesson plan frame. If you are teaching the lesson in a classroom, you would also need to complete the analysis of student work and the reflective commentary in the lesson plan frame.

Context for Learning: Attention to students' backgrounds, interests, and needs.

➢ How many students will you be teaching? How many males? Females?

➢ What is the age range or grade level(s) of the students?

➢ What prior knowledge, skills, and academic background do students bring to the lesson? How do you know?

➢ What additional needs might students have (describe cultural or socio-economic groups whose unique needs should be considered and/or exceptional learning needs)?

Lesson Rationale:

➢ Why are you teaching this lesson?

➢ What requisite skills do students need in order to access the lesson & participate fully?

➢ How does this lesson fit in the curriculum?

➢ How does the lesson build on previous lessons or previous learning?

Content Standards (as appropriate):

➢ Cite the grade level and standards using the numbers as well as the text. Use only the relevant parts of the standard(s) to help focus your lesson planning.

Learning Objectives:

➢ What do you want students to think, know, understand and/or be able to do? Describe observable, measurable actions. The learning objectives should align with the content standards identified.

Academic Language:

➢ What key vocabulary (content-specific terms) do you need to teach and how will you teach students that vocabulary in the lesson?

➢ Academic language functions: What are students doing with language to express their developing understanding of the content you are teaching?

➢ What opportunities will you provide for students to practice the new language and develop fluency (written or oral)?

Assessment: Formative (Process):

➢ How will students demonstrate their understanding?

➢ Will you have more than one form of assessment for students with special needs?

➢ In what ways will you monitor student learning during the lesson and how might this guide your instruction?

➢ What specific actions do you expect to observe?

➢ What feedback will you provide? How will your feedback support students in meeting the goals of the lesson?

Summative (Product):

➢ What evidence of student learning will you collect?

➢ What are your evaluative criteria (or rubric) and how do they measure student proficiency for your objectives? Evaluative criteria are categories that you use to assess student learning

➢ Are your assessments aligned with your objectives?

Management and Safety Issues:

➢ Are there management and safety issues that need to be considered when teaching this lesson? What will you do to prepare your students for these issues?

➢ Accommodations/Adaptations:

➢ Who are the students in the class with learning challenges? What kinds of challenges (writing, reading, speaking, etc.)?

➢ What are appropriate accommodations or adaptations that can be made in instructional strategies, learning tasks, or assessments to support these learners during this lesson?

Instructional Materials:

➢ What materials will you need in order to teach this lesson?

➢ What materials will students need? Will you need modified materials (lower level or large print reading text, audio, etc.) for particular students?

➢ What technology can be utilized to support or enhance the lesson? Will any students need to use assistive technologies?

Instructional Strategies and Learning Tasks to Support Learning

➢ **Anticipatory Set: (Introduction of the topic: making connections)**

This means applying what you know about your students' academic and social development and cultural backgrounds to make the learning interesting, accessible and relevant.)

• How will you engage your students?

• How will you connect to your students' previous experiences?

• How will you link this to their lives as students?

• How will you communicate your learning goals/objectives or your expectations to the students?

➢ **Presentation/Explicit Instruction:**

• How will you explicitly teach/model or demonstrate the skill/strategy/concept?

• What questions might you pose to focus on the learning objectives for the lesson?

- How will you differentiate for students who do not have the pre-requisite skills or who already know the content and need more challenging work?

➢ **Structured Practice/Exploration:**

- What learning activities do you have planned?
- What kind of examples/samples will you provide for your students?
- What opportunities will you provide for students to practice this new skill/strategy?
- What questions might you pose to check for understanding?

➢ **Guided Practice/Feedback:**

- What additional opportunities will you provide for students to practice this new skill/strategy?
- What questions might you pose to push student thinking and check for understanding?
- What feedback do you plan to provide?

➢ **Independent Practice/Application:**

- What kind of opportunities will you provide students to apply this new learning and demonstrate mastery?

Closure

➢ How will the key points of the lesson be articulated?

➢ What questions or prompts will you use to elicit student articulation of their learning?

➢ How will students rethink and revise their understanding and work?

Analysis of Student Work

Choose three samples of student work representing the full range of student performance. At least one of these must be a student who represents a particular teaching challenge related to your expectations for this lesson/assignment.

➢ Did each student meet your learning objectives? If so, how did they meet the objectives?

➢ In what areas did students have difficulty?

➢ Were the adaptations/accommodations for the lesson appropriate? Why or why not?

➢ Was the assessment appropriate for all students? Why or why not?

Reflective Commentary (Derived from analysis of student work)

➢ To what extent did the whole class or group learn what you intended them to learn? Cite specific example and/or evidence.

➢ What did you learn about your students as learners?

> ➢ How well did your lesson support the diverse needs of your learners?
>
> ➢ Why do you believe your choice of technology was appropriate for this lesson/unit?
>
> ➢ What changes, if any, might you make in:
>
> - Planning
>
> - Management
>
> - Instruction
>
> - Assessment
>
> ➢ What have you learned about yourself as a teacher?
>
> ➢ What goals do you have for yourself as you plan future lessons?

III - BLOOM'S TAXONOMY LEARNING DOMAINS - DETAILED STRUCTURES

1. Bloom's taxonomy - Cognitive Domain - (Intellect - Knowledge - Think)

Bloom's Taxonomy 1956 Cognitive Domain is as follows. An adjusted model was produced by Anderson and Krathwhol in 2001 in which the levels five and six (synthesis and evaluation) were inverted (reference: Anderson &Krathwohl, A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives, 2001). That is why we can see different versions of this Cognitive Domain model. Debate continues as to the order of levels five and six, which is interesting given that Bloom's Taxonomy states that the levels must be mastered in order.

In general opinion it's possible to argue either case (Synthesis then Evaluation, or vice-versa) depending on the circumstances and the precise criteria stated or represented in the levels concerned, plus the extent of 'creative thinking' and 'strategic authority' attributed to or expected at the 'Synthesis' level. In short - pick the order which suits your situation.

COGNITIVE DOMAIN				
Level	Category or 'Level'	Behaviour Descriptions	Examples of Activity to be Trained, or Demonstration and Evidence to be Measured	'Key Words' (verbs which describe the activity to be trained or measured at each level)

1	**Knowledge**	recall or recognise information	multiple-choice test, recount facts or statistics, recall a process, rules, definitions; quote law or procedure	arrange, define, describe, label, list, memorise, recognise, relate, reproduce, select, state
2	**Comprehension**	understand meaning, re-state data in one's own words, interpret, extrapolate, translate	explain or interpret meaning from a given scenario or statement, suggest treatment, reaction or solution to given problem, create examples or metaphors	explain, reiterate, reword, critique, classify, summarise, illustrate, translate, review, report, discuss, re-write, estimate, interpret, theorise, paraphrase, reference, example
3	**Application**	use or apply knowledge, put theory into practice, use knowledge in response to real circumstances	put a theory into practical effect, demonstrate, solve a problem, manage an activity	use, apply, discover, manage, execute, solve, produce, implement, construct, change, prepare, conduct, perform, react, respond, role-play
4	**Analysis**	interpret elements, organizational principles, structure, construction, internal relationships; quality, reliability of individual components	identify constituent parts and functions of a process or concept, or de-construct a methodology or process, making qualitative assessment of elements, relationships, values and effects; measure requirements or needs	analyse, break down, catalogue, compare, quantify, measure, test, examine, experiment, relate, graph, diagram, plot, extrapolate, value, divide

5	**Synthesis (create/build)**	develop new unique structures, systems, models, approaches, ideas; creative thinking, operations	develop plans or procedures, design solutions, integrate methods, resources, ideas, parts; create teams or new approaches, write protocols or contingencies	develop, plan, build, create, design, organise, revise, formulate, propose, establish, assemble, integrate, re-arrange, modify
6	**Evaluation**	assess effectiveness of whole concepts, in relation to values, outputs, efficacy, viability; critical thinking, strategic comparison and review; judgement relating to external criteria	review strategic options or plans in terms of efficacy, return on investment or cost-effectiveness, practicability; assess sustainability; perform a *SWOT* analysis in relation to alternatives; produce a financial justification for a proposition or venture, calculate the effects of a plan or strategy; perform a detailed and costed risk analysis with recommendations and justifications	review, justify, assess, present a case for, defend, report on, investigate, direct, appraise, argue, project-manage

2. Bloom's taxonomy - Affective Domain - (feeling, emotions - attitude - 'feel')

Bloom's Taxonomy second domain, the Affective Domain, was detailed by Bloom, Krathwhol and Masia in 1964 (Taxonomy of Educational Objectives: Volume II, The Affective Domain. Bloom, Krathwohl and Masia.) Bloom's theory advocates this structure and sequence for developing attitude - also now commonly expressed in the modern field of personal development as 'beliefs'. Again, as with the other domains, the Affective Domain detail provides a framework for teaching, training,

assessing and evaluating the effectiveness of training and lesson design and delivery, and also the retention by and affect upon the learner or trainee.

				AFFECTIVE DOMAIN			

Level	Category or 'Level'	Behaviour Descriptions	Examples of Experience, or Demonstration and Evidence to be Measured	'Key Words' (verbs which describe the activity to be trained or measured at each level)
1	**Receive**	open to experience, willing to hear	listen to teacher or trainer, take interest in session or learning experience, take notes, turn up, make time for learning experience, participate passively	ask, listen, focus, attend, take part, discuss, acknowledge, hear, be open to, retain, follow, concentrate, read, do, feel
2	**Respond**	react and participate actively	participate actively in group discussion, active participation in activity, interest in outcomes, enthusiasm for action, question and probe ideas, suggest interpretation	react, respond, seek clarification, interpret, clarify, provide other references and examples, contribute, question, present, cite, become animated or excited, help team, write, perform
3	**Value**	attach values and express personal opinions	decide worth and relevance of ideas, experiences; accept or commit to particular stance or action	argue, challenge, debate, refute, confront, justify, persuade, criticise,

| 4 | **Organise or Conceptualize values** | reconcile internal conflicts; develop value system | qualify and quantify personal views, state personal position and reasons, state beliefs | build, develop, formulate, defend, modify, relate, prioritise, reconcile, contrast, arrange, compare |
| 5 | **Internalize or characterise values** | adopt belief system and philosophy | self-reliant; behave consistently with personal value set | act, display, influence, solve, practice, |

3. Bloom's taxonomy - Psychomotor Domain - (physical - skills - 'do')

The Psychomotor Domain was ostensibly established to address skills development relating to manual tasks and physical movement, however it also concerns and covers modern day business and social skills such as communications and operation IT equipment, for example telephone and keyboard skills, or public speaking. Thus, 'motor' skills extend beyond the originally traditionally imagined manual and physical skills, so always consider using this domain, even if you think your environment is covered adequately by the Cognitive and Affective Domains. Whatever the training situation, it is likely that the Psychomotor Domain is significant. The Dave version of the Psychomotor Domain is featured most prominently here because in my view it is the most relevant and helpful for work- and life-related development, although the Psychomotor Domains suggested by Simpson and Harrow are more relevant and helpful for certain types of adult training and development, as well as the teaching and development of young people and children, so do explore them all. Each has its uses and advantages.

PSYCHOMOTOR DOMAIN (DAVE)			
Level	**Category or 'Level'**	**Behaviour Descriptions**	**Examples of Activity or Demonstration and Evidence to be Measured**	**'Key Words' (verbs which describe the activity to be trained or measured at each level)**

1	**Imitation**	copy action of another; observe and replicate	watch teacher or trainer and repeat action, process or activity	copy, follow, replicate, repeat, adhere
2	**Manipulation**	reproduce activity from instruction or memory	carry out task from written or verbal instruction	re-create, build, perform, execute, implement
3	**Precision**	execute skill reliably, independent of help	perform a task or activity with expertise and to high quality without assistance or instruction; able to demonstrate an activity to other learners	demonstrate, complete, show, perfect, calibrate, control,
4	**Articulation**	adapt and integrate expertise to satisfy a non-standard objective	relate and combine associated activities to develop methods to meet varying, novel requirements	construct, solve, combine, coordinate, integrate, adapt, develop, formulate, modify, master
5	**Naturalization**	automated, unconscious mastery of activity and related skills at strategic level	define aim, approach and strategy for use of activities to meet strategic need	design, specify, manage, invent, project-manage

III – FOUR-FOLD LESSON PLAN MODEL (Writing)

Name of the Student Teacher :   **Subject** :

Class/Section :   **Unit** :

Name of the School :   **Date** :

Instructional Objectives :

Teaching Resource/Aids :

Pervious Knowledge Testing :

Content	Learning Behavioral Outcome	Learning Experiences	Evaluation

Home Assignment:

Signature of Student Teacher   **Signature of Guide Teacher**

Conclusion

Accordingly, this unit deals with the above stated points in detail and also prompts for further discussion and reflection regarding the writing of instructional objectives, designing of lesson plan and writing of a lesson plan with reference to bloom's taxonomy.

Questions for Discussion and Reflection

1. Analyze the instructional objectives with reference to bloom's.
2. Discuss the designing a lesson plan.
3. Write a model lesson plan for prose.

The next unit deals with practicing of skills in teaching English.

UNIT – III: PRACTICING THE SKILLS IN TEACHING OF ENGLISH

Objectives:

After completion of the unit, the learners will be able:

1. To acquaint with teaching of various skills in second language teaching-learning.
2. To hand on mini-teaching lesson plan writing.
3. To assimilate the teaching methods of prose, poetry, grammar and composition.
4. To obtain knowledge about vocabulary and its strategies to enrich their vocabulary.

Introduction

This unit deals with the importance and role of various skills along with its components in teaching of second language teaching-learning process. It also, additionally gives a cutting edge methods of teaching prose, poetry, grammar and composition. Furthermore, it explains how to write a mini-teaching lesson plan.

What is teaching?

Teaching is neither merely imparting knowledge to students, nor merely giving advice. The best approach to understanding the nature of teaching is establishing a harmonious relationship between teacher, student and subject. Teaching is the activity of facilitating learning. Effectiveness in teaching does not relate to teacher's age, sex, and teaching experience. One can become an effective teacher irrespective of his/her age, sex and experience.

What is learning?

Learning is defined as nothing but "Change in behaviour occurs by activity, training or experiences". Learning happens while knowledge is generated in an environment, where interaction between teachers, students and content takes place in interactive ways. There is a famous saying:

> I hear… I forget;
>
> I see … I remember;
>
> I do … I understand.
>
> Research around the world also suggest:
>
> We remember,
>
> 20% of what we hear;
>
> 30% of what we see;
>
> 50% of what we see and hear;
>
> 90% of what we see, hear & do.

Changes in Teacher Role

A shift from:

1. Knowledge transmitter, primary source of information, content expert, and source of all answers.

2. Teacher controls and directs all aspects of learning.

Changes in Student Role

A shift from:

1. Passive recipient of information.

2. Reproducing knowledge.

3. Learning as a solitary activity.

I - SKILL

Skill means ability to do something well or expertness.

Teaching Skills

Teaching skill is a set of teacher behaviors which are especially effective in bringing about the desired changes in pupils.

SKILL OF INTRODUCING A LESSON OR SET OF INDUCTION

Success of teaching a lesson depends on its introduction. The attention of the students towards learning the matter starts with the introduction of the lesson. In this the new knowledge may be properly linked with the existing knowledge of pupils. The introductory questions should be based on the previous knowledge related to the present content and the teacher has to proceed from known to unknown. The skill of introducing a lesson establishes rapport with the learners and facilitates concentration on his teaching. Effectiveness of introducing a lesson depends on the maximum use of previous knowledge and attention gaining of the learners, adopting appropriate devices, continuity, and relevant questions or statements pertaining to the content. Introducing a lesson significantly influences the learning of a new lesson. The various components of the skill involved in introduction of a lesson are,

➢ Use of previous knowledge (UPK)

➢ Preliminary attention gaining (PAG)

➢ Use of appropriate device (UAD)

➢ Arousing motivation (AM)

➢ Relevance and Continuity or Sequencing of questions and Statements (RC)

➢ Topic Declaration (TD)

Use of Previous Knowledge (UPK): Previous knowledge of students refers to the level of achievements from previous experiences. Testing the previous knowledge of students helps the

teacher to establish integration between the preexisting knowledge of the student and the new knowledge that the teacher wants to impart. Through this skill, the teacher knows the status of motivation, intellectual abilities and sociocultural background of the student.

Preliminary Attention Gaining (PAG): In the beginning of a lesson, the students may not be in an attentive mood being mentally unprepared for learning. The teacher's duty is to create desire for learning among the students. The teacher attracts the students towards his teaching by doing some attractive activity and creating curiosity. To gain attention at the preliminary stage interest or curiosity should be aroused among the students. The teacher can employ different attention attracting activities such as telling a story, recalling the previous experiences etc.

Use of Appropriate Device (UAD): The teacher should make use of appropriate devices or techniques while introducing a lesson to motivate the students. The teacher creates such a situation by use of different types of devices such as,

- ➢ Questioning
- ➢ Use of examples, analogies, similarities
- ➢ Story-telling, describing related instances
- ➢ Lecturing, describing, narrating
- ➢ Use of A.V aids
- ➢ Roleplaying and dramatization
- ➢ Demonstration and experimentation etc.

In order to motivate the learners, the use of such devices should be suitable to the age, experience, maturity, etc. of the learner. The devices could be relevant only if they are related to the aims of the lesson/content. Unrelated devices confuse the learners and do not contribute towards establishing a healthy rapport with them.

Arousing Motivation (AM): The teacher should link the required previous knowledge of the present knowledge with motivation of the present knowledge with motivation in introducing a lesson. The teacher should use the questions or activities to motivate the students towards the current topic or concept before declaring the topic or lesson.

Relevance and Continuity or Sequencing of questions and Statements (RC): The teacher should use relevant and sequence questions to recall previous knowledge, to generate motivation towards the lesson and attract attention of the students.

Topic Declaration (TD): The teacher should declare the topic or lesson after introducing the lesson. It indicates the beginning of presentation of the lesson. By this topic declaration, the students understand what they are going to be learning in that period.

Skill of Explaining: Explaining skill makes the pupils to understand ideas, concepts and principles, a teacher has to explain vividly. Explanation is a set of inter – relation statements made by the teacher related to an idea or phenomenon. In order to be a good listener the teacher trainee has to develop the following components.

Components of Skill of Explaining

Cognitive Link (CL): While introducing a new concept the teacher is to follow the principle of 'known to unknown' establishing a link between the old (already known). Concepts and the new one. A new concept, if it is complex, can be introducing and developed only through a series of sub concepts. A new concept all sub-concepts must be linked with one another logically.

Use of illustration (ILL): A new concept is to be adequately illustrated in terms of vital situations or life experiences. Illustrations also include citing example and non-example (if needed and if possible) illustrations must serve the purpose of concretizing the abstract concepts concerned.

Comparing and contrasting (CC): Some concepts are often so closely interrelated that the pupils may find it difficult to discriminate between them. These may bring effectively to the attention of the learner. Besides his component serves the purpose of discriminating between two related but different concepts.

Meaningful repetition (MM): By repeating a brief description of a concept, a term or a definition at regular intervals, the ideas get fixed in the minds of the learners. Repletion must be purposive, deliberative, meaningful and relevant. Over – repetition creates boredom to the learners. As such over repetition should not be used.

SKILL OF QUESTIONING

Questioning has two aspects i.e. 1. Fluency in questioning and 2. Probing questioning.Fluency in questioning refers to the rate of meaningful questions asked per unit of time. Probing questioning refers to depth in a pupil's response by asking a series of subsequent questions. Let us now consider fluency of questioning. The questioning of the teacher stimulates thinking of the students. The teacher classifies and facilitates understanding of the concepts by questioning the students. In the teaching-learning process, questioning is very significant technique. The new knowledge is assimilated with the previous knowledge by putting some questions. The questions develop curiosity among the students. The effective ness of questions depends on their particular use. The type of questions are as follows,

➢ Introductory questions

➢ Thought provoking questions

➢ Prompting questions

➢ Information seeking questions

- ➢ Refocusing questions
- ➢ Redirected questions
- ➢ Increasing critical awareness questions
- ➢ Open ended questions
- ➢ High order questions
- ➢ 'Yes' or 'No' type questions
- ➢ Recapitulatory questions etc.

The questions should be interesting and should arose curiosity but they must be simple and undesirable to the students during the presentation of the lesson. Thought – provoking questions and probing questions are to be used. In recapitulation, recapitulatory questions are to be used.

'Yes' or 'NO" type questions, elliptical questions, suggestive questions (echo questions), rhetorical questions etc. should not be used.

Questions should be grammatically correct, relevant to the topic discussed, specific and concise, put with proper pace and pause, put to the class with proper voice and not to be repeated unnecessarily. Questions for seeking further information are needed. The teacher asks prompting questions to lead to the pupil's expected response. The teacher asks questions to increase critical awareness of the pupils about their responses. In process of questioning, pace should be used appropriately by providing sufficient pauses and the voice of the teacher should be clear and audible to the learners with please tone and friendly manner.

PROBING QUESTIONING

The skill of probing questioning involves going deep into student responses through step by step questioning with a view to eliciting the required responses. Each question is followed by a variety of student responses, such as to no response, wrong response, partially correct response, incomplete response and correct response. Let us consider the five response situations one by one.

No response situation: No response situation may be there due to a student's inability to understand the questions, to structured response, or due to the lack of requisite facts, concepts, generalizations needed for the purpose of responding or the failure to recall the related facts.

Wrong response situation: Wrong responses to a question indicate the lack of knowledge of facts, concepts and generalizations on the part of the student.

Partially correct response situation: It represents the response parts, which are similar to the criterion or correct responses. The respondent a partial knowledge of facts, concepts, and generalizations on the part of the students.

Incomplete responses situation: Some times when an incomplete response situation occurs, we infer that either the student is not having the necessary facts, concepts or generalization in his memory or it may be due to he is inability to understand or structure a response to the question.

Correct response situation: Correct response situation refers to the statements expressed by the student, which completely satisfy the response. These specific sets of behavior (student response situation) are out lined in the ensuing skill components. The skill of probing questioning comprises component behaviors of seeking further information, redirecting, refocusing and developing critical awareness. The components are,

  ➢ Seeking further information (SFI)

  ➢ Re focusing (RF)

  ➢ Re directing (RD) and

  ➢ Developing critical awareness (DCA)

Seeking Further Information (SFI): Dealing with an incomplete response situation and partially corresponsive situation consists of eliciting additional information from the responding pupil to bring the initial response to the expected response in more complex ad novel situations.

Re Focusing (RF): To deal with 'correct response situation' the teacher re focuses pupil responses and wants the pupil to relax it to some area already learnt or requires the pupil to consider the implications of the given response in more complex and novel situations.

Re Directing (RD): For more students' involvement and to deal with 'no response', 'incomplete response' and partially correct response, the same question is redirected to more students for response.

Developing critical awareness (DCA): This involves asking 'why' and 'how' of the correct response. The teacher expects the pupil to justify his response or explain its rationale. This process develops his critical awareness.

SKILL OF STIMULUS VARIATION

Continuous use of the same stimulus for a long period reduces the attention in that activity. The teacher's behaviour influences pupil's attention. Variation in stimulus secures more attention among the students. The following components of the skill, stimulus variation, influence the teaching – learning process effectively.

  ➢ Teacher's movement (TM)

  ➢ Pupil's movement (PM)

  ➢ Teacher's gesture (TG)

  ➢ Sensory focus (SF)

  ➢ Change in voice (CV)

> ➢ Change in interaction pattern (CIP)
>
> ➢ Pausing (P)
>
> ➢ Audio visual switching (AVS)

Teacher's Movement (TM): The teacher should move from one place to another on the teaching dais and towards all the students to attract attention of the entire class and to focus the attention of students the teacher. The movement of the teacher secures and maintains attention of the students.

Pupil's Movement (PM): A pupil moves from one place to another. The physical participation holds pupil's interest and attention in this task in which they are engaged physical participation can be in the form of handling apparatus, dramatization and writing on the blackboard.

Teacher's Gesture (TG): Expression of feelings and emotions involving nonverbal behaviours are called gestures. Gestures consists of hand and hand movements, eye movements, facial expressions, etc. use of gestures increase the effectiveness of verbal communication. Gestures: Eyes movement, facial expression, body movements and movement of hands and legs.

Change in Voice (CV): The teacher's voice dominates the entire class. Voice modulation pitch, tone, and speed play a vital role in the class room. Communication constant use of the same level of pitch, tone, and speed by the teacher makes his communication dull, inactive and has an adverse effect. So, the teachers should modulate their voice.

Sensory Focus (SF): The movements, gestures and change in the voice of teacher secure pupil's attention. The verbal statements and gestures together are known as verbal cum gesture focusing.

Verbal cum gesture focusing is termed as sensory focus. The sensory focus influences the attention of the students. Verbal Statement: Excellent, Gesture: Nodding of head, Verbal cum gesture: Excellent and nodding of head at a time.

Change In Interaction Pattern (CIP): The interactive act of teaching constantly communication between the teacher and pupils as an initiatory or responsive act. The interaction is broadly of two types: Verbal and Nonverbal. This interaction is nothing but communication. When the teacher or pupil communicate in verbally, interaction operation through gestures without talking. The main patterns of interaction between teacher and pupils are teacher-pupil interaction, teacher-group interaction, pupil-pupil interaction, and teacher-whole class interaction. The teacher should introduce variation in the interaction patterns to secure and maintain pupil attention.

Pausing (P): Pausing is silence for some seconds. The silence indicates pause during talk. Silence has a meaning of its own and if it is used effectively, it helps in securing and sustaining pupil attention. A short pause before saying something important is an effective way of attracting pupil attention. A pause of 3 seconds duration is considered appropriate for this purpose. If the pause is unduly long, it

loses its effectiveness in serving pupil attention. Appropriate pausing time: Response of the student to the teacher's question or change from one concept to another is: 3 seconds.

Audio – Visual Switching (AVS): Visual medium can be in the form of showing a chart, pictures, graph, map, and model on in the form of drawing pictures, figures and graphs on the black board. But the audio in the form of speech only. Only audio medium or only visual medium creates boredom in the class. A teacher while imparting knowledge to his pupils uses either audio or visual medium. A teacher should vary his medium in order to secure and sustain attention i.e. from audio to visual, visual to audio, audio or visual too audio visual, viz..

SKILL OF REINFORCEMENT

All pupils generally need social approval of their behaviour. When they answer a question, they are eager to know whether their answers are correct or not. When they are appreciated for the correct answers they are eager to continue their responses in future also. This increases their participation. The appreciation for correct responses is positive reinforcement. The positive reinforcement are used for strengthening the responses or behaviours of individuals. On the other hand, if the pupils are scolded of not encouraged for their responses, they never participate in future. This kind of discouraging activity of the teacher's called negative reinforcement. The negative reinforcements are used for weakening of eliminating the undesirable responses or behaviors. These reinforcements are in the form of verbal and nonverbal.

The reinforcements are classified into four types as given below.

- ➢ Positive verbal reinforcements (PVR)
- ➢ Positive nonverbal reinforcements (PNVR)
- ➢ Negative verbal reinforcements (NVR)
- ➢ Negative nonverbal reinforcements (NNVR)

Positive Verbal Reinforcement (PVR): The verbal behaviour (statement) of teacher accepts student feelings, repeats, rephrases student responses, surroundings student ideas etc., Using responses words such as – *excellent, fantastic, splendid, right , yes, correct, fine, continue, go ahead, carry on, well done,* etc., and extra verbal expressions such as '*uhuh', 'hmhm'* etc., are positive verbal reinforcements.

Positive Non-Verbal Reinforcement (PNVR): Using extra verbal cues like *'umum', 'aha'* to encourage pupils while answering, writing the responses in the board, teacher's gestures, conveying pleasant feelings, approval of student responses such as smiling, nodding of head, delighted laugh, clapping, keeping eyes on the responding student and giving ear to the student indicate positive nonverbal reinforcements.

Negative Verbal Reinforcements (NVR): Teacher's statements such as the use of discouraging words like, *'no' wrong, incorrect, stop it , non-sense, try something else, remark in a sarcastic way , I don't like what you are doing, do not do like this, that is not good*, etc., correspond to negative verbal reinforcements.

Negative Non-Verbal Reinforcements (NNVR): The teacher demonstrates, his/her disapproval to indicate non-verbal expression of a student's in appropriate behaviour or incorrect response to his/her questions. *Frowning, raising the eye brows, staring, disapproval by hands*, negative reinforcements.

The first two **PVR** and **PNVR** indicate the skill of desirable reinforcements, whereas NVR and NNVR indicate the skill of undesirable reinforcements. Trainee should be encouraged to participate reinforces to increase pupil's participation. The undesirable reinforcements, which will affect students learning adversely, so these should be avoided as far as possible.

SKILL OF BLACK BOARD USAGE

Black board is the powerful teaching aid to teach from KG to PG. Black board, the visual aids is widely use in all sections of education and training. The development of information and communication technology is reducing the chalkboard work. Still it is the most suitable for giving a holistic picture of the lesson. A good black board work brings clearness in perception and it can be suitably used for displaying notes and diagrams during a lesson and for working through calculations in a classroom situation. The components of the skill of use of black board are:

- ➢ Legibility (L)
- ➢ Size and alignment (SA)
- ➢ High lighting main points (HMP)
- ➢ Utilization of the space (US)
- ➢ Correctness (C)
- ➢ Position of the teacher (PT)
- ➢ Eye contact with pupils (ECP)
- ➢ Cleaning of black board (CB)

Legibility (L): Legible handwriting of the teacher on the blackboard draws the attention of the learners and encourages them to improve their handwriting. Illegible hand writing irritates the learners and results in maximum mistakes. The teacher should see that a clear distinction is ensured between every letter. Adequate space is maintained between individual letters and words etc. to make handwritings more eligible.

Size and Alignment (SA): In black board writhing the size and alignment of the letters is very important. The size of the letters on the black board should not only be uniform but also the size of

the letters should be large enough to be read by the students in the last row. The size of the capital letters should be as nearly vertical as possible without being diverged from a line.

Highlighting Main Points (HMP): The teacher should underline to highlight the main points or words on the black board. Colored chalks should be used suitably to draw the learner's attention on the main points.

Utilization of the Space (US): For the proper utilization of the space important words or statements should be written on the board. Overwriting on the letters should be avoided as it makes the black board work untidy. Only essential material should be retained on the black board and unnecessary words should be rubbed off.

Correctness (C): The teacher should be careful about correct spelling, punctuation, grammar etc. in constructing sentences on the blackboard. While writing on the black board, inadequate knowledge of English grammar or mistakes done by the teacher reduces the attentiveness of the learners in the classroom.

Position of the Teacher (PT): At the time of writing, the teacher should stand on one side of the blackboard with an angle of 45 degrees, so that the written work is visible to the learners on the black board. This means the teacher's position should not be in between the learners and the black board.

Eye Contact with Pupils (ECP): the teacher should maintain eye contact with his learners at the time of writing on the board. This controlling interaction maintains discipline and sustains the attention of the learners. Too much or too less eye contact will be counter production in the classroom.

Cleaning of Black Board (CB): Teacher should clean the blackboard from top to bottom and not spread dust in the room. He should rub the points on the black board after the student notes them down. After completion of the lesson, the teacher should clean the entire blackboard leaving the classroom.

SKILL OF CLOSURE

In closure or recapitulation, the teacher can consolidate the main points by putting a few questions based on the topic taught. The questions should be logically liked to cover the whole lesson as summary of the lesson. He may use charts, models, diagrams etc. for consolidation of the lesson. The questions may be oral or / and written by using non-verbal media including experimentation. The students can use this situation of what they have learnt during the lesson in solving the problems in a new situation or in different situations. The teacher can review the past knowledge of the students, both provide for future learning in the form of homework or assignment. The various components of the skill Closure /Recapitulation are,

> ➢ Consolidation of Major points (CMP)

> ➢ Providing opportunity to apply new knowledge to a new situation or different situation (OP)

> ➢ Linking previous knowledge to new knowledge and new knowledge to future knowledge among the students (LK)

> ➢ Homework or Assignment (HW)

Consolidation of Major Points (CMP): The teacher should consolidate the major points of his presented content matter at the closure or recapitulation process. It helps in remembering important points of the lesson.

Providing Opportunity to apply new knowledge to new situation or indifferent situations (OP): Whatever the students gain new knowledge in the lesson taught, they apply their knowledge in a new situation or different situations in the recapitulation. That opportunity is felt at the closure of a lesson. Without providing this opportunity, the students are unable to apply their gained knowledge to new or different situations.

Linking previous knowledge to new knowledge and new knowledge to future knowledge of the students (LK): The teacher establishes a link from the previous knowledge to new knowledge and from the new knowledge to future knowledge by taking different examples.

Home Work or Assignment (HW): Homework or Assignment is an important task in closure. At the end of his teaching, the teacher provides homework or assignment to recall or to apply or to learn different situations.

SKILL OF FLUENCY IN COMMUNICATION

Meaning

> ➢ Resolution for conflict, understanding of the topic
> ➢ Presentation skills, argumentation skills, storytelling, organizing ideas. Adjusting the communication style depending on the audience
> ➢ Cultural sensitivity
> ➢ Correct use of grammar, correct pronunciation, correct spelling, and concise verbiage without excess words
> ➢ Knowledge in specialized topics, familiarity with idiomatic expressions
> ➢ Language translation (if necessary)

Definition

According to James M. Bodie, it reduces fear of communication. Through the mental preparation, an individual can reduce disfluencies and mitigate the anxiety that arises from a speech reported higher levels of communication apprehension demonstrated more total disfluencies throughout the speech.

Importance

Irrespective of your profession, speech fluency is a must. There is no denying to the fact that it offers you an upper edge over other people out there. How often do you notice an individual with less skills and ability make it to the top? Although the individual may have fewer skills than you, the ability to communicate effectively can lead one to the top of the success ladder, and to communicate effectively, speech fluency has to be there.

Components of Skill of Fluency in Communication

- ➢ Speaking
- ➢ Accuracy
- ➢ Grammar
- ➢ Vocabulary
- ➢ Pronunciation
- ➢ Intonation

Episode Writing

Let's now see an episode on introducing a poem: "**The Coromandel Fishers**" by poet **Sarojini Naidu**.

"Rise, brothers' rise, the waking skies Pray to the morning light,

The wind lies asleep in the arms of the dawn like a child that has cried all night.

Come, let us gather our nets from the shore, And set our catamarans free,

To capture the leaping wealth of the tide, For we are the sons of the sea."

- a) Equipping the students for a quick grasp of the main outline of the poem.
- b) Familiarizing (not through explanation) them with the most important words and expressions.
- c) Ensuring that the ideas involved in the poem are not beyond his reach.

These can be done by eliciting responses through simple questions as follows: (The books remain closed).

Tr.: How many of you have seen the sea? / How many of you have been to the beach? (A few students raise their hands)

Tr.: Not even in films / TV?

Class: Yes! Yes!

Tr.: Good, now tell me, what you have seen on the seashore. Answer one by one.

Student1: boats, Student 2: huts, Student 3: shells, Student 4: fisherman.

Tr.: Yes, fisherman. Or you can also call them fishers. (A few students murmer 'fishers') Good! Say that!

Class: Fishers.

Tr.: Good! The fishers! What do they do?

Student 2: Catch fish.

Tr.: Good! When do they set out to catch fish? (Show gestures)

Class: (Silent)

Tr.: In the night?

Student 3: No, early in the morning,

Tr.: Yes! You're right. I'm going to recite a poem on fishermen. They are also called..........

Student 5: Fishers!

Tr.: Good: Can you tell me, what is the east coast of India?

Class: (Silent)

Tr.: I'll give you a clue. There is a train from Chennai to Calcutta. It's named after the coast.

Student 7: Coromandel Express?

The process of teaching the poem can be in three main stages as follows, 1. Preparation, 2. Presentation and 3. Discussion.

Preparation

Tr.: Exactly! The East Coast is called the Coromandel Coast. Our poem is on the Coromandel fishers. I'm going to recite it. You are not going to open your books. Listen to the poem carefully.

Presentation

Tr.: The teacher recites / reads out the poem with the proper pronunciation intonation and facial expression (A second reading / recital can also be done if necessary).

Discussion

Books Open: The teacher need not explain every word or every line. The teacher can ask simple questions to ensure whether the pupils have understood the poem. Even if a few students ask the meaning of words like catamarans, leaping wealth, the teacher can show pictures, or pose questions to the class and elicit the answer. For example,

Tr.: How do fisherman go into the sea?

Class: (Silent)

Tr.: Swimming?

Student 2: No

Tr.: Then? By ships?

Student 3: By boats.

Tr.: Some fishermen go by machine boats. Not all.

Student 4: Yes, some by small boats.

Tr.: You're right. They go by catamarans. There is a similar word in Tamil.

Student 6: Catamaran

Tr.: Excellent!

Student 7: What's 'leaping wealth'?

Tr.: Can any one answer his question?

Class: (Silent)

Tr.: What do fishermen get from the sea?

Class: Fish

Tr.: Yes, that's the wealth they get from the sea. Just as the wealth the former gets from the land. Do fish keep quiet in the sea?

Class: No, they move fast, they jump.

Tr.: That's why the poet calls them leaping wealth.

I - PRACTICINGV THE MINI-TEACHING SKILLS

Focus : Grammar Item – Verb

Date   :

Time   : 15 – 20 minutes

Objectives: The peer group,

➢   acquires knowledge of noun and verb.

➢   understands one of the parts of speech mainly verb.

➢   applies the lean knowledge of verb in different situations and gives different examples.

➢   develops skills in drawing match – stick figure for giving examples for verb.

Materials

➢   A chart depicting different actions of a man.

➢   A flip chart showing different verbal actions of different personalities.

➢   A model of a cricket stadium

Content

➢   Parts of speech.

➢   Defining a verb.

➢   Examples for teaching verb.

Teaching skills

Important skills are as follows,

1. **Introducing**

The pre-service teacher gives introduction about parts of speech, especially about the verb by giving some examples.

(E.g.) **Sachin** was a good **batsman**. (Noun)

(E.g.) My teachers **teaches** well. (Verb)

(E.g.) He speaks English **fluently** (Adverb)

2. **Explaining**

The pre-service teacher explains about the usage of verb with different examples by using a chart.

(E.g.) She **sings** a song.

(E.g.) He **goes** to school every day by 9 a.m.

(Eg.) We **go** church every Sunday.

3. **Questioning**

The pre-service teacher asks a few questions to test the comprehension of the students.

a. What is a verb?

b. My teacher -------------English

4. **Varying the stimulus**

The pre-service teacher uses a chart, flash cards and a cut out model to check the peer groups understanding of verb.

Identify the verbs from the teaching aids.

a. Dhoni plays cricket aggressively.

b. My mother prepares food well.

5. **Non-verbal cues**

The pre-service teacher uses some non-verbal cues to make the class interesting. He uses the positive non-verbal cues like smiling, nodding the head, a delighted laugh, patting on the shoulder etc ….. to teach the grammar item verb.

The teacher asks what is a verb? And students give answer as it is an action word. At this time the teacher uses non-verbal cues like patting the shoulder or by nodding the head by appreciating the students.

6. **Reinforcement**

The teacher uses positive verbal words like saying good, excellent, right and correct etc., to appreciate the peer group.

7. **Closure/Summing up**

The teacher summarizes the grammar item namely the verb by asking a few questions on verb to the peer to check whether they have understood the concept well.

　　　a. Give me an example for a verbal action

8. Fluency in communication

This is an important skill for a good pre service teacher. A teacher should pronounce well and explain the concept well. Here the peer will assess the pre service teacher's communication capacity.

INTEGRATING SKILLS IN MINI TEACHING (Assessment by Peers / Teacher Educators)				
Teaching Skills	**Average (Score 1)**	**Good (Score2)**	**Very Good (Score 3)**	**TOTAL**
Introducing				
Explaining				
Questioning				
Varying the stimulus				
Non-verbal cues				
Reinforcement				
Closure				
Fluency in communication				

Range of Scores: 8 – 24

STEPS IN MINI TEACHING (Content – Verb)

- ➢ **Motivation**
- ➢ **Presentation**
- ➢ **Interaction**
- ➢ **Reflection**
- ➢ **Summing up**

STEPS

Motivation

The pre service Teacher asks a few questions to motivate the students

Pre service teacher : What do you do when you get up early in the morning? (Introducing)

Peer : I **pray** and then brush my teeth.

Pre service teacher : What do you **like** to play in the evening?

Peer : I like to play tennis or cricket

Pre service teacher : Do you **watch** T.V.?

Peer : Yes, I watch interestingly.

Pre service teacher : Good. All the underlined words are used to describe an action. So, they are called in other words as "verbs". (Introducing)

Presentation

Teacher explains the concept of grammar item called verb by using pictures, charts and models and also gives more examples orally or in the written form.

Teacher shows the picture of Sachin as he plays. **(Varying the stimulus and Explaining)**

1. Sachin**plays** cricket **aggressively**

2. Teacher **shows** the picture of fruits (Varying the stimulus)

3. Children **like** to eat fruits.

4. Teacher **shows** the model of a sun (varying the stimulus)

5. Sun **rises** in the east.

Interaction: Teacher asks a few questions to the students to have interaction.(Teacher uses good command of English)

1. What do you like most to eat? (questioning, explaining, fluency in communication)
    I like fries chicken much. Teacher says **good** and appreciates. **(Reinforcement)**
2. Do you play cricket? **(Questioning)**
    Yes, I play cricket well.
3. When do you go to bed in the night? **(Questioning)**
    I go to bed by 10.30 p.m.
4. Do you go to church on sun days?
    Yes, I go. Teacher pats on the back of the students **(Non-verbal)**
5. Teacher shows a model of a Tajmahal and asks a boy or a girl, as who built Tajmahal?
    Shajahan built Tajmahal. **(Varying the stimulus)**

Teacher nods positively as to appreciate the boy. **(Non –verbal cues)**

6. Teacher asks a student to close the window, and asks the students. What does he do?

 He closes the widow.

7. Teacher writes some sentences on the board as exercises for the students to fill up the blanks, (Explaining, Fluency in communication, Varying the stimulus) by using good English pronunciation.

Reflection: Teacher shows flip chart to the students and asks a few students to write some sentences by using new verbs. Namely swim and dance.

Students write (Varying the stimulus)

 i. He **swims**.

 ii. She **dance**.

Teacher asks the students to frame sentences on their own by having some reflections in an innovative way.

 i. Our scientists **launch**Mangalyan.

 ii. I like **innovative** Tasks.

 iii. My father **probes** on problems

Summing up

Teacher asks some questions to the pupils to check their understanding of the grammar item of 'Verb'. (Closure and Questioning)

 i. Give me a sentence using the verb 'catch' (Questioning)

 ii. What is a verb? (Questioning)

Observation and feedback on the practice of integration of teaching skills

INTEGRATING SKILLS IN MINI TEACHING (Assessment by Peers / Teacher Education)				
TEACHING STEPS	**Average (Score 1)**	**Good (Score2)**	**Very Good (Score 3)**	**TOTAL**
Motivation				
Presentation				
Interaction				
Reflection				
Summing up				

Range of Scores: 5 - 15

Overall Assessment of Teaching Steps

1. **AVERAGE** ---------------- 2. **GOOD** -------------- 3. **VERY GOOD** -------------

Interpretation of Scores

Average: 5   Good: 6 – 10   Very Good: 11 – 15

III - TEACHING OF PROSE

The word prose has been derived from Latin word, 'Prosa' or 'Proversa Oration' that means 'straight forward discourse'. Prose is the powerful medium of expressing ideas, facts, laws and principles. Therefore, it appeals to head or mind. The main aim of teaching prose is to enlarge vocabulary, explain the structure of the sentences and grasp the ideas of the author.

The teaching of prose includes two types of lessons:

1. Detailed or Intensive Prose Reading
2. Non-Detailed or Extensive Prose Reading

Detailed Prose Lessons

In detailed prose lessons, the text book is thoroughly read word by word. Pupils are required to read it not only for comprehension but for mastering the prescribed structure and vocabulary.

Non-Detailed Prose Lessons

Non-Detailed prose lessons aim at giving information and pleasure. Students are required to grasp the meaning of new words according to the situation or context in which they are used.

Aims of Teaching Prose

The aim of teaching English prose is for language development and literature development both. At primary level, the chief aim is to language development. This means that the emphasis should be given on the development of the four basic skills such as Listening, Speaking, Reading and Writing. Thomson and Wyatt said, "To aim at literature is to miss the way to language, but aim at language is to pave way to literature". The aims of teaching prose can be categorized into two aspects:

1. **General Aims**
   i) To enable the pupils to read aloud the prose lesson with correct pronunciation, stress, intonation and pause.

ii)   To enable the pupils to comprehend the thought and ideas contained in the passage.

iii)   To enrich their active and passive vocabulary.

iv)   To enable the pupils to express the ideas contained in the passage orally and in written.

v)   To develop their interest for reading.

vi)   To enable them to write correctly.

vii)   To build their character and prepare for world citizenship.

2. Specific Aims

The specific aims vary according to the subject matter of the prose lesson. The specific aims of different types of prose lessons are as follows,

a) Descriptive
i)   To develop the pupils imagination and love for natural objects.
ii)   To acquaint the pupils with the writer's style.

b) Story
i)   To give certain facts and lessons through story.
ii)   To shape the pupils characters.
iii)   To develop interest for story reading.

c) Essay
i)   To acquaint them with the style of essay writing.
ii)   To enable them to arrange the ideas in a systematic way.

d) Play
i)   To make the pupils conversational English.
ii)   To encourage them to paly different roles.
iii)   To build their character.

e) Biography
i)   To get pupils acquaint with the life and deeds of great men.
ii)   To inculcate in them desirable sentiments and ambitions.
iii)   To show them the path of character building.

Procedure of Teaching Prose Lesson

The procedure of teaching prose lessons involves the following steps:

1. Preparation
2. Presentation
3. Recapitulation

4. Home Assignment

Preparation

As English is a foreign language, it is difficult for Indian students to learn. So it requires proper preparation to motivate the students to learn English. The following points are considered important:

I General Aim

II Specific Aim

III Teaching Resource (Aids/Materials)

Teacher makes the appropriate use of Audio/Visual aids to make the lesson interesting.

IV Previous Knowledge

The teacher should know how much knowledge students possess already regarding the lesson. So that he/she can impart new knowledge linking it to the previous knowledge.

Introduction

Introduction is very important part to make the students to ready to learn and start the lesson. As it is believed that, "Well begun in half done". The introduction has two purposes as follows,

i) To bring the previous knowledge to the consciousness.
ii) To link the previous knowledge to the new knowledge to be given.

Introduction can be done in different ways. The teacher may ask some introductory questions in order to test their previous knowledge and to link it the topic to be taught. He/she may attract the student's attention by showing pictures, models, charts etc. and arouse their curiosity. In the event of the continuing lesson, the teacher can ask questions from the portion of lesson already taught.

VI Statement of the Aim

Under this, the teacher can clearly explain the topic that he/she is going to teach and instructs the students to open their books at the appropriate pages.

Presentation

Presentation is the main part of the lesson plan. The lesson may be divided into two or more units. The following sub-steps are followed in each unit.

I Reading Aloud by the Teacher

Reading aloud by the teacher is called as model reading. The teacher reads aloud the selected passages with appropriate pronunciation, stress, intonation and pause. The speed of reading should be normal and audible to the entire class. He/she should keep an eye on the whole class while reading aloud to see whether the students following the reading in their text books.

II Pronunciation Drill

Pronunciation drill should precede reading aloud. The words should be selected on the basis of the pronunciation skill of the class. The selected words should be written on the blackboard one by one and practiced. Those words are selected which are:

➢ difficult to pronounce by the students.

➢ commonly mispronounced by the students.

➢ containing the silent letters.

III Reading Aloud by the Students

The teacher asks some students to read the selected passages aloud one by one. Loud reading by the students is also called as imitation reading as they try to imitate the teacher's pronunciation, intonation and pause.

IV Exposition of New Words/Phrases

The teacher selects new words and phrases from the passage and explains their meaning. The teacher can adopt different methods for explaining the meanings:

i) By showing the objects, pictures and models.

ii) By using the words in the sentences.

iii) By giving synonyms/antonyms.

iv) By drawing a sketch or figure on the blackboard.

v) By showing action or gesture.

vi) By translating word in the mother tongue.

V Silent Reading

After exposition of new words/phrases, the teacher asks the students to read the passages silently. This helps the students for rapid reading, learning of new words and grasp of meanings. The teacher

should supervise the whole class while the students are reading. Adequate time should be given to the students to complete the reading of the passage.

VI Comprehension Questions

After the silent reading, some questions based on the passage should be asked to test students' comprehension of the passage. The following types of questions may be asked:

i) By asking the meaning of new words.

ii) By asking short questions from the main portion of the passage.

iii) To pick out different forms of words and phrases.

Recapitulation/Application Test

The purpose of the recapitulation is to evaluate the extent which the objectives of the lesson have been achieved. The recapitulation is generally done with different types of questions. The questions should be from all the passages taught in different units. These questions are different from comprehension questions. The questions can be as follows,

i) Fill in the blanks.

ii) Match the columns.

iii) Complete the lines.

iv) Choose the correct answer.

Home Assignment

Assigning the home work is the final stage of the lesson plan. Home assignments are the basis for retaining of learning. It can be given in different forms:

i) Use the new words in their own sentences.

ii) Make a list of words related with particular group/topic.

iii) Remember the spelling of new words.

iv) Write the answer for the given questions.

v) Some project work may also be

IV - TEACHING OF VOCABULARY

Introduction: Vocabulary

Vocabulary is the set of lexical items in a language, it is also called the '*lexicon*'. The term lexicon is known in English from the early 17 century, when it referred to a book containing a selection of a

language's words and meanings, arranged in alphabetical order. The term itself comes from Greek '*lexis*' word. It has taken on a more abstract sense, especially within linguistics, referring to the total stock of meaningful units in a language, not only the words and idioms, but also the parts of words which express meaning, such as the prefixes and suffixes.

Words are referred to as 'the building blocks of language'. These are powerful tools. We need a rich supply of words so that we can select the correct tools for the job as we would with any other task we tackled. We need a good vocabulary. A good vocabulary is that which (a) fills our needs, (b) gives us confidence, (c) helps us to understand, (d) is varied and (e) is exact.

Types of Vocabulary

On the basis of its application, vocabulary is divided into two types: 1. **Active Vocabulary** and 2. **Passive Vocabulary**.

Active Vocabulary

Active vocabulary consists of those words over which one can use in his speech and writing. He knows the meaning of those words accurately. Active vocabulary refers to the productive side of language. It consists of the words one uses confidently because he understands their meanings and usage. In order to give the proficiency in spoken and written language, words must continuously be added to the active vocabulary of the students. Active vocabulary of a language calls for:

1. The use of right word in right place.
2. The spontaneous recall of words.
3. Grammatical accuracy i.e., use of correct tenses, inflections and word order.
4. In speech, fluency and ability to reproduce correct sounds, pronunciation, intonation, rhythm etc.

Passive Vocabulary

The Passive Vocabulary consists of those words, meaning of which can be understood when they appear in speech or writing of others but which we cannot use in our own speech and writing because we are not fully conversant with them. In passive vocabulary, the person does not know the precise meaning of a particular word and he does not make use of those words in communication. Sometimes he can understand the meaning of that word only to a certain extent depending on the contest. Passive vocabulary refers to the receptive side of language. Passive vocabulary calls for:

1. A recognition of vocabulary in speech or writing.
2. An acquaintance with major grammatical items or forms.
3. The skill of stimulating rapidly the sense of large word groups.

It is observed that an undergraduate student has 3000 to 5000 active vocabulary whereas the same student has 5000 to 10,000 passive vocabulary.

A good communicator tries to turn passive vocabulary into active vocabulary. It is obvious that words from passive vocabulary shift to active vocabulary after some years. There is no hard and fast rule of acquiring active vocabulary. The one and only requirement is the student's enthusiasm and effort with some proper directions.

The teaching of vocabulary has not been accorded a place of prominence in the syllabus at any stage of education. It has been relegated to a secondary status in favor of syntax of the university level. The undergraduate student must have enough foundation both in terms of vocabulary and syntax. Of the two, vocabulary is more fluid and hence it should be given as much importance as the choice of structures in the English curriculum. Vocabulary teaching is very essential especially where students are from regional medium schools and have limited exposure to English.

A language teacher must know the techniques of teaching vocabulary which he should apply in the classroom. Before applying the techniques of teaching vocabulary, a language teacher must know the principles of vocabulary teaching. These principles are,

> 1. To find out the frequency of the word.
>
> 2. To find out the applicability of words related to different contexts – selection of vocabulary items is very important.
>
> 3. An easier word should be taught first.
>
> 4. Sequencing or gradation or ordering of items is necessary.
>
> 5. Improvement or enrichment of vocabulary refers to both active and passive vocabulary.
>
> 6. Guessing the meaning from the context or acquaintance with the usage.

Techniques of Teaching Vocabulary

There are a good number of techniques of teaching vocabulary some of which are discussed below:

1. Showing pictures or using Audiovisual aids: To a certain extent, the language teacher should have the mastery over the skill of drawing so as to teach vocabulary. He should produce some picture of animals, birds, fruits, vegetables etc. The teacher can also use some other audiovisual aids to teach vocabulary properly.

2. Showing real objects or models: The objects which the teacher can easily bring in the classroom should be shown to the students. For example, stick, stone, maps, clock etc.

3. Miming or performing an action: To teach some words, the teacher should actually perform the action like walking, writing, laughing etc. in the class.

4. By framing illustrative sentences: These sentences should be such that meaning of the words flashes from the context clear as crystal. For example, the train left the station at 7.55. I could not catch it. I missed the train. It should be always kept in mind that this type of sentences should be simple in structure.

5. By associating with other words: The teacher should try to associate a new word with the word that is already known to the students. This can be done by asking and giving examples of synonyms and antonyms. Referring to a thesaurus is, too, a useful method.

6. Identifying the lexical set: Ability to identifying the lexical set is very essential in teaching vocabulary. For example, accelerator, breaks are the words of the some lexical set.

7. Breaking words into component units: The meaning of words should be explained by breaking words down into their component units and providing the meaning of each unit separately, and then giving the combined root + affix meaning. For instance, words such as 'inject', 'eject', and 'deject' could be explained as follows:

    Inject = in (inside) + ject (throw) = to insert, as in 'inject a syringe'.

    Eject = e (away) + ject (throw) = to throw out, as in 'eject oneself from an airplane'.

    Deject= de (down) + ject (throw) = to throw down' to make low in spirits.

    Despite some limitations, the analytical method will at least give us the core meaning from which other meanings have diverged.

8. Exposure of different contexts: Learners should be exposed to different kinds of contexts in which a word may be used, to ensure its proper usage. One context does not ensure mastery of the word. The teacher should give proper guidance to the students to work with the new words actively, regularly and systematically.

9. Selecting the bases and their order of presentation: The selection of bases and their order of presentation should be made in accordance with their frequency of use and proliferation, i.e., those that are more prolific should be introduced first. It has been asserted that more than 240 words have sprouted out of the Latin word 'spectare' meaning to 'see'.

10. To give some importance on word formation: The teacher should teach the different affixes (prefixes and suffixes) and their functions should be taught in order to give proper interpretation of a new word. Words can be grouped into clusters on the basis of their affixes. Knowing the meaning of a prefix or a suffix will definitely help learners to understand the meaning of a word.

11. Crossword puzzles: Crossword puzzles help in studying vocabulary. Almost all the English newspapers have crossword puzzles. The teacher should produce adequate crossword puzzles for the sake of teaching vocabulary. This is a useful tool in building one's vocabulary.

12. Word games: Sometimes the teacher should conduct some word games among the students in the classroom. This will help the students a lot because the process of learning vocabulary becomes an entertaining work.

13. Giving equivalents in mother tongue: Most of the students may not be acquainted with all the terms in the target language. But those terms can be taught through the medium of their mother tongue. The barrier of understanding the meaning of some specific words can be removed in this way.

14. Encourage the students to use a dictionary: Students should be always encouraged to use a dictionary. It is always beneficial to use a monolingual dictionary. To get a wide exposure to the language, it is an essential act which the students should be advised to perform.

These are the basic techniques of teaching vocabulary.

A teacher can use various innovative techniques at his will while teaching vocabulary. The vocabulary teaching will become unfruitful until and unless the teacher creates a cozy atmosphere in the classroom.

Effective Strategies for Teaching of Vocabulary

Because vocabulary knowledge is critical to reading comprehension, it is important that those working with young readers help foster their development of a large "word bank" and effective vocabulary learning strategies. There are several effective explicit (intentional, planned instruction) and implicit (spontaneous instruction as a child comes to new words in a text) strategies that adults can employ with readers of any age.

Explicit Vocabulary Instruction

Pre-teaching Vocabulary Words

One of the most effective methods of helping children learn new vocabulary words is to teach unfamiliar words used in a text prior to the reading experience. Adults (either alone or with the child(ren)) should preview reading materials to determine which words are unfamiliar. Then these words should be defined and discussed. It is important for the adult to not only tell the child(ren) what the word means, but also to discuss its meaning. This allows the child(ren) to develop an understanding of the word's connotations as well as its denotation. Also, discussion provides the adult with feedback about how well the child(ren) understands the word. After pre-teaching vocabulary words, the child(ren) should read the text.

Repeated Exposure to Words

It may seem common sense that the more times we are exposed to a word, the stronger our understanding becomes. However, repeated exposure to new vocabulary words is often ignored. Adults often forget a person (especially a child) needs to hear and use a word several times before it truly becomes a part of her vocabulary. Providing multiple opportunities to use a new word in its written and spoken form helps children solidify their understanding of it.

Keyword Method

Like pre-teaching, the keyword method occurs before a child reads a particular text. In this method, unfamiliar words are introduced prior to reading. However, rather than encouraging the child to remember a definition for a new word, the adult teaches him a "word clue" to help him understand it. This "word clue" or keyword might be a part of the definition, an illustrative example or an image that the reader connects to the word to make it easier to remember the meaning when reading it in context. The idea behind the keyword method is to create an easy cognitive link to the word's meaning that the reader can access efficiently during a reading experience.

Word Maps

The word map is an excellent method for scaffolding a child's vocabulary learning. Like the other explicit instructional methods, the adult (either alone or with the child(ren) should preview reading materials to determine which words are unfamiliar. For each of these new vocabulary words the child (with the support of the adult) creates a graphic organizer for the word. At the top or center of the organizer is the vocabulary word. Branching off of the word are three categories: classification (what class or group does the word belong to), qualities (what is the word like) and examples. Using prior knowledge the child fills in each of these three categories. Word maps help readers develop complete understandings of words. This strategy is best used with children in grades 3 - 12.

Root Analysis

While root analysis is taught explicitly, the ultimate goal is for readers to use this strategy independently. Many of the words in the English language are derived from Latin or Greek roots. They either contain a "core" root (the primary component of the word) or use prefixes or suffixes that hold meaning. Adults should focus on teaching children the most commonly occurring roots, prefixes and suffixes. As each is taught examples of its use in common word should be shared and examined. The reader should see how the root helps her understand the word's definition. Children should then be given practice analyzing words to determine their roots and definitions. When a reader is able to break down unfamiliar words into their prefixes, suffixes and roots they can begin to determine their meanings.

Restructuring Reading Materials

This strategy is particularly effective for helping struggling readers improve their vocabularies. Sometimes grade level materials are inaccessible to readers because there are too many unfamiliar words in them. Adults can restructure the materials in several different ways to help readers comprehend them more easily. A portion of the difficult words can be replaced with "easier" synonyms to help the reader understand the overall text. Vocabulary footnotes (definitions provided at the bottom of the page) can be added for particularly challenging words so that the reader can

easily "look up" the word while still reading the text. An accompanying vocabulary guide can be provided for the text. Words that are included in the guide should be highlighted or printed in bold text to direct the reader to check the vocabulary guide if the word or its meaning is unfamiliar.

Implicit Vocabulary Instruction

Incidental Learning

Incidental vocabulary learning occurs all of the time when we read. Based on the way a word is used in a text we are able to determine its meaning. While you may not know what a specific word means, many times you can determine its meaning based on what the rest of the sentence focuses on. Adults should model this sort of incidental vocabulary learning for children to help them develop their own skills.

Context Skills

Context skills are the strategies that a reader uses for incidental vocabulary learning. Texts are full of "clues" about the meanings of words. Other words in a sentence or paragraph, captions, illustrations and titles provide readers with information about the text that they can use to determine the meanings of unfamiliar words. These features are often referred to as "context clues" because they are contained within the context of the piece of writing rather than outside it. Young readers should be taught to find and use context clues for learning new vocabulary words. Adult modeling and practice are key for helping children develop this important reading skill.

Conclusion

Vocabulary is one of the major problems confronting EFL learners. Because of, the anemic vocabulary, one cannot communicate his ideas as clearly as he would like to and he cannot grasp the ideas transmitted to them. The listening comprehension, writing and reading abilities are hampered by their limited vocabulary. Therefore, there is a need of systematic vocabulary building program me which should come under the curriculum of language teaching. The importance of knowing the meaning of words is attested by the inclusion of a separate vocabulary component in college and scholarship tests such as TOEFL and GRE.

V - TEACHING OF POETRY

Coleridge defined poetry as "*The best words in their best order*". Poetry embodies the beauty of form, beauty of thoughts and beauty of feelings.

Allen Poe calls poetry as "*The rhythmical creation of thoughts*".

Poetry has tremendous appeal for children and it is the way of exciting their love of language. It lays the foundation for the appreciation of the language. It educates their emotions and enhances their power of imaginations. The rhythm of poetry helps the students to acquire the natural speech rhythm.

According to **Prof. Subramanyam**, *"Poetry leads to an all-round development of the whole personality of pupils particularly emotional, imaginative, intellectual, aesthetic and intuitive sides"*.

Aims of Teaching Poetry

Poetry is taught for sheer pleasure and enjoyment. It further lays the foundation for an adequate appreciation of English poetry. Therefore, the aims of teaching poetry should be different at different levels. The aims of teaching poetry can be classified into two aspects like 1. General Aims and 2. Specific Aims.

1. **General Aims**

    i) **At Primary Level:**

    To enable the pupils to recite the poem with proper rhythm and intonation.

    To enable the pupils to enjoy the recitation of the poem.

    To realize them about the emotions of the poet.

    To develop love for poetry reading and writing.

    ii) **At Secondary/Higher Secondary Level:**

    To enable the pupils to appreciate the poem.

    To enable them to understand the thoughts and imagination contained in the poem.

    To appreciate the rhyme & rhythm and style of the poem.

    To realise the emotions, feelings and imagination of the poet.

    To develop their aesthetic sense.

    To create love for English poetry.

2. **Specific Aims**

    Specific aims of teaching of poetry differ from poem to poem. They depends largely on situation, scene, feelings and thoughts depicted in the poem. The specific aims of teaching poetry are as follows,

    i)   To enable the pupils to recite the poem namely "------------------"with proper rhyme with rhythm.

    ii)   To enable the pupils to enjoy the recitation of the poem "-------------------".

    iii)   To understand the central theme/idea of the poem.

    iv)   To communicate the exclusive message of the poem to the pupils.

    v)   To enable them to appreciate the beauty and images depicted in the poem.

Procedure of Teaching of Poetry

The procedure of teaching poetry involves the following steps:

1. Preparation
2. Presentation
3. Comprehension/Appreciation
4. Home Assignment

Preparation

Under preparation the following points are to be considered,

I General Aim

II Specific Aim

III Teaching Resources (Aid/Materials)

The suitable resources can be used depend on the theme and content of the poem.

IV Previous Knowledge

The teacher should know the previous knowledge of the pupils related to the theme of the poem to be taught. It is on the basis of the previous knowledge that the new lesson is to be introduced in the class.

V Introduction

Teaching of the poem should begin with a beautiful introduction about the poem and the poet. This will arouse the interest of the pupils and create the appropriate environment for teaching the poem.

Introduction of the poem can be done in different ways:

i) Parallel poem that depicts the similar theme/emotion may be read.
ii) By giving a brief summary of the poem pertaining to the background and general theme of the poem and asking few questions on it.
iii) By giving a life-sketch, poetic style and characteristics of the poet.
iv) If the poem is descriptive, a picture can be shown and few questions on the picture can be asked.

VI Statement of the Aim

After introducing the poem and the poet, the teacher should announce the aim of teaching the poem.

Presentation

According to **Ryburn**, "*A good poem is a complete whole*". Therefore, the poem should be taught in one unit, in case the poem is too long, it can be divided into units in such a way, so that it may not lose its rhythm, music and emotional effect. The presentation should be consisted with the following points,

i) **1ˢᵗ Model Recitation by the Teacher**

Recitation is the soul of poetry. Reading a poem with proper rhythm, intonation and stress is of vital significance. The model recitation by teacher helps the pupil to experience/feel the poem in its totality without going into other details. Therefore, the teacher should recite with proper rhythm, stress and intonation. At this time, the pupils should listen to the teacher carefully with their books closed.

ii) **IIⁿᵈ Model Recitation of the Teacher**

According to **Ryburn**, "*One reading, of course, is not enough. It must read twice or thrice*". To have a greater effect, the teacher recites once again with proper rhythm and rhythm with apt stress and intonation. This time the pupils are asked to open their books and follow in it.

iii) **Imitation Reading by Pupils**

The teacher asks two or three pupils one by one to recite the poem in the same manner, as he/she has recited. This requires a lot of practice on the part of the students and helps the pupils to enjoy the recitation and feels the beauty and music of its language.

iv) **Meaning of Unfamiliar Words**

The expositions of words are not done in detail while teaching of poetry. Those words and phrases will create hindrance in comprehension of the poem should be explained.

v) **Silent Reading of the Poem by Pupils**

During this step, the pupils may be asked to read the poem silently and grasp the central theme of the poem. At primary stage, silent reading can be avoided.

vi) **Chorus Recitation**

At the primary stage, the pupils enjoy the recitation of the poem in chorus. It helps them in overcoming their shyness/nervousness. At this stage, the teacher can read the poem line by line that shall followed by the pupils collectively.

Comprehension/Appreciation

After several readings of the poem, the teacher puts some questions to test their comprehension of the theme of the poem. The questions should be simple and short. Appreciation questions are asked on the appreciation of beauty of language, thoughts, emotion and images of the poem. The pupils may be asked to,

> ➢ pick out the rhyming pairs.
> ➢ complete the lines.
> ➢ explain the central idea of the poem.

Home Assignment

Home assignment in poetry teaching is not much of importance. Pupils can be asked to memorize the poem or do some creative work or write the gist of the poem in their own words.

VI - TEACHING OF GRAMMAR

Grammar is the study of the organization of words into a sentence which is based on certain rules. According to **Prof. Nelson Francis**, "*Grammar is set of formal pattern in which the words of a language are arranged in order to convey meanings. It gives the pupils ability to speak and write correctly and enables them to use formal language patterns properly for describing a thing*". The acquisition of the grammatical system of language remains the important element in learning a language.

Aims of Teaching Grammar

The aims of teaching grammar are as follows,

i) To develop students insight into the structure of English language.
ii) To enable the students for understanding about the rules of English grammar through use and practice.
iii) To enable the students to assimilate the correct patterns of the language without rote memorization.
iv) To enable the students to speak and write correctly.
v) To develop a scientific attitude towards the language.

Methods of Teaching Grammar

There are four main methods in teaching of grammar as follows,

1. The Traditional Method
2. The Informal Method
3. The Reference or Correlation Method
4. The Inductive – Deductive Method

The Traditional Method

In this method, the grammar is taught with the help of a grammar book, which contains definitions, rules, examples and exercises. For example,

Definition of Noun: A noun is a name of a person, place or thing.

Examples: Tagore, Chennai, Book.

Exercise: Underline the noun in the following sentences,

Selvan lives in Chennai. My father presented me a pen.

The main procedure in this method is from rule to method. It emphasizes on rote learning of rules and definitions. Students also find in least interesting and monotonous.

The Informal Method

This method advocates the teaching of grammar not by rules but by usages. By continuous practice of using words, while speaking, reading and writing grammar can be learnt. This method proves useful at the early stage when students start to learn a language by lot of oral practices. This method demands a lot of practice and time for learning grammatical items on the part of the students. The students do not get systemized knowledge of grammar.

The Reference or Correlation Method

This method is called as incidental method as grammar is taught incidentally in this method. Grammar is taught while teaching a text book lesson or composition. The sentence pattern, sentence structure etc. that are used in the text book lesson or composition are taught during the text book lesson. For example, while teaching a text book lesson, teacher instructs the students to note all the examples of the present tense and past tense separately. After noting the different sentences of present tense and past tense, the grammatical rules are discussed in the class. This method lays stress on the

application of the rules and their usage. It is not considered a complete method as grammatical items are taught only incidentally. It can interfere with the normal teaching in the class.

Inductive and Deductive Method

This method is considered to be the best method as it follows certain educational principles, from known to unknown, from general to particular, from concrete to abstract etc.

Inductive means to proceed from observation to law and rules.

Deductive means to proceed from the laws and rules to observation and examples.

So this method has two processes as given below,

1. Inductive Method
2. Deductive Method

Inductive Process

i) Presentation of Examples in a Systematic way

In the first step, the teacher gives the examples of the grammatical items to be taught in a systematic way.

ii) Observation and Analysis of Examples

The teacher asks the students to observe the examples and analyze them with the help of students.

iii) Generalization/ Generation of Rule or Definition

After analysis of the examples, they come to certain conclusion or generalization to draw a certain rule or definition.

Deductive Process

i) Presentation of Rules or Definitions

In this step, the teacher points out the rule or the definition.

ii) Verification and Application of the Rules

The teacher gives several other example to verify the rules or definition. The teacher gains motivate the students to observe and analyze the examples and apply the rule of definition.

iii) Practice for the Application of Rules

The teacher gives ample practice for the application of rule and definition.

Inductive and deductive methods are based on psychological maxims of learning and makes the active participation of the students. It has no place for rote memorization as the rules and definitions are discovered by the students themselves. Thus it stimulates their thinking and reasoning power. It is advisable that grammar should be taught informally at the early stage with inductive and deductive method and incidental method at the middle stage and with the traditional method at the higher stage.

VII - TEACHING OF COMPOSITION

Composition is the expression of thoughts, feelings, ideas, observations and experiences in written form. It refers to the collecting of thoughts or information and arranging them in a sequence and expressing them in accordance with recognised standard form.

An essay, a story, a letter, a poem and a description are some of the form of composition. Proper organization, clarity and effectiveness of subject matter are some of the important points to be kept in mind while writing composition.

Aims of Teaching Composition

General Aims

    i)   To encourage the pupils to express their ideas in and ogranised and systematic way.

    ii) To enable them to develop their skill of writing.

    iii) To enable them to use appropriate vocabulary in writing various forms of composition.

    iv) To enable them for logical presentation of thoughts and ideas.

    v) To develop their communicative competence.

Types of Composition and Its Teaching

There are two types of composition as follows,

1. Oral Composition
2. Written Composition

They are further divided as,

    i)   Guided Oral Composition and Guided Written Composition

    ii) Free Oral Composition and Free Oral Written Composition

Oral Composition

Oral composition should begin with a power of speech. It should be oral, long before it is written, as it paves the way for written composition.

Aims of Oral Composition

To give practice for using graded structures and sentence patterns orally.

i) To enable the pupils to express ideas, interest and feelings freely.
ii) To create suitable situations in the classroom to make them speak on their own.

Teaching of Oral Composition

Following stages can be adopted for teaching of oral composition at early stage.

a) Asking the pupils to repeat the sentences which the teacher speaks. For example,

Tr.: I am writing

Stu. I am writing

b) The teacher can ask some questions by showing objects and performing actions. For example,

Tr.: What is this?

Stu. This is a pen.

Tr.: What is this?

Stu. This is a paper.

Tr.: What am I doing?

Stu. You are writing.

c) The teacher can ask some questions on a picture after describing it. For example,

Tr.: What is she?

Stu. She is a girl.

Tr.: What is she doing?

d) The teacher can ask the students to read out the substitution table and make various sentences. For example,

gets up

He/She   **reads**   **in the morning.**

takes bath

goes to play

e) The teacher can ask some questions from the text book.

f) The teacher can narrate the simple story and ask questions on it.

g) The teacher may have a conversation with students on various topics of general interest.

h) The teacher can ask the students to play a simple drama.

Guided Oral Composition

Guided composition is also known as controlled or directed composition. In the guided composition, the students are supplied with the necessary vocabulary and structures to be used to speak and write. At the early stage, the students should be strictly guided because they should proceed from imitation to improving, from reproduction to original expression. Thus, guided composition paves the way for free composition. Guided oral composition can be done by the following exercises,

a) Repetition of sentences and structures.

b) Substitution Table.

c) Transformation of sentences.

d) Reproducing a situation.

e) Reproducing a picture description.

f) Reproducing a story.

Free Oral Composition

As the students gain mastery over the guided and controlled vocabulary and structure, they are encouraged to use new words and sentences in their own and express themselves freely. It promotes them think freely. Free oral composition should be introduced at late stage when the students have done lot of practice in guided and controlled composition.

The teacher can adopt various teaching methods in teaching of free oral composition at later stage.

a) The teacher can ask the students to describe a picture or an object their own.

b) The students can ask the teacher to describe the important incidents and events.

c) Debates, extempore and speech may be organized on various topics in their range of experiences.

d) Conversation can be arranged in the classroom itself in a pair or group on familiar situations.

e) Short drama and one act paly can be enacted in the classroom.

Written Composition

Written composition should follow the oral composition when the students have gained sufficient knowledge of English vocabulary, structures and spellings. The aim of written composition are as follows,

a) To develop their writing ability

b) To enable them to write correctly

c) To enable them to express their ideas and thoughts in their writing in an organised way

There are two types of written composition as follows,

a) Guided written composition

b) Free written composition

Teaching of Written Composition

Guided written composition is usually to be introduced at early stage. The teacher guides the students to write with the help of controlled vocabulary and structures. It lays the foundation for free composition. Guided written composition can be done by the following practices,

a) By giving dictation

b) By giving certain words and asking them to write their own sentences by using those words

c) By giving substitution table to make various sentences

d) Writing description of a picture or an object with the help of key words

e) By asking them to complete the story or a passage by filing the gaps (Note-making)

f) By giving some sentences from the text book and asking them to write the parallel sentences

g) By reproducing the gist of the story

h) By reproducing the description of a picture

i) Expansion of the topic based on the given outlines.

In free composition, there is no restrictions on the students regarding use of vocabulary, structures and lengths of composition. The students are free to tackle the topic on their own freely. They are encouraged to think freely and express themselves freely.

Types of Free Composition

There are five types of free composition as follows,

a) **Narrative Composition**

It deals with the description of an event like visit to any monuments/historical places/ zoo, a journey by train/bus etc. Before making the students to write a narrative composition on a given topic, the teacher can refresh their memory by discussing the event or the incident and ask them to write on their own words.

b) **Story Type Composition**

In this composition, the teacher can present a picture or series of pictures before the students and ask them to write a story. The teacher may give certain hints and some sentences and ask them to develop the story.

c) **Reflective Composition**

It includes the essay writing and letter writing application etc.

1. **Essay Writing**

At the early stage, the teacher should give a simple topic for essay writing, whereas, at higher level, the students can be gives all types of topic to write in their own words and style. The students should be made clear about the parts of the essay i.e. introduction, main body and conclusion.

2. **Letter Writing**

It can be divided into two categories as, i) Formal Letter and ii) Informal Letter.

The students should be made familiar with the various parts of the formal and informal letters along with different styles of writing it. Initially. The may be given the format of particular letter and ask them to complete it.

d) **Imaginative Composition**

The teacher can give some imaginary situation or topic to the students to write on it by using their own imagination. For example, 1. If I were a prime minister! 2. When I trapped in heavy traffic!

e) **Literary Composition**

Literary Composition involves abstract writing and explanation writing.

Conclusion

Thus, this unit describes various skills and its components in teaching of second language and also writing of mini-teaching lesson plan. It additionally, explains about the methods of teaching prose, poetry, grammar and composition and enriching of vocabulary.

Questions for Discussion and Reflection

1. Write a model mini-lesson plan.
2. Discuss the strategies for enriching vocabulary among school students.
3. Differentiate the methods of teaching with reference to prose, poetry, grammar and composition in English.

UNIT – IV: TEACHING AND TESTING LANGUAGE SKILLS

MEANING OF LISTENING SKILL

Listening is an important skill and must be learnt and taught carefully. Unlike hearing, listening is always purposeful. Jane Willis writes, "Listening is receptive rather than productive, but it is an equally important skill.

Listening involves the formation of proper auditory images of phonemic components such as the use of vowel and consonant sounds, stress, accent, pitch, pause, juncture, intonation and the rhythm of language.

TYPES OF LISTENING

A. Intensive Listening

Intensive listening aims at detailed comprehension of meaning and linguistic exercises. Here the teacher makes use of the following types of questions:
- (i)   Comprehension questions involving
    - - Factual questions.
    - - Inferential questions.
    - - Personal questions.
- (ii)   Summary questions (students are asked to listen to a passage and summarize what they have heard).
- (iii)   Logical questions.

B. Extensive Listening

According to Peter Hubbard et.al, "With extensive listening, the students do not reinforce or practice a grammar point which is linked to the rest of the course work. Extensive listening exercises are those where a student is primarily concerned with following a story, or finding something out from the passage he is listening to.

GOALS OF TEACHING LISTENING

According to the modern language teaching experts, the goal of teaching listening is to produce students who can understand the communication situation without needing help from the other people, even if they do not have completely master the grammar or vocabulary.

The goals of teaching listening are:

i) To produce students who can use listening strategies to maximize their Comprehensions of aural inputs.

ii) To produce students who can identify relevant and non relevant information.

iii) To produce students who can tolerate less than word by word comprehensions.

SUB-SKILLS OF LISTENING

Listening refers to a skill by which a person pays attention to what someone is saying. In a listening situation, listeners passively receive an aural inputs.

Language learning requires international listening that employee's strategy for identifying sounds and making meaning for them.

The comprehension of message is a major goal of listening comprehensions.

To comprehend a message in a listening situation, listeners use two sub skills of listening.

The two sub skills of listening are:

Listening for perception
Listening for comprehension

1. Listening for perception

This is the first stage in comprehending a listening text. Listening for perception involves two sub skills.

Identification:

First, the listener recognizes or discriminates specific aspects of the message, such as sound, categories of words, morphological distinct (the smallest unit of meaning in an language).

Orientation:

Second, the listeners determine the major facts about a message, such as topic, text type, setting.

2.Listening for comprehension

Listening for comprehension involves three sub – skills.

Main idea comprehension: The listener identifies the higher – order ideas.

Detailed comprehension: The listener identifies supporting details.

Replication : The listener reproduces the message orally or in writing.

Teachers can help students/listeners achieve these two sub –skills of listening by selecting and giving practice in appropriate listening strategies.

THREE STAGES OF LISTENING:

Listening is important language learning and teaching. It is essential for language teachers to help their students become effective listeners.

The process of listening involves three phases. While the speaker speaks, the listener is usually engaged in:

- **Receiving :**In this phase, the listener receives the message from the speaker and then attends to what is said.

- **Understanding:** In this phase, the listener tries to understand what exactly the speaker says.

- **Responding:** In this phase, the listener retains and recalls what the speaker says and responds or does not respond.

STRATEGIES FOR TEACHING LISTENING

While teaching listening, the teacher can and must:

(i) Select and present a listening text which serves his / her purpose,

(ii) Introduce the topic and say something about it in brief,

(iii) Instruct the class what they have to do while listening (e.g., ask them to take notes or complete a flow – chart, etc.,)

(iv) State his / her (teacher's) aim (e.g., to give them (class) the general idea about…),

(v) Make predictions(e.g., ask the class whether they know something about the topic selected),

(vi) Revise the previously taught listening skill (e.g., intonation patterns, link words, etc.,),

(vii) Prepare the class to listen and give them necessary instructions,

(viii) Ask comprehension questions,

(ix) Ask the class to summarize what they have heard.

TYPES OF LISTENING STRATEGIES

Listening strategies can be classified depending on how the listener processes the listening input. They are:

1. **Top down strategies**

   Top down strategies are listener – based. In the top – down strategies, the listener is engaged in :

   - Listening to the main idea
   - Predicting
   - Drawing inferences
   - Summarizing

2. **Bottom – up strategies**

   Bottom – up strategies are text – based. The listener depends on the language in the message he has hear. In the bottom – up strategies the listener is engaged in:

   - Listening for specific details
   - Recognizing cognates(linguistic words)
   - Recognizing word – order pattern

LISTENING MATERIAL

A listening material is also known as a listening text. A listening material or text is a message prepared for the purpose of developing the listening comprehension skills of students A listening material provides aural message or listening input to the students.

A listening text may be in the for of a printed passage or audio for listeners.

In a listening a text, the information may be organized / presented as a storyline (the events in chronological order), narrative or instructions to follow..

Characteristics of the listening text

1. Neither too easy nor too difficult: The listening text should not be too easy or too difficult to comprehend. It should be short, simple messages easier to process.

2. Organized presentation: The information in the listening text must be well organized and easier to follow – that is, the text must present the main ideas first, details and examples second.

3. Background knowledge: The background knowledge in the listening text should be familiar to the students.

4. Redundant information: The listening text for the students at the lower level of proficiency should not have redundant information.

5. Clearly differentiated individuals or objects: The listening text should be based on clearly differentiated individuals or objects.

6. Visual support: The listening text should offer visual support to aid   the interpretation of what the listeners hear. Visual aids such maps, diagrams, pictures or the images in a video help contextualize the listening input and provide clues to meaning.

USING A TAPE RECORDER AS A LEARNING MATERIAL

Meaning

A tape recorder is an electrical equipment that can record sound on tape and play it back. Anything that has been recorded with a tape recorder is called a tape recording.

Usually, conversations, teacher talks, lectures, speeches, short stories, or music or songs are recorded on a tape recorder.

These recording can be heard again and again when they are played on a tape recorder.

Using the tape / video as a Listening material

Tape recordings can be used as a listening material. The tape recordings such as conversations, teacher talk, lecture, and speech, short – story or song can be used as a listening material in class.

The information on tape can be used for developing listening skill. In class, students use a listening material for four purposes:

- Listening for specific information
- To have a general understanding
- To deduce meaning
- Listening for opinion and attitude

Intensive listening to audio tapes and watching the contents of the video can be done part by part by rewinding the video or using fast forward to play segments of the tape.

STUDENTS LISTENING ACTIVITIES

In a listening exercise, the class can / should:

(i)   Take notes

(ii)   Draw pictures etc.

(iii)   Talk in reply

(iv)   Discuss for or against the topic

(v)   Complete a flow – chart

(vi)   Say 'True or False'

(vii)   Continue the dialogue

(viii) Fill in a table

(ix)   Write

(x)   Think

(xi)   Select (a, b or c)

(xii)   Discriminate (e.g., ship or sheep)

(xiii) Place in correct order (e.g., pictures or pieces of information).

Dictation

Dictation has been used in language learning for several hundred years, and methodologists have often made pedagogical claims for its value. Davis and Rinvolucri write that "Decoding the sounds of [English] and recoding them in writing is a major learning task" (1988) and Frodesen writes that dictation can be "an effective way to address grammatical errors in writing that may be the result of erroneous aural perception of English.... Dictation can help students to diagnose and correct these kinds of errors as well as others

Values of Dictation

- **Improve students listening skill**

- **Improve their writing speed**

- **Improve their pronunciation when they listen to what the teachers say or read**

- **Fix spelling of words that they already learnt**

Advantages of Dictation

1. Dictation can help develop all four language skills in an integrative way.

2. As students develop their aural comprehension of meaning and also of the relationship among segments of language, they are learning grammar.

3. Dictation helps to develop short-term memory. students practice retaining meaningful phrases or whole sentences before writing them down.

4. Practice in careful listening to dictation will be useful later on in note taking exercises.

5. Correcting dictation can lead to oral communication.

6. Dictation can serve as an excellent review exercise.

FOLLOWING A ROUTE

Meaning

   It is an activity for listening practice that enables students to develop listening comprehension in English.

Procedure

   The teacher prepares a big picture chart of a place / village / town or city.

The picture will include the landmarks such as a post office, railway station, airport, supermarket, park, multi – storied building, university, pond, star hotel, etc. Instead of using direct instruction, teacher's instructions recorded on tape can also be used. This can be played on the computer, too.

LISTENING TO A TELEPHONE CALL

Meaning

      Speaking on the phone is not a face – to – face conversation. Real conversation takes place face – to – face. In real conversation, both the speaker and the listener can look at each other while speaking.

While listening to the phone call, the listener solely relies on the language being spoken, because the speaker is at a distance.

In the classroom:

The practice by students in telephonic conversation can improve their speaking and listening skills. Telephonic conversation practices can be frequently given to students in class.

LISTENING TO COMMENTARIES

A commentary is a spoken description of an event, given while the event is happening, especially on television or radio. The audio commentary is given on radio. The video commentary is heard and seen on the T.V

Commentaries are short, first-person stories that clearly express an individual's opinion or world view and why it matters to the outside world. At Youth Radio, commentaries offer an opportunity for young people to share their perspectives on an issue they're passionate about, and to become effective communicators.

LISTENING TO INSTRUCTIONS:

Listening to instructions is a listening task in which the teacher gives a set of instructions to a student and the student carries out he instructions correctly. By doing this exercise or practice, the listener demonstrates his listening comprehension. Listening to instructions and responding to them correctly enable the students to become successful listeners or learners in class.

In the classroom

In this practice, the teacher usually gives some instructions orally. For these instructions, the student gives his responses physically.

Some simple verbal instructions

- Laugh loudly.
- Look up.
- Show me your photo.
- Open your mouth.
- Shut your eyes.
- Cry like a crow.

- Stand near the window.
- Close the doors.

Jigsaw listening

Jigsaw is a puzzle in which a picture is cut up into many pieces and a person has to succeed in fitting the pieces together correctly.

Jigsaw is a strategy that emphasizes cooperative learning by providing students an opportunity to actively help each other build comprehension. Use this technique to assign students to reading groups composed of varying skill levels. Each group member is responsible for becoming an "expert" on one section of the assigned material and then "teaching" it to the other members of the team.

Advantages of jigsaw

Jigsaw is a well-established method for encouraging group sharing and learning of specific content. This technique can be used as an instructional activity across several days and is best to use when there is a large amount of content to teach.

Jigsaw helps students learn cooperation as group members share responsibility for each other's learning by using critical thinking and social skills to complete an assignment. Subsequently, this strategy helps to improve listening, communication, and problem-solving skills.

Developing Listening Skills

Monitoring each student's participation within the groups provides teachers with information about how much the students already know about the topic. This allows teachers to tailor instruction accordingly.

Language learning depends on listening. Listening provides the aural input that serves as the basis for language acquisition and enables learners to interact in spoken communication.

Effective language instructors show students how they can adjust their listening behavior to deal with a variety of situations, types of input, and listening purposes. They help students develop a set of listening strategies and match appropriate strategies to each listening situation

Listening strategies are techniques or activities that contribute directly to the comprehension and recall of listening input. Listening strategies can be classified by how the listener processes the input.

Top-down strategies are listener based; the listener taps into background knowledge of the topic, the situation or context, the type of text, and the language. This background knowledge activates a set of expectations that help the listener to interpret what is heard and anticipate what will come next. Top-down strategies include

- listening for the main idea
- predicting
- drawing inferences
- summarizing

Bottom-up strategies are text based; the listener relies on the language in the message, that is, the combination of sounds, words, and grammar that creates meaning. Bottom-up strategies include

- listening for specific details
- recognizing cognates
- recognizing word-order patterns

Strategic listeners also use *metacognitive strategies* to plan, monitor, and evaluate their listening.

- They plan by deciding which listening strategies will serve best in a particular situation.
- They monitor their comprehension and the effectiveness of the selected strategies.
- They evaluate by determining whether they have achieved their listening comprehension
- goals and whether the combination of listening strategies selected was an effective one.

The listening skill can be developed in students in three ways.

- Through dialogues
- Through cassette – recorder
- Through guessing.

TEACHING LISTENING SKILL

Teachers use two types of activities for developing listening ability of students.
- Pre – listening activities

- While – listening activities

1. Pre – listening activities

The pre – listening activities are tasks or exercises chosen for preparation for listening. Pre-listening activities are not directly related to the listening text.

Sample pre – listening activities

- Looking at pictures, maps, diagrams, or graphs
- Reviewing vocabulary or grammatical structures
- Reading something relevant
- Predicting the content of the listening text

Teacher's role in the pre – listening activities

Assess students' background knowledge of thee topic and linguistic content of the text.

Provide students with the background knowledge necessary for their comprehension of the listening passage.

2. While – listening activities

The while - listening activities are the tasks or exercises designed by the teacher for developing listening proficiency of students.

The while – listening activities are directly related to the instructional goal, the listening purpose, and students' proficiency level.

Some sample while – listening activities

- Listening with visuals
- Filling in graphs and charts
- Following a route on a map
- Checking off items in a list

Points for planning while – listening activities

Teacher should keep these points in mind when planning while – listening activities.

1. Pay attention to the listening task

2. Keep writing to a minimum during listening

3. Guide listeners through the text

4. Use review questions

5. Encourage students to predict the text / the topic/ the events

6. Give immediate feedback.

TESTING LISTENING

Testing listening reefers to assessing the listening proficiency of students. Listening proficiency reefers to the comprehension of a listening text or input. It is also called a listening assignment or tape assignment.

Some examples: After listening to a weather report, one might decide what to wear the next day.

Checklists for testing listening

Modern language teaching experts, especially communicative language teaching experts suggest that teachers can select or design or structure some post – listening tasks or activities to evaluate each students' comprehension of specific parts of the aural text. For this purpose, they suggest that teacher can use checklists or rubrics.

Testing Receptive skills: Listening and Reading

The two skills – listening and reading are called receptive skills. Listening skill is important, because it is helpful for understanding spoken English on radio and television.

Similarly, reading is important, because it is helpful for study purposes (books, journals, etc), and for understanding written instructions in English.

Characteristics of Tests related to Receptive skills

• Students should not be asked to write too much. Otherwise the test will be unfair to students whose comprehension is good but who are bad at writing.

• The students should not be able to guess the correct answer without understanding the text.

TEACHING SPEAKING SKILL:

Purposes of Teaching Speaking skills

Speaking isa productive skill. It is only through speaking that we get many things done for us. Speaking means communicating. In real life situations we can't live without speaking. When we talk of the four basic language skills such as LSRW, we don't want to say that we learn these skills one by one. In factit is not so. The truth is we listen and speak. We read and write. Listening and speaking go hand in hand and reading and writing go together. For instance, when a teacher is teaching something in the class, the class is listening.

Speaking involves the articulation of all the components referred to above and development of communicative competence at the productive level.

To John Munby, the sub – skills of speaking are as follows:

1. Articulating sounds in isolate forms.
2. Articulating sounds in connected speech.
3. Articulating stress pattern within words.
4. Manipulating variation in stress in connected speech.
5. Manipulating the use of stress in connected speech.

DEVELOPING SPEAKING SKILL:

(a) Pupils should speak the language in meaningful situations.
(b) There should be sufficient repetition and variety to facilitate habit formation without creating boredom in the class.
(c) Correction should be selective and should mainly be based on drilling in the correct form. Persistent crucial errors should be dealt with in a separate remedial lesson.
(d) Speaking activities should be properly graded t suit the level of the pupils.
(e) The ultimate aim of all oral drills is to enable the pupils to make a free choice in an actual communication situation. Therefore, once the pupils have mastered a structure, they should practice it in situations where their attention is focused on the thread of meaning rather than on the structure.

   The practice in speaking may be started by the teacher with dialogues. For such a practice dialogues on simple, contextualized situations may be tried between pair of students. In this the teacher should play the role of a guide and must not curb the freedom of expression.

STRATEGIES AND TECHNIQUES FOR DEVELOPING SPEAKING SKILL:

Various strategies and techniques can be made use of keeping in view the level and needs of the learners.

Some of the things the teacher can use in the classroom are as follows:

1. Asking questions to the learners on the topics of their interest.
2. Asking the learners to say the model dialogue.
3. Asking the class to converse with each other.
4. Making use of 'Information – gap activities'.
5. Using role – play, simulation, dramatization, communication games, guessing games, etc.
6. Using 'substitution table', discrimination exercises, substitution drills, conversation drills, pictures – cues, indirect questions, correction techniques, etc.
7. Using pair work and group work techniques.

CONVERSATION CLASS

Conversation is a talk between two or more people. It is usually a private or informal one. People usually have a conversation about private or informal matters. The subject / topic of conversation may be common one such as books, games, sports, motives, serials on TV or politic.

Conversation stresses the need to see language as a dynamic, social, interactive phenomenon.

Principles related to conversation

- Conversation is a highly structured activity.
- Speaker and listener follow a set of basic conversations.
- Conversations are having an opening, a middle, and an eng game.

Types of conversation

1. Teacher – dominance free conversation
2. Teacher free conversation.

Conditions for making conversational session successful

The teacher can conduct conversational sessions in the class. To make it successful, the participants should feel that they are contributing something to it and are getting something out of it. For this to happen certain conditions must apply.

Role of teacher in conversation session

1. No teacher dominance
2. Teacher is a co – communicator
3. Teacher as a facilitator
4. Restraining criticism

THE TOPIC – BASED DISCUSSION CLASS.

In conversation, two students usually talk about any common issues .But in the topic – based group discussion students in the whole in a small group give their ideas or opinions about a topic / subject.TA

TASKS – CENTERED FLUENCY PRACTICE

Students can be engaged in selected learning activities

1. Take a short story
2. Building up a story
3. Telling a story by chaining method
4. Getting everyone to speak
5. Arguments between neighbors

Tasks for developing speaking skill

Traditionally, classroom speaking practice has been given in the form of drills in which one asks a question and another gives an answer. In fact, such drills only demonstrate the ability to ask and answer the question, not the speaking ability.

The purpose of teaching speaking skill is to produce competent speakers who will be able to use English for multiple forms of expression.

INDIVIDUAL, PAIR AND GROUP WORK

Learning to speak a second language is a challenging task. Speaking ability is regarded as the measure of knowing a language. Students learn to develop and express their speaking ability by participating in speaking activities, such as individual, pair or group work.

Pair work

In pair work, the teacher divides the whole class into pairs. Every student works with his or her partner, and all the pairs work at the same time . This is not the same as 'public' or 'open' pair work, with pairs of students speaking in turn in front of the class.

Group work

In group work, the teacher divides the class into small groups to work together. Pair work and group work are not teaching 'methods'. But they are ways of organizing the class. They can be used for many different kinds of activity, and are naturally more suitable for some activities than for others.

Activities for pair / group work

1. Retelling stories
2. Describing a picture
3. Two – minutes debat

DEVELOPING SPEAKING SKILLS

Speaking means conveying the message through the words of mouth. This skill is also called 'Oral Skill' or 'Communicative Skill'.

1. The students need intensive practice. Speaking practice is usually done in pair & group work.

2. Types Of Class Activities Language experts have organized oral skills into four distinctive

   Types. i. Drills or Linguistically Structured Activities ii. Performance Activities iii. Participation Activities IV. Observation Activities

3. Drills or Linguistically Structured Activities Teacher provide a particular structure and the Students practice it by repeating it.

4. Performance Activities Students prepare himself beforehand and delivers a message to a Group. E.g. Student's Speech

5. Participation Activities Students participates in some communicative activity in a "natural Setting". E.g. Discussions on some topics.

6. Observation Activities Students observe something, writes a brief summary and present his finding to the class.

7. Discussions, Role Play, Gap Activities, Short Speechee, Some Most Commonly Used

Activities

8. Short Speeches• students may be given some easy topics• Prepare them in verbal or written form• Come to stage or deliver a lecture or speech for given time frame before the class

.

9. An interview or self introduction is an activity of this kind.☐ One person has some information which the other person does not have. Gap Activity It is a form of a Dialogue.

10. This activity will remove the students hesitation. In this way information gap is fill. Gap Activity

11. Students may be asked to play different roles in the form of a drama. Students play different roles. Role Play This is also a form of dialogue.

Improving oral fluency:

Students will work in pairs to practice telephone scenarios. Then the students practice the conversation for the class. The class can then discuss the different scenarios.

1.) Class Discussion: Ask the students about telephone calls that they currently make. Brainstorm and make a list of various telephone tasks such as making an appointment, calling a friend, etc.

2.) Go over any vocabulary that the class may need to learn or review.

3.) Divide the class into pairs. Give each pair a set of Telephone Conversation Scenario Cards

4.) Together the partners will practice the conversation based on the information on their cards. If possible, spread out the chairs so that there is some space between pairs. For each pair, arrange the chairs back to back so that they can't see each other when they talk. If you can't move the chairs, put a notebook or folder between the students to block their vision, or ask students to stand back-to-back while they practice their role plays. This helps the students practice their conversation without relying on body language, similar to speaking on the telephone.

5.) Circulate among the pairs and listen to their role plays. Provide any suggestions or help where needed.

6.) If the students in your class feel comfortable, ask them to practice their role plays again in front of the whole class. If your class is too big or the

students don't feel comfortable, ask them to practice their role plays in small groups.

7.) After each scenario, ask the class about the conversation. Let students ask questions or add comments to the conversation. Use this time to point out any details that are relevant for each scenario, such as cultural norms, common phrases to use, leaving messages, differences in talking to a supervisor versus a friend, etc.

8.) For review, pass out the Scenario Cards again, but make sure each pair has a different scenario from their first practice. Now they have the opportunity to apply what they have just learned from the class discussion. Circulate and listen to the role plays.

PARALLEL STRUCTURE IN A SENTENSE

Parallel structure in a sentence refers to two or more words phases, or clauses that are similar in length and grammatical form. Parallel structure means using the same pattern of words to show that two or more words are of equal importance. This is also called parallelism.   In   parallel grammatical form, a noun is listed with other nouns, an – ing form with other – ing forms, and so on. Failure is called faulty parallelism.

DIALOGUE

A dialogue is a literary technique in which writers employ two or more characters to be engaged in conversation with each other. In literature, it is a conversational passage or a spoken or written exchange of conversation in a group or between two persons directed towards a particular subject.

Types of Dialogue

There are two types of dialogues in literature:

- **Inner Dialogue** – In inner dialogue, the characters speak to themselves and reveal their personalities. To use inner dialogue, writers employ literary techniques like <u>stream of consciousness</u> or dramatic <u>monologue</u>. We often find such dialogues in the works of James Joyce, Virginia Wolf and William Faulkner.
- **Outer Dialogue** – It is a simple conversation between two characters used in almost all types of fictional works.

Role Play

One other way of getting students to speak is role-playing. Students pretend they are in various social contexts and have a variety of social roles. In role-play activities, the teacher gives information to the learners such as who they are and what they think or feel.

Role plays are used to allow students to practice speaking in a conversational situation, build confidence and fluency, assess progress and put learning into action.

Dramatization

Drama in the ESL classroom, its usefulness as a powerful teaching tool. Apart from the obvious development of communication skills, it encourages leadership, team work. Drama is a powerful language teaching tool.

Play reading

Using play with language learners can improve their reading and speaking kills, encourage creativity, Help them experiment with language tone of voice.

- ✓ Improve their reading, speaking skill.
- ✓ Encourage creativity
- ✓ Help them experiment with language, tone of voice, body language and their own line. If they are involved in writing the play.

GROUP DISCUSSION:

Discussion, like role play, is a communicative output activity. Teachers should prepare students to be successful in discussions.

To succeed with discussion

- Prepare the students
- Offer choices
- Set a goal or outcome
- Use small groups instead of whole – class discussion
- Keep it short
- Allow students to participate in their own way

- Do topical follow – up
- Do linguistic follow - up

Storytelling:

Students can briefly summarize a tale or story they heard from somebody beforehand, or they may create their own stories to tell their classmates. Story telling fosters creative thinking. It also helps students express ideas in the format of beginning, development, and ending, including the characters and setting a story has to have. Students also can tell riddles or jokes. For instance, at the very beginning of each class session, the teacher may call a few students to tell short riddles or jokes as an opening. In this way, not only will the teacher address students' speaking ability, but also get the attention of the class.

- ➢ Promote a feeling of well – being and relaxation
- ➢ To get the main idea or plot.
- ➢ It provokes curiosity
- ➢ It builds vocabulary, comprehension story sequencing.
- ➢ It improve listening and oral communication skills.
- ➢ It is an interactive and co – operative process.
- ➢ It helps the listeners to remember.

Narration

This activity is based on several sequential pictures. Students are asked to tell the story taking place in the sequential pictures by paying attention to the criteria provided by the teacher as a rubric. Rubrics can include the vocabulary or structures they need to use while narrating.

Description

Description is a piece of writing or speech that gives details about wha someone or something is like.

Student can be encouraged to develop their speaking skill by describing a person or place or thing or an event in the picture.

COMMUNICATIVE GAME

A communicative game is a pair or small – group learning activity that has fun. Communication games are spoken English games. They are simple activities designed for enjoying

the learning process while playing games. Communication games can be conducted to develop listening comprehension and speaking ability of students.

DEBATE

A class debate can be a fun and challenging way to encourage class interaction, review vocabulary, and develop speaking fluency. With a solid lesson plan and good moderating skills, your debate will be a success, and well-appreciated by the students.

Topic: Make it Interesting – Teaching Speaking Skills with Debates

Choose a topic that your students will likely be interested in (Something that affects their lives directly). Draw upon their common experiences: school, work, family, technology, language-learning, etc. Don't choose a dull topic just because your students have a lower level; one can form an opinion on a variety of issues without sophisticated vocabulary. A little controversy is a good thing here, but mind the potential cultural differences of your class and don't risk deeply offending anyone. Choose a topic that easily generates a lot of ideas, and think about your topic yourself before the class.

INTERVIEW

In the classroom context, an interview is an activity or role play for students to improve their spoken communication or speaking skill.

An interview consist of two persons.

1. An interviewer :The person who asks questions in the interview
2. An interviewee: The person who answers the questions in an interview.

Interview technique can be used in the class as a learning task for practicing speaking skill.

EXTEMPORE SPEECH

An extempore speech is a classroom performance in which a student talks about a particular topic without any prior preparation or practice.

Speaking without any preparation of any kind in front of class makes a student feel nervous or frightened. In actual real life communication, students are expected to speak out of their knowledge and without any previous preparations.

COMMON BARRIERS TO EFFECTIVE COMMUNICATION

The use of jargon. Over-complicated, unfamiliar and/or technical terms.

Emotional barriers and taboos. Some people may find it difficult to express their emotions and some topics may be completely 'off-limits' or taboo.

Lack of attention, interest, distractions, or irrelevance to the receiver.

Differences in perception and viewpoint.

Physical disabilities such as hearing problems or speech difficulties.

Physical barriers to non-verbal communication. Not being able to see the non-verbal cues, gestures, posture and general body language can make communication less effective.

Language differences and the difficulty in understanding unfamiliar accents.

Expectations and prejudices which may lead to false assumptions or stereotyping. People often hear what they expect to hear rather than what is actually said and jump to incorrect conclusions.

Cultural differences.

The norms of social interaction vary greatly in different cultures, as do the way in which emotions are expressed. For example, the concept of personal space varies between cultures and between different social settings.

Communicative Output Activities

Two common kinds of structured output activities are *information gap* and *jigsaw* activities. In both these types of activities, students complete a task by obtaining missing information, a feature the activities have in common with real communication. However, information gap and jigsaw activities also set up practice on specific items of language. In this respect they are more like drills than like communication.

Information Gap Activities

Filling the gaps in a schedule or timetable: Partner A holds an airline timetable with some of the arrival and departure times missing. Partner B has the same timetable but with different blank spaces.

The two partners are not permitted to see each other's timetables and must fill in the blanks by asking each other appropriate questions. The features of language that are practiced would include questions beginning with "when" or "at what time." Answers would be limited mostly to time expressions like "at 8:15" or "at ten in the evening."

Completing the picture: The two partners have similar pictures, each with different missing details, and they cooperate to find all the missing details. In another variation, no items are missing, but similar items differ in appearance. For example, in one picture, a man walking along the street may be wearing an overcoat, while in the other the man is wearing a jacket. The features of grammar and vocabulary that are practiced are determined by the content of the pictures and the items that are missing or different. Differences in the activities depicted lead to practice of different verbs. Differences in number, size, and shape lead to adjective practice. Differing locations would probably be described with prepositional phrases.

These activities may be set up so that the partners must practice more than just grammatical and lexical features. For example, the timetable activity gains a social dimension when one partner assumes the role of a student trying to make an appointment with a partner who takes the role of a professor. Each partner has pages from an appointment book in which certain dates and times are already filled in and other times are still available for an appointment. Of course, the open times don't match exactly, so there must be some polite negotiation to arrive at a mutually convenient time for a meeting or a conference.

Jigsaw Activities

Jigsaw activities are more elaborate information gap activities that can be done with several partners. In a jigsaw activity, each partner has one or a few pieces of the "puzzle," and the partners must cooperate to fit all the pieces into a whole picture. The puzzle piece may take one of several forms. It may be one panel from a comic strip or one photo from a set that tells a story. It may be one sentence from a written narrative. It may be a tape recording of a conversation, in which case no two partners hear exactly the same conversation.

In one fairly simple jigsaw activity, students work in groups of four. Each student in the group receives one panel from a comic strip. Partners may not show each other their panels. Together the four panels present this narrative: a man takes a container of ice cream from the freezer; he serves himself several scoops of ice cream; he sits in front of the TV eating his ice cream; he returns with the empty bowl to the kitchen and finds that he left the container of ice cream, now melting, on the

kitchen counter. These pictures have a clear narrative line and the partners are not likely to disagree about the appropriate sequencing. You can make the task more demanding, however, by using pictures that lend themselves to alternative sequences, so that the partners have to negotiate among themselves to agree on a satisfactory sequence.

More elaborate jigsaws may proceed in two stages. Students first work in input groups (groups A, B, C, and D) to receive information. Each group receives a different part of the total information for the task. Students then reorganize into groups of four with one student each from A, B, C, and D, and use the information they received to complete the task. Such an organization could be used, for example, when the input is given in the form of a tape recording. Groups A, B, C, and D each hear a different recording of a short news bulletin. The four recordings all contain the same general information, but each has one or more details that the others do not. In the second stage, students reconstruct the complete story by comparing the four versions.

With information gap and jigsaw activities, instructors need to be conscious of the language demands they place on their students. If an activity calls for language your students have not already practiced, you can brainstorm with them when setting up the activity to preview the language they will need, eliciting what they already know and supplementing what they are able to produce themselves.

Structured output activities can form an effective bridge between instructor modeling and communicative output because they are partly authentic and partly artificial. Like authentic communication, they feature information gaps that must be bridged for successful completion of the task. However, where authentic communication allows speakers to use all of the language they know, structured output activities lead students to practice specific features of language and to practice only in brief sentences, not in extended discourse. Also, structured output situations are contrived and more like games than real communication, and the participants' social roles are irrelevant to the performance of the activity. This structure controls the number of variables that students must deal with when they are first exposed to new material. As they become comfortable, they can move on to true communicative output activities.

Communicative output activities allow students to practice using all of the language they know in situations that resemble real settings. In these activities, students must work together to develop a plan, resolve a problem, or complete a task. The most common types of communicative output activity are *role* playsand discussions .

In role plays, students are assigned roles and put into situations that they may eventually encounter outside the classroom. Because role plays imitate life, the range of language functions that may be used expands considerably. Also, the role relationships among the students as they play their parts call for them to practice and develop their sociolinguistic competence. They have to use language that is appropriate to the situation and to the characters.

Students usually find role playing enjoyable, but students who lack self-confidence or have lower proficiency levels may find them intimidating at first. To succeed with role plays:

- Prepare carefully: Introduce the activity by describing the situation and making sure that all of the students understand it

- Set a goal or outcome: Be sure the students understand what the product of the role play should be, whether a plan, a schedule, a group opinion, or some other product

- Use role cards: Give each student a card that describes the person or role to be played. For lower-level students, the cards can include words or expressions that that person might use.

- Brainstorm: Before you start the role play, have students brainstorm as a class to predict what vocabulary, grammar, and idiomatic expressions they might use.

- Keep groups small: Less-confident students will feel more able to participate if they do not have to compete with many voices.

- Give students time to prepare: Let them work individually to outline their ideas and the language they will need to express them.

- Be present as a resource, not a monitor: Stay in communicative mode to answer students' questions. Do not correct their pronunciation or grammar unless they specifically ask you about it.

- Allow students to work at their own levels: Each student has individual language skills, an individual approach to working in groups, and a specific role to play in the activity. Do not expect all students to contribute equally to the discussion, or to use every grammar point you have taught.

- Do topical follow-up: Have students report to the class on the outcome of their role plays.

- Do linguistic follow-up: After the role play is over, give feedback on grammar or pronunciation problems you have heard. This can wait until another class period when you plan to review pronunciation or grammar anyway.

Discussions, like role plays, succeed when the instructor prepares students first, and then gets out of the way. To succeed with discussions:

- Prepare the students: Give them input (both topical information and language forms) so that they will have something to say and the language with which to say it.

- Offer choices: Let students suggest the topic for discussion or choose from several options. Discussion does not always have to be about serious issues. Students are likely to be more motivated to participate if the topic is television programs, plans for a vacation, or news about mutual friends. Weighty topics like how to combat pollution are not as engaging and place heavy demands on students' linguistic competence.

- Set a goal or outcome: This can be a group product, such as a letter to the editor, or individual reports on the views of others in the group.

- Use small groups instead of whole-class discussion: Large groups can make participation difficult.

- Keep it short: Give students a defined period of time, not more than 8-10 minutes, for discussion. Allow them to stop sooner if they run out of things to say.

- Allow students to participate in their own way: Not every student will feel comfortable talking about every topic. Do not expect all of them to contribute equally to the conversation.

- Do topical follow-up: Have students report to the class on the results of their discussion.

- Do linguistic follow-up: After the discussion is over, give feedback on grammar or pronunciation problems you have heard. This can wait until another class period when you plan to review pronunciation or grammar anyway.

Through well-prepared communicative output activities such as role plays and discussions, you can encourage students to experiment and innovate with the language, and create a supportive atmosphere that allows them to make mistakes without fear of embarrassment. This will contribute to their self-confidence as speakers and to their motivation to learn more.

Testing Specking:

Speaking skills are tested by oral tests. Oral tests focus on the students' speaking skills.

Types of Oral tests

- Continuous assessment
- Short oral tests

TEACHING READING SKILL:

Aims of teaching reading

Reading is an essential part of language teaching at every level. Learning to read is a language skill but this is very difficult to learn. According to traditional approach, the purpose of reading is to understand the meaning of words, grammar and sentence.

Nature of Reading

By reading, we give thought and sound value to the printed or the written page. The abilities involved in reading are:

- o Comprehension
- o Recognition of the symbols.

Purposes of reading

- • To gain information to verify existing knowledge.
- • To critique a writer's idea or writing style for enjoyment.
- • To enhance knowledge for the language being read.

Here, the reader selects textbooks according to his purpose of reading.

Reading as a process

Reading is an interactive process which goes on between the reader and the text resulting in comprehension.

A reader's knowledge, skills, and strategies include:

- o Linguistic competence.
- o Discourse competence.
- o Sociolinguistic competence.
- o Strategic competence.

TYPES OF READING

Reading Aloud

We start teaching reading to the students by teaching them reading aloud first. The teacher reads out certain sentences from the flash cards or the blackboard and the students speak after him. For this purpose it is important that the teacher's own reading is really a model one.

Reading aloud has the following purposes:

1. It provides practice in acquiring correct stress, rhythm and intonation.

2. It tests the student's knowledge of words and phrases and whether he knows how to pronounce them correctly. It provides practice as well as a test.

3. It enables the teacher to find out the mistakes of the students and correct the same.

4. It develops in the students the art of reading with feeling and expression.

5. Reading aloud is the basis of silent reading.

Reading aloud is essential for the first three, four years of teaching English.

SILENT READING

The advantages of silent reading are:

1. It keeps the whole class busy at the same time. In reading aloud whereas one student is busy in reading the lesson, the others are passive listeners.

2. It is quicker and saves time. It takes more time to read aloud a passage than to read it silently.

3. Students are able to work on their respective paces

4. Students are able to concentrate their attention on meaning rather than on pronunciation. Thus silent reading helps in greater assimilation of information.

5. It prepares the students for independent reading

6. It inculcates love for reading and is pleasurable. It gives the students a feeling of power and achievement.

Both reading aloud and silent reading have their place in learning English. They have different purposes. Whereas the chief purpose of reading aloud is to improve the pronunciation of the learner, the chief purpose of silent reading is to enable him to read with comprehension and speed. So

reading aloud should be emphasized in the first three, four years of teaching English, and silent reading later on.

Comparison of Skimming and Scanning

Skimming is a reading strategy used for developing reading skill. By using skimming strategy, students quickly survey the text to get main idea.

Scanning is similar to skimming, a reading skill used for developing reading by using scanning students make quick survey of the text "to find specific information".

Intensive reading involves students in reading detail with specific learning aims and tasks. It is to learn the content of the subject. The learners read any information with concentration.

Extensive reading is reading for pleasure and gaining extra knowledge. For example, reading the story and reading books in library.

METHODS OF TEACHING READING

The following are the main methods of teaching reading:

1. The Alphabetic Method.
2. The phonic Method.
3. The word Method or the Look and the Say Method.
4. The Phrase Method.
5. The Sentence Method.

The Alphabetic Method

The is the oldest method used in India to teach reading. The method consists in teaching the students the names of the various letters of the alphabet in the very order.

This method has been criticized on the following grounds:

1. English is not a phonetic language, that is, the pronunciation of a word is not the combination of the sounds of the various letters constituting it. Consider: knowledge.

2. The method is dull and monotonous as the letters of the alphabet do not stand for anything.

The Phonic Method

In this method, the phrase is the unit of approach. The method is based on the belief on that phrases are more interesting than words.

The limitations of the phrases Method are:

1. A phrase does not express a complete idea. So it lacks interest.
2. It is time-consuming to start learning reading through phrases as finally they have to be blended into sentences.

The Sentence Method

In this method, the sentence is the unit of approach. The advantages claimed for the sentence Method are:

1. It lays the foundation of all the attitudes and skills for good reading.

2. It helps to prevent word by word by word reading. It encourages correct habits or eye-span.

We notice that all the methods have certain merits and demerits. The present trend is in favour of the Sentence Method. In actual practice, this method combines certain good features of the Phonic Method and Look and Say Method.

Criteria for selection of English Reader

1. **Subject matter:** It should be suitable for the students for whom the book is meant.
2. **Style:** In the matter of style simple style should be used. Graded vocabulary and sentences should be there.
3. **Form:** The form should be a model of composition with a beginning, middle and an end. Three should be some illustrations and pictures.
4. **Exercises:** Notes and exercises must follow the lesson proper. Note should be short and suggestive.
5. **Price:** The price of the book should be affordable.

Reading for perception and comprehension:

Reading for perception involves recognition of words and sentences and also their meanings. Reading for perception can be developed by Phonics instruction, fluency instruction and vocabulary instruction.

Reading for comprehension:

It involves grasping the main concept of the passage. First students perceive the words and use their higher level mental skills to find the meaning. Comprehension is a reason for good reading. It can be developed by explicit instruction, cooperative instruction and by helping the readers to use strategy flexibility.

DEVELOPING READING ACTIVITIES

1. Reading Activities
2. Pre-reading activities
3. While reading activities
4. Post-reading activities

TESTING READING

Testing reading means assessing reading proficiency of students. Assessment of reading ability depends upon the purpose of reading.

Methods of assessing reading proficiency

o   Reading aloud
o   Comprehension questions
o   Authentic assessment

TESTING READING

Reading comprehension can be tested by four question types:

True or false: Here the teacher frames true or false questions to check the understanding of the students. EEg: Teak tree grows in India. True/ False.

Multiple choice: Students choose their responses from the multiple choice questions given.

Open-ended questions: Teachers prepare open-ended questions to check students' understanding of concept.

Information transfer: Instead of answering a question, the students have to record information from the text in a different form. Eg: By completing a table or by drawing a diagram.

TEACHING OF WRITING SKILL

Writing is one of the important skills to be developed in a language. Students learn to write words and sentences after knowing how to read them.

Teaching writing

Writing skill is an effective tool of communication. It helps students develop imaginative and critical thinking abilities.

MECHANICS OF WRITING

Mechanics of writing include:

1. Knowing how to make strokes with proper hand movement.

2. Knowing how to make letters of the right shape and size.

3. Knowing how to have the right spacing between (i) letters, (ii) words and (iii) lines.

4. Knowing how to use capital letters and marks of punctuation correctly.

5. Knowing how to have a fluent hand movement from left to right.

   Writing is more permanent than speaking and requires more careful organization.

Sub Skills in Writing

Visual Perception

The vision skills that we need to understand, analyse, and interpret what we see are called visual perception.

Syntax

Syntax refers to the study of the rules that govern the ways in which words combine to form phrases, clauses and sentences. Syntax is one of the major components of grammar.

Organization

When students write a topic or text, they should organize their ideas logically into proper paragraphs.

>   **1. Grammar**
>
>   When students write a text, they should write it with correct sentences choosing correct words and following the rules of English grammar.

2. **Content purpose**

   Good writing has a clearly defined purpose.

3. **Relevance**

   The ideas or themes in a piece of writing should be relevant to a audience or readers.

Importance of writing

- Writing is communicating with words. Students, while writing translate their thinking into words and sentences as ideas.

- Writing is the primary basis on which students' learning

- Writing expresses who a student is as a person.

- Writing helps a student express ideas and it helps refine his ideas when others give feedback.

- Writing helps students understand how truth is established in a given discipline/ subject.

- Writing is very important component of our life.

Writing skills

A good writing involves four important skills:

1. **Mechanical skills**

   Mechanical skills refer to the ability to use punctuation, spelling, capitalization, etc correctly.

2. **Grammatical skills**

   These skills refer to the ability to write English in grammatically correct sentences choosing appropriate words.

3. **Judgment skills**

   Judgment skills refer to the ability to write in an appropriate manner for a particular purpose with a particular audience in mind, together with an ability to select, organize and order relevant information.

4. **Discourse skills**

   There are two types of discourse skills. One is conversational and another is textual. The textual discourse refers to understand and write different types of texts such as narratives, prose texts, expository texts, persuasive texts, descriptions and others.

Characteristics of good handwriting

The following are the essentials of good handwriting:

1. **Distinctiveness.** It means that each letter should be completely distinct so as to avoid the possibility of its being mistaken for another.

2. **Letters of moderate Size**. Each letter should be of mode rate and even size.

3. **Proper spacing** the words should be neatly spaced, no word being connected by a stroke with the following word or separated by it by too wide an interval.

4. **Writing in straight line**. The writing should be in straight lines. The interval between lines should be even and sufficient to prevent intersection of loops and tails.

5. **Simplicity**. Handwriting should be simple flourishes and superfluous strokes should be avoided.

6. **Legibility.** A legible handwriting is one that is easy to read and causes no difficulty.

7. **Speed.** Speed is another characteristic of good handwriting will naturally look attractive.

8. **Attractiveness**. Attractiveness is another quality of good handwriting. If the essentials mentioned above are properly attended to the handwriting will naturally look attractive.

Improvement of Handwriting

The following are some suggestions to improve the handwriting of the students:

1. Great attention needs to be paid to handwriting right from the beginning. Correct habits of writing should be cultivated in the students at the early stage.
2. Students should sit in the proper posture.
3. Students should use calligraphy. Note-books. They will thus have practice in writing whatever material is traced out in the note – books.
4. For written work during the first three years of English, students should use four-lined exercise books. Such exercise books. Such exercise books will provide them practice in writing letters of uniform size.
5. The teacher should point out to the students the direction of movement in the formation of various letters.
6. While the students are writing, the teacher should go round the class to ensure that the students are making the correct movements.

Specimens of good handwriting should be displayed in the class.

COMMON PROBLEMS IN WRITING

- Spelling Mistakes
- Incorrect word orders

- Forming paragraphs
- Organizing ideas
- Lack of ideas and opinions

TESTING WRITING SKILLS

- Language Use
- Mechanical Skills
- Treatment Of The Content
- Stylistic Skills
- Judgement Skills

REMEDIAL TEACHING AND CORRECTING

Mistakes in writing

Students often commit mistakes in two areas of writing when they write a text a text or message. They are:

1. Grammatical mistakes

In grammar, students commit two types of errors:

i) Morphological errors : Errors that the student makes in forming words. These are… (correct). That are (wrong). He writes; He plays; He sings (correct). He applys; He supplys (wrong).

2. Semantics errors

In semantic, students commit two types of error:

i) Lexical errors: These are the mistakes students commit in writing words or phrases (vocabulary). The common lexical errors are spelling mistakes.

Examples:

Receive (correct)   Recieve (lexical error)

Written (correct)   Wrirtting (lexical error).

Disorder of written expression

Meaning

Disorder of written expression is a type of learning disability in which a student's writing ability is substantially below the normal standard.

Poor writing skills interfere significantly with academic progress or daily activities that involve written expression- spelling, grammar, handwriting, punctuation, word usage.

Symptoms of poor writing

A Student's learning disorder in writing can be identified with the following symptoms.

- Multiple spelling mistakes:

- Errors in grammar and punctuation

- Exceptionally poor or illegible handwriting

- Sentences that lack cohesion

Cause of Poor writing

The causes may be due to the individual or collective effects of physical, psychological, or environmental factors.

Remedies

Remedies or Motivation, Remedial teaching and health service. These will help the students to improve handwriting.

Questions for discussion and reflection

1. What are the activities can be given to enhance listening skill?

2. Write an essay on spoken skill activities.

3. Differentiate between intensive reading and extensive reading.

4. What are the mechanics of writing skill?

Unit – V: METHODS OF TEACHING ENGLISH

Objectives:

After completion of this unit, the learners will be able to,

1. get familiarized with various methods in teaching of English.
2. adopt different kinds of approaches in teaching of English.
3. hand on utilizing various teaching resources/aids.
4. comprehend the recent trends in teaching of English.

Introduction

This unit deals with various methods of teaching English as a second language and its significance in teaching and learning of English.

Grammar –Translation Method

Grammar should be taught deductively that is grammar should be at first presented and studied and then practiced through a translation exercise. The vocabulary selection is based solely on the reading texts used and words taught through bilingual words lists, dictionary study and memorization. There should be much emphasis on accuracy. Students are expected to attain high standards in translation. The students native language is the medium of instruction. It is used to explain new items and to enable comprehension. In this method development of reading and writing skills should be the major focus.

Bilingual method

The bilingual method is a method of language teaching developed by C.J Dodson (1967 / 1972) to improve the audio-visual method which was advocated in the 1960s. In the bilingual method, a lesson includes three stages of teaching:

➢ Starting with the reproduction / performance of a basic dialogue.
➢ Moving on to the variation and recombination of the basic sentences.
➢ Application of the previous dialogues / sentences in a new communicative work.

Well- ordered activities in the bilingual method take the students up to a conversational level in the shortest possible time.

Direct method

Since the grammar –Translation method was not very effective in preparing students to use the target language communicatively, the direct method gained popularity. The direct method has one very basic rule: no translation is allowed. In fact, the direct method receives its name from the fact that meaning is to be connected directly with the target language without going through the process of translating into the students' native language. The method aims at intense oral interaction in the classroom, so as to develop oral communication skills of the student.

Audio Lingual Method

The term 'audio lingual' was coined by professor Nelson Brooks in 1964. The army programmes was to make the students attain conversational proficiency in a variety of foreign languages. At that time there were exciting new ideas about language and learning emanating from the disciplines of descriptive linguistics and behavioural psychology. These ideas led to the development of the Audio-Lingual Method. New vocabulary and grammatical structures are presented through dialogues. Drills are conducted based upon the patterns present in the dialogues.

Dr. West's New Method

Dr. Michael West has laid a great deal of importance to Reading. He has said that for Indian pupils Silent reading is important, no doubt, but Loud Reading is equally important. In this method a good deal of importance has been attached to the art of speaking and reading together as they are interrelated. But so far as teaching is concerned, both these things should be taught separately. He holds that it shall be easy for the teacher to give the students the practice of these two things separately.

Other Methods in Teaching English

1. **Silent way method:**

   The silent way is a method of language teaching devised by Caleb Gattegno. The method is based on the premise that the teacher should be silent as much as possible in the classroom, and the learner should be encouraged to produce as much language as possible. This method of teaching is an initial reading in, which sounds are coded by specific colours. The learner discovers or creates rather than remembers and repeats what is to be learnt.

2. **Total physical response:**
   In total physical response (TPR), the teacher gives the students commands in English and the students act out those commands using whole-body-responses.

3. **Dogme language teaching:**
   Dogme language teaching is a communicative approach to language teaching and encourages teaching without published textbooks and instead, focusing on conversational communication among the students and the teacher.

4. **Pimsleur language learning method:**
   This method is based on the research and programme models of teaching developed by American language teacher Paul Pimsleur. This method involves recorded 30- minute lessons to be done daily, with each lesson typically featuring a dialogue, revision, and new material. Students are asked to translate phrases into English, and occasionally to respond in English to lines spoken in English.

5. **Michel Thomas method:**
   Michel Thomas method is an audio-based teaching system developed by Michel Thomas, a language teacher in the USA. It was originally done in person. Since his death it is done via recorded lessons. The instruction is done entirely in the student's own language. But students have to give their responses only in English. There is no listening practice, and there is no

reading or writing. The syllabus is ordered around the easiest and most useful features of the language.

Computer Assisted Language Learning

Only a computer or a number of computers in LAN mode are used for this purposethe arrival of multimedia CALL, multimedia language centres began to appear in educational institutions. While multimedia facilities offer many opportunities for language learning with the integration of text, images, sound and video, these opportunities have often not been fully utilized. One of the main promises of CALL is the ability to individualized learning but, as with the language labs that were introduced into educational institutionsas an approach to language teaching and learning in which the computer is used as an aid to the presentation, reinforcement and assessment of material to be learned, usually including a substantial **interactive** element.

Learning by teaching:

Methods used for instruction to be implemented by teachers to achieve the desired learning by students. These strategies are determined partly on subject matter to be taught and partly by the nature of the learner. For a particular teaching method to be appropriate and efficient it has to be in relation with the characteristic of the learner and the type of learning it is supposed to bring about. The approaches for teaching can be broadly classified into teacher centered and student centered. The teacher's primary role is to coach and facilitate student learning and overall comprehension of material. Student learning is measured through both formal and informal forms of assessment, including group projects, student portfolios, and class participation. Teaching and assessments are connected; student learning is continuously measured during teacher instruction.

Mixed ability group:

"Mixed ability grouping", refers to grouping together students of different abilities. Usually this kind of grouping occurs when the group consists of students with different ages with one or two years span. The term "mixed aged grouping" or "heterogeneous grouping" is used for this case but we prefer to use the more general term of "mixed ability grouping" since the basic criterion for grouping is ability and not necessarily age. However within the framework of MUSE the actual implementation of mixed grouping in multigrade classroom is going to be based on mixed age grouping. In mixed ability groups there are some students that are more mature and experienced than other ones and thus they have more advanced ability to acquire knowledge. The main aim of setting up mixed ability groups is not to produce homogeneity of ability in a group as this is the case in ability grouping, but to increase interaction across students with different abilities.

APPROACHES

Structural Approach

Structural approach in teaching of English means approaching English on the basic of structures. For this purpose, the structures are well made to teach English. That is called structural approach. In this Approach, the structures are taught by creating situations. That makes the teaching, learning more effective. The structural approach is not a method but it is an approach which quickens the process of

learning a language. In this approach students are able to understand the subject matter fully because teaching is conducted by creating meaningful situations.

Situational Approach

In this approach English is basically taught in the same way in which the child learns his own mother tongue. Whatever the students understands and expresses is connected with his own life. The situations in which the students learn are repeated again and again. In this approach English should also be taught by forming a link between new words and real situations. The situational approach indicates how a teacher can create real situation in the classroom. The situational approach makes great demand upon the teacher. The teacher must have ready invention, be quick to see where there is comprehension and where there is the need for revision.

Communicative Approach

The communicative approach is based on the idea that learning language successfully comes through having to communicate real meaning. When learners are involved in real communication, their natural strategies for language acquisition will be used, and this will allow them to learn to use the language.

For example, practicing question forms by asking learners to find out personal information about their colleagues is an example of the communicative approach, as it involves meaningful communication. In the classroom, Classroom activities guided by the communicative approach are characterised by trying to produce meaningful and real communication, at all levels. As a result there may be more emphasis on skills than systems, lessons are more learner-centred, and there may be use of authentic materials

Recent trends in communicative approach

The teaching of second and foreign languages emphasizes interaction as both the means and the ultimate goal of learning a language. It is also referred to as "communicative approach to the teaching of foreign languages" or simply the "communicative approach"It describes a set of very general principles grounded in the notion of communicative competence.There is no single or a set of practices that characterize current communicative language teaching.

Content based instruction

Learning a new language can be difficult. Content-based instruction is a powerful tool for language instruction. **Content-based instruction** focuses on content rather than language. However, the goal is language instruction. Simply stated, the language becomes a tool for learning new things instead of the topic. Students make logical connections between ideas, words and objects. Proponents of content-based learning believe that this approach is the most effective method for language acquisition.Content used to refer to the methods of grammar–translation, audio-lingual methodology and vocabulary or sound patterns in dialog form. Recently, content is interpreted as the use of subject matter as a vehicle for second or foreign language teaching/learning.

Task based Instruction

TBI claims that language learning will result from creating the right kinds of interactional processes in the classroom, and the best way to create these is to use specially designed instructional tasks.

Task -based learning offers an alternative for language teachers. In a task-based lesson the teacher does not pre-determine what language will be studied, the lesson is based around the completion of a central task and the language studied is determined by what happens as the students complete it.

Text based Instruction

The second level of learning that occurs with **text**-**based instruction** is that of learning content through interaction with **texts.** Students learn through the guidance and support of the teacher. The teacher's role, in addition to scaffolding, is to select materials and sequence the curriculum. The objectives in a TBI curriculum depend on **text** that is used in the learning experiences. Text-Based Instruction (TBI) employs the use of different genres of text in a social context to encourage language development. This post will discuss the assumptions and curriculum development of this method. TBI is a unique approach to language teaching that focuses on reading to develop the other three skills of language. This approach is particularly useful for people who prefer to learn a language through reading rather than in other forms.

Eclectic Approach

Eclectic approach means the collections of all the good points of different methods and then using them for teaching something. In teaching English, different methods and approaches have been popular. Each method has some good points and few draw backs also. Naturally any one method does not serve the purpose of teaching well for all times and in all types of teaching situations. Moreover a good teacher does not become s subordinate to any single method. The teacher is expected to handle the methods as per his/her liking. The teacher is the master of the teaching situation and the methods of teaching are tools in his hands.

Recent trends in teaching English

Learner-centered teaching model:

In the learner-centered model, both student and teacher are active participants. They both share responsibility for the students leaning. Teacher and students work together to identify how students expect to use the language. The teacher models correct and appropriate language use, and students then use the language themselves in practice activities that stimulate to real communication situation. The active, joint engagement of students and teacher results in interactive and dynamic classroom environment I which teaching and learning a language becomes rewarding and enjoyable.

Resources in teaching English

Teacher made Aids

Flash cards:

Cards containing letters, words, phrases, sentences etc., are a very useful and inexpensive aid in teaching English. The letters in the cards should be sufficiently large so that when the teachers put up a card the pupils on the last benches can read it without difficulty. Whenever necessary, the cards can stuck to a cork board (a board with a layer of worksheet on the top) or to the wall by one of the techniques suggested for putting up cut- outs. These flash cards are usually flashed on flannel boards just for a moment and taken off. They help the students promptly and quickly recognize the words and read the sentences.

Pictures:

Large pictures showing, for example, a street scene, a market place, a playing field, etc., can be very effective for oral practice and for writing connected sentences. A series of such pictures can also be used to narrate a story in the manner of the popular comics. Wall-pictures are available in the market, but a teacher can easily make his own. The picture need not be perfect. Figures can be traced from magazines or drawing books. Even cut-outs can be pasted on a large sheet of paper to make an wall-picture. Use of variety of colours will make the picture attractive. Pictures enliven the class. Students pay greater attention to the pictures. Pictures are useful in the creation of an English atmosphere in the classroom.

Charts:

Charts are the collection of pictures on large sheets of heavy paper or cloth, used like large maps. Charts can include diagrams, graphs, chronological tables, list of words, substitution tables, scientific facts, etc. Charts are very useful to oral practice. These enhance students attention in class and stimulate their mental activity. Charts can be easily prepared with the help of the students. Students can be asked to make charts on various topics and thus encourage them "do-and-learn".

Models:

A model may be larger, smaller, or the same size as the object it represents. Models can be range from insects to airplanes and they can be made or purchased for classroom use. Assembling of objects help sharpen both cognitive and psychomotor skills. The language teacher can make use of models

when realism is essential to learning. Tasks that require identification by size, shape or colour, hands-on practice-all the three involve realism and models are used in such situations,

Blackboard:

The blackboard is a large black of green surface fixed to a classroom wall for writing on with chalk. Each classroom has at least one blackboard for teaching purpose. The blackboard helps students visualize scenes, actions, situations and objects that cannot be brought into the classroom. A talented language teacher draws pictures, sketches and diagrams on the board. The blackboard should be neat and clean. Both teachers and students can use the blackboard for learning English in class.

Mechanical Aids

Overhead Projector:

Overhead Projectors are used to reflect what the teacher has written on a transparent plastic film before the class begins. The teacher need not turn back and write everything on the blackboard. This saves time and makes the teaching effective and innovative. The teacher gets enough time to plan, prepare and present his lesson. The overhead projector can be used to teach formation if comparative and superlative adjectives, to point out words that are often misspelled, to explain different modal verbs and to present important points of lectures, lessons, papers etc.

Tape recorder:

The cassette recorder is one of the useful educational aids to increase listening skill. It provides a variety of voices and makes the class lively. We can record whatever we want to listen and again we can listen to it whenever we get time. We till we understand it. Thus it encourages intensive listening. Tape recordings can be effectively used to give practice in listening. Teachers should be very careful in selecting well-recorded tapes for giving practice .

Radio:

Streaming radio stations online works better than the traditional radio because students can listen to any station worldwide. The radio helps learn English intonation and listening much better with native speech. Radio programmes have many different topics, from sports to science. So students choose something that interests them, if you're really intend to learn English with radio. You should find a radio station that has the news, weather or that gives advice and make time every day to listen to the radio.

Television:

Television is great for learning English. The pictures make it easier to understand than radio and because you see who's talking, you get a better idea of what people mean. English television is normally aimed at native English language speakers. Programmes often include difficult words and expressions. If the programme you're watching is full of unknown words, just concentrate on understanding the general meaning.

Language lab:

'A language laboratory' is a specially designed room where students may practice speaking and listening with the aid of tape-recorders, earphones, microphones and/or other sound equipment chiefly as an audio-lingual supplement to the class work. In a language laboratory, students practice the second languages they are studying. It is a place mainly for improving listening skill through 'audio-machinery'. The language laboratory provides good models of the speech in English language for imitation and manipulation by the students.

Power point presentation:

Power point presentation is one of the multimedia technologies. It is presentation software(PS) that easily offers a complete presentation graphics package. It is a computer- based instruction that combines texts, graphics, images and sound. Power point slides are used as visuals to supplement the words the teachers say. It is an instructional tool helps the teacher teach vocabulary, grammar and language games. The sophisticated software used in the PowerPoint presentations attracts the attention of students and helps them learn the language skills and concepts easily and quickly.

Websites for teaching English:

English teaching websites are just like teachers. They are unique; some websites offer services, some offer information, some offer resources for English teachers. They are genuinely useful. Website promotes language teachers in effective and quality language teaching and learning. Website is a vast resource of materials for teaching English as a second language. It includes English lesson plans, dialogues ideas, articles, cross-word puzzles, colour pictures, texts for reading or gap filling, vocabulary and grammar exercises and class management.

Multimedia:

Multimedia is a combination of computer hardware and software that allows a person to integrate video, animation, audio, graphics and test resources to develop effective presentations on an

affordable desktop computer. Using multimedia, our teachers do not want to solve simple teaching problems relating to the grammar, or vocabulary, or spelling, but they want the real language and the real language atmosphere. Multimedia is an auxiliary/ supplementary one, and not the only method for whole teaching. The multimedia can provide the students with certain scenes or situations for understanding the cultural backgrounds necessary for students.

Internet for teaching English:

The internet or World Wide Web is a computer system that allows millions of computer users around the world to exchange information. The internet is very useful for teaching English. On the internet, the language teachers can find resources to help students improve their four skills of English language. There are many language materials on the internet and students can use them to study English. The resources available on the internet may be in the form of articles or activities. Teachers and students can use these resources to motivate students and reinforce language skills. Students can gain a better understanding of writing and grammar and they can build up their confidence and expand their language skills.

Newspaper articles in language class:

Newspaper is much more current than course books. There is also a lot of information in newspapers which make teachers an excellent springboard for lessons. Newspapers are day-to-day curriculum for students to learning English. One aim of reading newspaper should be to encourage the students to read outside the classroom.Teaching with a newspaper allows learners to select an article that interests them, work on it and report back to other learners. If the learners dip into English newspapers then their reading skills, writing skills and vocabulary will improve. Students should feel they are reading faster or better by using newspapers.

Mobiles to learn English:

Mobile learning (or M-learning) is the ability to learn anytime, anywhere using a portable electronic device. Learning English with the assistance of mobiles is known as 'mobile learning of English'. There are hundreds of mobile apps available for English language students. Mobile devices and apps are changing the very way people learn English. Mobile devices help students study 'on the go'. They enable them to incorporate self-study into their busy lives, accelerating their progress and guaranteeing better results.

Films in learning English:

Language teachers have been using films in their classes for decades. Film is an excellent tool for learning English. Learning from films is motivating and enjoyable. Films and TV shows are an integral part of students' lives. Film, as a motivator, makes the language learning process more entertaining and enjoyable. Film provides students with examples of English used in 'real'situations outside the classroom, particularly the language of real-life conversation. Film exposes students to natural expressions and the natural flow of speech.

English clubs:

English clubs/English literary association provides students with opportunities for further recreational activities. They help the students gain extra-knowledge in English language. English clubs are useful in conducting language games, language plays, language competitions, making discussions, making teaching aids, poem recitals etc. The clubs can organize discussions, poet's meet, and lectures that develop interest in English language. Students develop originality, creativity and imagination.

Qualities of a good English language textbook:

The English reader is as important as a language teacher, as it provides the contents of teaching. It helps teachers revise and strengthen the language material already taught. The textbook is the most important tool in the hands of the language teacher.

1. The language teachers must know the criteria of a textbook.
2. The subject matter should be suitable to the students for whom the book is meant.
3. The presentation of the subject matter should be popular style.
4. The introduction of the vocabulary will be graded and systematic.
5. The form of each lesson will be amodel of composition, with a beginning, middle and an end.

Professional competencies of a language teacher:

Teaching is a profession. Professional competence of a teacher refers to the ability to teach a subject well or effectively. The English language teaching is a field of educational specialization and it requires a specialized knowledge base. The specialized knowledge in teaching is obtained through both academic study and practical experience. Professionalism is related to the continuous attempts to develop standards for English language teachers. An English language teacher means becoming part of world-wide community of professionals.

Programmes for professional development of English teachers:

An English teacher is continuously improving his professional knowledge by updating and renewing his language teaching skills by participating in various professional development programmes such as seminars, workshops, panel discussions and undertaking field works / field trips and projects. Teacher's quality and student learning are directly related. Teachers' quality can be improved through 'professional development'. The professional development means a comprehensive, sustained, and intensive approach to improving teachers' and participants' effectiveness in raising student achievement.

Questions for Discussion and Reflection

1.Analyse various methods and approaches in teaching of English and its pros and cons.

2. Write an essay on teaching resources in teaching-learning of English as a second language.

3.Discuss the recent trends in teaching of English in 21st century.

Unit – VI: TESTING AND EVALUATION IN ENGLISH

Objectives:

After completion of this unit, the learners will be able to,

1.get knowledge about test and evaluation patterns.

2.comprehend about test and its various types.

3. get familiarized with construction of test and steps involved in planning it.

4. how to prepare blue print and marking scheme and scoring key.

Introduction

This unit speaks about testing and its importance along with various types of tests and procedure to administer. In addition, it deals with the evaluation patterns and its significance of assessment.

The value of testing

Teachers need to test the performance of his students. Tests results are critical, not only because they affect careers, but because of the influence they exercise on motivation to learn. A language teacher must be aware of different testing techniques, because they give useful information to both the teacher and the students. Tests tell the teacher what the students can and cannot do, and therefore how successful the teaching has been. Tests tell the students how well they are progressing, and where they need to focus their attention as learners.

Focus of testing

Tests are used in language class for two purposes:

1. To test linguistic skills

    Tests are used to find out what students can 'do'. For example:

    ➢ Listening
    ➢ Reading
    ➢ Speaking
    ➢ Writing

2. To test linguistic components

    Tests are used to find out what students have 'learnt'. For example:

- ➢ Grammar
- ➢ Vocabulary
- ➢ Spelling
- ➢ Pronunciation

Different kinds of test

1. **Achievement test:**

   Achievement tests determine how much of a particular content or subject-matter has been mastered. These are commonly used at the end of school terms.

2. **Aptitude test:**

   Aptitude tests try to predict how well a student will succeed in learning the second language. These tests focus on specific kinds of activity, for example, sound imitation, pattern matching. They provide data about individual difficulties.

3. **Proficiency test:**

   Proficiency tests assess how well or how skillfully the students perform the four language skills – listening, speaking, reading, and writing. Usually a student's proficiency in listening and speaking are assessed by oral tests.

4. **Diagnostic test:**

   Diagnostic tests aim to find out what a student still has to learn in a language. The results of this test provide feedback for a teacher by displaying the learner's strengths and weaknesses.

Types of tests in English

For measuring student's language skills and knowledge in English, the following types of tests can be used:

1. Objective-type tests
2. Short-Answer type tests
3. Essay-Type tests

Objective tests:

Objective test items are useful for measuring many specific skills and items of knowledge. Objective–type tests are objectivity-based tests. That is, the objective tests do not attempt to test the student's

self-expression which is subjective. They attempt to test student's recognition or comprehension skills. Objective test items however are difficult to construct. Framing a good objective test requires a good deal of time and thought. The answers in the objective tests are often single-worded. More often the students are required only to put some mark at a right alternative out of the given several ones in the test.

Construction of objective-type questions:

a) **Underline the correct option**.

1. Dogs **is/are** nice pets.

2. Sheep **eat/eats** grass.

b) **Choosing the correct options.**

1. Arun---------- to Amala.

a) isn't listening   b) not listening   c) don't listen

2. Everyone at the party.

a) Are dancing   b) dancing   c) is dancing

c) **Fill in the banks with correct answers.**

1. I ------------- 12 years old.   (be /am /is)

2. They ----------- in the garden. (be / am / are)

Error recognition:

Error recognition is a type of objective test that helps students learn to analyze structures and grammar patterns. They are also effective means of learning new vocabulary. In doing error recognition exercises, students learn the part of a sentence that is grammatically incorrect. In this test, the student has to read a sentence with four words or phrases underlined. He must choose the underlined word or phrase which is incorrectly written. For example, identify the underlined word or phrase that should be corrected or rewritten. In other words, each question has one grammar mistake. Choose the underlined portion that has the mistake.

(E.g.)

1. I think there **are any** resources **that** we have left **untapped**.

a) are b) any   c) that   d) untapped

The student has to select (B) as answer to the question.

The word 'any' in this sentence is incorrect because 'any' is usually used in a negative or interrogative sentence. This is one is an affirmative sentence.

Written tests:

1. Short – Answer Tests

Short – answer type test is a kind of test in which the student has to answer a question in a few sentences. In language testing, short – answer questions are set for testing the reading comprehension of students. Short – answer type tests are specific. But at the same time, they require the students to write or express their own answers with their own ideas.

2. Paragraph tests

In paragraph tests, students explain their answers in a paragraph about a specific idea, concept or theme.

Example:

➢ What is descriptive grammar?

➢ Distinguish between structural words and content words.

➢ What is an oral approach? Give an example.

3. Essay tests

Essay-type tests are the most common tests in our schools. This type of question is very useful to test the power of expression of the students. They also test the student's originality, and also test whether he has ability to organize his material and to present in his own words and style.

Teacher made achievement test

Construction of a good test

Tests serve the purpose of improving learning. The teacher-made achievement test is improving learning. The teacher-made achievement test is constructed to assess the student's achievement in a particular unit / content in a subject.

Steps in planning and constructing a test

Test construction requires a systematic and organized planning. The following are the steps in planning a test.

1. Listing the major objectives

   (reading comprehension, writing skill, grammar)

2. Defining each objective

   (objectives for testing reading, objectives for testing writing, objectives for testing grammar)

3. Writing a table of specifications / Blue print

4. Constructing the test items

5. Arranging the test items

6. Writing clear directions

7. Constructing the answer keys

8. Discussing the test items
9. Making necessary notifications
10. Administering the test
11. Doing item- analysis

Marking scheme and scoring key

The marking scheme provides general guidelines to reduce subjectivity and increase objectivity while the answers of the students are evaluated. The marking scheme also provides uniformity in awarding marks to the answers in the test papers if students. The marking scheme provides instructions on the method of awarding marks to the answers of the students.

Item analysis:

Item analysis in test construction is a process by which we can determine:

➢ The difficulty level of an item and

➢ The discriminating power of the item.

Item analysis is done to improve the efficiency, reliability and validity of test items in a scientific manner.

The difficulty level of an item:

The item difficulty indicates whether an item is too easy and too difficult for students to answer.

The formula for item difficulty is:

D = $\underline{\quad R \quad}$ x 100

N

Where,

D = the difficulty index

R = the number of high- scoring (the top 27% of the students) and low-scoring students (the bottom 27% of the students) who choose the correct response.

N = the total number of students in both groups.

The discriminating power of an item indicates whether an item indicates whether an item differentiates between the high-scorers and the low- scorers. The formula for item discrimination is:

D = <u>R1-R2</u> X 100

    N

Where,

R1 -the number of right response given by the high-scoring students (the top 27%)

R2 -the number of right responses given by the low scoring students (the bottom 27%)

N - Number of students in each group.

Conclusion

Thus, this unit deals with testing and evaluation in English, by elaborating its significance and evaluation pattern in English.

Questions for Discussion and Evaluation

1. Debate on the pros and cons of existing examination and evaluation system.
2. Discuss the various types of test in English.
3. Draw a blue-print of IX Standard.

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TAMIL NADU TEACHERS EDUCATION UNIVERSITY

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Course Material for B.Ed (First Year)

(2016-2017)

Course 7a: Pedagogy of Geography (Part –I Methodology)

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UNIT – I: AIMS AND OBJECTIVES OF TEACHING GEOGRAPHY

Objectives

After the completion of the unit, the learners will be able to:

1. understand the meaning, nature and scope of teaching geography
2. develop an understanding of the aims of teaching geography.
3. develop an understanding of the objectives of teaching geography
4. develop an understanding of the need and significance of   teaching geography in schools
5. understand the values of teaching geography in schools.

GEOGRAPHY: MEANING, NATURE AND SCOPE

Geography is the study of the earth and its lands, features, inhabitants and phenomena. A literal translation would be "to describe or write about the Earth". The first person to use the word "geography" was Eratothenes (276-194 **.**B.C**.**). According to Macnee, "Geography is the study of earth as the home or in other words, Geography is the study of environment of man, physical and social, particularly with relation to human activities." Geography has been derived from the words, 'geo' and 'graphy'. 'Geo' means earth and 'graphy' means 'study' or 'description'.

These days geography is considered as a part of the composite science of Human Society. Its purpose is to study the structure and behavior of human society. Therefore, it is one of the social sciences. Though all the social sciences have common purpose i.e. the study of man, yet each presents unique point of view and each has evolved its own technique of studying human affairs and solving social problems.

Geography has also gone from different changes from time to time means that we have to understand the development journey of Geography to understand this form of Geography and Geography too divided this development journey in three parts.

1. Geography in Ancient Age
2. Geography in Middle Age
3. Geography in Modern Age.

Geography in the beginning did not have a very wide scope. It was limited in subject matter. Man, in fact, is a creature of nature which undergoes change constantly. It is the change which is the fundamental of the development & processes .Geography has also been a progressive & changing as well as dynamic subject. Now the scope of the subject of study of geography has widered and it has become very important. Every day we make use of the

knowledge of this subject. Geography as a discipline can be split broadly into two main subsidiary filds: the human geography and the physical geography. The furies largely focus on the built environment how humans create, view, manage, & influence space. The latter examines the natural environment, and how organisms, climate, sail, water and land focus produce & interact.

Geography Meaning

Geography is the branch of knowledge that studies the lands, the features, the inhabitants and the phenomena of the Earth. The first person to use the word geography was Eratosthenes and literally means "writing about the Earth". The word can be divided into two parts- geo and graphy. Geo means the earth & graphy refers to writing. Today Geography means much more than writing about the earth but its difficult discipline to define geography is a fascinating subject. It reveals all the wonderful changes and activities that have been going on in the world since the beginning of time. Geography draws from across the physical, cultural, economic & political spheres to the local and the global. Through Geography we learn to appreciate the diversity of landscapes, peoples & cultures, Geography is therefore a vital subject resource for 21st century global citizens, enabling us to face questions of what it means to like sustainably in an interdependent world.

Concept of Geography

Geography has had a very chewuered course of development .It passed through different phases of rise & fall and at every new stage the concept of geography underwent a change.The environment of geographical thought and concept took place during the age of discoveries and explorations.The ancient Egyptians,Babylonians,Phoenicinas,Greeks and Romans made valuable contributions to geographical concepts during the sixteenth ,seventeenth and eighteenth centuries.More and more geographical concepts developed as geography gradually emerged from a descriptive approach of the classical ties to analytical approach of the present time. Recent years have witnessed the greatest innovations in the various fields of geography due to its new concepts and techniques & rediscovering phenomena from a scientific and new approach. The most widely recognized concept of scientific geography treats the world as essentials an abode of man and solving national and international problems. The perspective of the present day geography is as wide as the earth as large as life itself. The human aspect of geography has been lately recognized because of the great revolution in educational psychology.

Today we are more concerned with the needs & interests of the child has to live in a world of diverse things and events where various human communities are settled .Hence for school purposes we shall define geography as "the study of the people of the world."

Modern geography is now considered to be a separate science requiring a detailed study of the territories of the world. Its instrument of study is the map like any other science it follows a scientific course. The geographers of today are now increasingly concern with understanding process, patterns and structure, and examining geographical data by techniques commonly used in other school disciplines. The integration of natural environments and their expressing on the landscape is the field of geographical studies.

Modern geography is defined as a "Unifying science the raw material it deals with is derived largely for other sciences and studies, it deals with the material in its own way seeking and discovering the interrelation of phenomena and the integration between man & the phenomena. This concept of applied geography is of great significance in developing universal brotherhood and offers scope for geographical techniques of survey, analysis & synthesis for the solution of practical problems in the modern times of planned development. The introduction of statistical techniques has proved very useful for carrying out researchers in physical, economic, human and regional geography. The land use survey is a technique adopted by geographers for study of agriculture regions to bring about an improvement of the social services and understanding the processes of economic, regional & social development. Essentially geography was a study of mankind. Today geography can be defined as "geography is a science of man on the earth studying the action and interaction between man & nature.

Definitions of Geography

James Fairgrieve- "Geography is the science of relationship between physical inorganic factors and principles and of organic factors."

PrestonJames-"Geography deals with the association of phenomena that gives character to particular places & with the likeness and differences among places".

Cholley has expressed his view "The object of geography is known the earth."

"The character of a particular region cannot be exploire in terms of individual categories of phenomena such as natural, social, Biological arranged in series, but in term of combinations produced among them, because it is these combinations which create the different physical & human aspects which the surface of the earth reveals to us." "It is astonishing variety of

aspects which this covers reveals to us, oceans continents and overlying that all the diversity of vegetational landscapes of systems of culture, forces of settlement and the organization of are of the human group."

Scope of Geography

Geography today covers a vast field and comprises many branches of scholarship in its fold. Like the bee it sucks honey from every flower.It subject matter consequently lends to end barrows interest from both scientist and student of social sciences, as it and includes physical sciences like physics, chemistry mathematics, and astronomy on the one hand and Natural and humanistic studies like any other science drives its raw material from other science sand it employs the derived raw material from its own angle and its own manner. Geography has its own unit of study the regions of the world .Each unit through interlinked has its own peculiarities. The Geographer studies each region and tries to put forward geographical explanation for its conditions and vice versa. Geography thus takes a very wide outlook and tries to interpret the action and integration of all physical factors in relation to the intricate problems of the life of man on the surface of the earth. The scope of geography has become so vast and complex that a need has arisen for specialization. As a result, the subject matter has broken up into a number of branches as shown below:

Physiography:

This branch studies relief,soil,and structure of the earth. It is the source for the other branches and is,therefore,the most important branch of geography as the whole superstructure of the discipline of geography is built upon it.Its spilt up into a number of sub branches making the subject-matter of geography most comprehensive but at the same time immensely interesting. Some of its important branches are geomorphology, glaciology, seismology, hydrology, climatology, pedology, biogeography, medical geopgraphy, and palaeogeography. Geomorphology studies the earth structure comprising various types of rocks, mountains and their evolution and it receives inspiration and guidance from the works of geologist.

Economic Geography

This concerns the production and distribution of the raw materials in the country. The internal, external and international trades come within its domain. The study also includes the impact of constructional investment on the socio-economic life of the people. The problems of movement of labour and industrial locations are tackled both by geographers and economists. The location and distribution of mine-based raw materials and agricultural-based

industries are also some of the subject of study of the geography of powers which is the basis of all industrial developments. The study of geography of agriculture and livestock is another branch of economic geography. Soil erosion is the greatest single evil to agriculture and animal husbandry. The agricultural practices are usually dependent of the working of livestock which suffer from under starvation due to scarcity of adequate fodder resources. This is another problem which attracts the attention of both geographers and the agriculturists.

Human Geography

The subject covers the evolution of mankind, its different races, their distribution and man's adaption to environments. It is an established fact that no man's life today it tioed up completely to his immediate surroundings and that human life is to be treated as a partial adaption to the geographical. The influence of environments on the mode of life is a subject in which geographers are as much interested as the anthropologists. The geography of population studies the various causes of regional variations in population distribution. Settlement geography deals with the size form and functions of settlement built up by the man & analyses their historic growth. The study of urban geography there is less of the theory of environment determinism. It is widely accepted today that it is not the physic-biological environments alone that determine man's ability to make the best use of the natural resources around him but the philosophy of life and technical skill that he has acquired are the main determining factors.

Political Geography:

This branch deals with the government of state and countries Geography had its birth in the research of finding out the relations between man, his physical environments and the state to which the individual belonged. This gave birth to political geography in Greece, Great Britain, USA and Germany. It is the least developed branch of geography, though there is more than ample scope to expand its horizons.

Cartography:

The term is applied to the conception, the design and the execution of maps of the art of drawing maps and charts. This branch is responsible for geodetic and topographic surveys and preparation of map[s on certain selected scale. Even though a geographer has no monopoly on cartography, it is important that every geographer should have a working knowledge of cartographic presentation, not only to read maps but also to make them.

Urban Geography:

Urban geography brings clear focus to the concepts of location, interaction and accessibility as well as distribution and movements of population. It deals with land use patterns and classifications of cities according to their function. Basic and non-basic urban employments are described in the urban geography .Level of hierarchy of towns, functions of the towns, land use pattern and structure of the towns, functions of the towns, land use pattern and structure of the towns are explained with reference to the models. Socioeconomic composition, age structure, sex structure, journey to work movements, modes of travel and housing sites of the urban are dealt with.

Anthropogeography:

The study of the distribution of human communities on the earth in relation to their geographical environment is Anthropogeography; it thus bears the same relation to anthropology as biography does to biology, and zoogeography does to zoology.

Agricultural Geography:

Agricultural Geography helps a geographer to understand how particular kinds farms and farming systems have developed in particular areas and how they are similar to or different from the farms and farming systems of other areas. Further, it enables him to understand different kinds of agriculture are distributed over the earth and how they function in this spatial arrangement.

AIMS AND OBJECTIVES OF TEACHING GEOGRAPHY IN SCHOOLS

(1) To acquaint the pupils with the living conditions of men in different parts of the globe.

(2) To enable the pupils to acquire a knowledge of natural resources.

(3) To develop in pupils an understanding of how environment and climatic factors have influenced our life.

(4) To help the pupils to acquire knowledge of their physical and social environment and thus to broaden their outlook.

(5) To develop in them an understanding of basic concepts, principles and theories relating to geographical phenomena.

(6) To train the pupils in nature study.

(7) To develop the power of thinking, reasoning, memory and power of imagination of pupils.

(8) To develop their ability to draw conclusions and to generalize.

(9) To develop a love for nation and to develop cosmopolitan and internationalist outlook.

(10) To develop the creative talents of pupils and to develop an attitude of discovery in them.

(11) To develop the skills of reading maps and globes, to develop drawing and measuring skills, and to develop the skill of using and manipulating geographical instruments.

(12) To enable the pupils to appreciate the natural beauty and other physical forces.

(13) To help the pupils to acquire economic efficiency and lead a successful life.

(14) To adjust human life in accordance with geographical circumstances.

(15) To develop scientific attitude and to develop the ability to draw valid conclusions and independent thinking.

In fact, Geography today is a combination of art and science. Its scope and study is broad and comprehensive. Geography has well established itself as a science.

NEED AND SIGNIFICANCE OF TEACHING GEOGRAPHY

Any topic in geography helps in realizing some general aim of teaching geography. The characteristics of a good objective are as under:

(i)   It should be specific and precise.
(ii)   It should be attainable.

Bloom's taxonomy of objectives is a classification of instructional objectives in a hierarchy. According to it the specific objectives have been classified into the following three categories:

(i) Cognitive domain objectives.

(ii) Affective domain objectives.

(iii) Psychomotor domain objectives.

The cognitive domain objectives include knowledge, understandings, applications, analysis, synthesis and evaluation. The effective domain objectives include the appreciations, values, attitudes, interests and feelings. The psychomotor domain objectives include skills.

Intellectual Development

The basic objective of education is to bring about an all round development of the personality of the child. All round development includes the intellectual development. A proper intellectual development is a must for any proper cultural consciousness. To earn a livelihood is not the sole objective of life. One needs leisure after earning his livelihood and one should be able to spend one's leisure time properly and usefully. This leisure time should be used for intellectual and spiritual development for a balanced growth of human race. It is only through the intellectual development that we can distinguish between good and bad. This power of distinguishing between good and bad is essential to become a successful member of society.

Knowledge of the world and the broadening outlook

Geography teaching provides to the pupil knowledge of the different people of the world and the contributions made by them for the development of world culture. Such knowledge broadens our outlook and brings about the development of world brotherhood and world citizenship. Through the knowledge of geography the pupil realizes the interdependence of mankind. He also becomes familiar with the differences in the physical character of the people and understands that such differences are due to variations in physical environments, thus we find that development of the international outlook is one of the aims and objectives of teaching of geography.

Development of quality of generosity and sympathetic outlook

From the knowledge of geography a pupil realizes the interdependence of mankind and develops a sympathetic attitude when he observes a similarity of needs all over the world. Such an attitude helps them to grow not only as good citizens but as good world citizens. This type of feeling if developed will boost the idea of world democracy and will help world peace for all times to come.

Quality of adjustment with environment

Since in geography a student is taught about people of different lands, their culture, their mode of living etc. This knowledge develops in the student the quality to mould and

change himself in accordance with the circumstances and he acquires the quality of adjusting with the environment. This type of adjustment is useful for his future life.

Economic Efficiency

From the study of the geographical conditions of various lands the student comes to realize that it is not possible to maintain the same standards of comforts all over the world. Geography lays down the foundation for economic, social and political problems. The advancement of a country is measured by the services it renders to other nations. The knowledge of geography helps the pupil to render any such service and to earn his livelihood. Thus geography makes a student self-sufficient.

Development of power of reasoning, invention and discovery

Like any other subject the study of geography develops in the pupil certain mental faculties. The pupils have to reason out many things on the basis of data provided. This develops in the pupils the power of reasoning. In the process of learning geography students many a times come across various secrets of nature which helps them to acquire an outlook of inventions and discoveries. It fits well with the aim of geography teaching which requires development of imagination power. Geography being a science oriented subject an effort is also made to find a cause and effect relationship which helps to develop the power of reasoning in the student.

Development of Balanced personality

The knowledge of physical factors and environment that a student acquires from study of Geography helps him to develop his personality and this allows the individual to grow properly. In this way a pupil can acquire a balanced personality by making proper use of his knowledge of geography.

Love for nature, travels and knowledge about other countries

Geography broadens the mind and stimulates imagination with the information it provides. It encourages travel. The knowledge gained by such travels helps the pupil in meeting many a problems of everyday life. A student of geography can appreciate the beauty of nature better and thus geography develops in the student a love for nature. When a student of geography is taught about the beauties of nature, such as snow clad mountains, green forests and the animal wealth, he is bound to be attached towards nature.

This attachment towards nature might cultivate in him a sense of responsibility for the care and protection of nature and its beauty. The study of landscape may become a good

pastime with him. A student of geography when told about other countries and their culture gets inspired to take a travel and to know more about those countries. Culture is the sympathetic appreciation of the universal truth expressed in art, literature, philosophy, science and religion. It sharpens man's instinct to know the unknown, to see the unseen and to fathom the unfathomed.

Acquisition of knowledge of Natural Resources

It is the primary duty of a geography teacher to contribute his mite towards the realization of primary aim of education by taking such measures which may ensure sound factual knowledge, a clear understanding of factual relationship and a keen development of intellectual powers. Students of today shall be citizens of tomorrow and the knowledge of natural resources and economic conditions gained by him by study of geography will help him to play his part effectively in administration and economic development of his country.

Development of International Understanding

Development of international understanding is one of the important aims of teaching of geography. In one of its publications UNESCO suggests, "Geography demonstrates that throughout the ages none has been able to boast that he can exist". The interdependence of man and nature has increased enormously. From one's study of different people of the world one knows that all nations, large and small, depend upon each other economically, culturally and socially. Such interdependence imposes certain duties on each man and on each nation. It is the duty of the geography teacher to point out to international pacts and international organizations which are busy in solving complex problems of economic interdependence and international solidarity.

Knowledge of geography helps to bridge the gap and help in avoiding conflict by bringing about international understanding. This very fact has been corroborated in Norwood report, "curriculum and examinations in secondary schools". In this report it has been emphasized that, "no one can realize more vividly than the trained geographer that the regions of the world are interdependent and no one can base the approach to world harmony on sounder foundations".

Knowledge about influences of geographical factors on man

The knowledge about influences of various geographical factors on man is another important aim of study of geography. From his knowledge of geography a student can better

understand the influence of various geographical factors on man. For example the Tundra residents are meat eaters because of the compulsions of various geographical factors.

Help Development of Human Civilization

Civilization and culture of an area are influenced by various geographical factors. We know that many a civilizations came into existence and many a civilization vanished because of geographical factors. To make a study of such factors is an important aim of the study of geography. Such knowledge can be used by an individual to compare himself and his circumstances with other individuals and their circumstances. Such a comparison is useful in making a proper assessment of one's owns elf and that of one's own motherland. This assessment will help the individual in proper discharge of his duties towards others.

Development of a Nation

The knowledge of geography makes an important contribution towards the development of a country. When each country depends on others the study of geography becomes essential. In order to create a desire in a child to serve willingly his country and his fellowmen the teachers should make them understand thoroughly the geography of their country. The pupil is allowed to feel the political, social and racial ties of his country from the study of books, direct observations and experiences and let the child develop a constructive attitude to all that concerns his country. The teacher should impart him such lessons which arouse his interest in his surroundings.

VALUES OF TEACHING GEOGRAPHY

In the words of Fairgrieve "The real value of geography lies in the fact it helps man to place himself in the world to leran his true position & duties". Knowledge of geography is quite handy to prepare the students to face various problems of life. If a student is familiar with the natural conditions of a country, its climate, vegetation, natural resources, mineral wealth etc than it because easier for him to plan his future. Such knowledge can be of much help to an individual in developing social, political & economic relationships with the other countries. Thus we find that the knowledge of geography has a practical utility.

Cultural and Intellectual Values of Geography

Knowledge of geography helps us in acquiring the knowledge about cultural and intellectual life of a particular country and in this way it becomes easier to carry out a propos

study of the cultural life of whole world. The knowledge of geography also helps a student in developing his power of imagination and also encourages him to find out cause and effect of various phenomenons. When a student of geography learns about the mountains, rivers, forest etc. Then a image of all these things is focused before him. Whenever the actually comes across any of the country Geographical factors also influence the intellectual life of a country so we can say that geography has an intellectual importance.

Cultural Values

- develops a feeling of patriotism.
- develops love for nature and capacity to understand & appreciate the natural beauty, physical forces and such other things
- develops the ideal of world citizenship universal brotherhood; co-opertion and sympathetic outlook for others
- develops cultural values in the light of values of land and the man.
- develops the adjustment of human life according to the geographical circumstances

Intellectual Values

- develops the cultural consciousness
- develops the understanding of carring livelihood.
- develops the understanding of use of leisure twice in proper manner.
- develops the power of observation.
- develops the power of thinking, resoning, memory & power of imagination.
- develop their ability to draw conclusion and to generalise.
- develops the creative talents of pupils and to develop an attitude of discovery in them.
- develops the skills of reading map & globes, to develop drawing & measuring skills and to develop the skills of using & manipulating geographical instrument.
- develops scientific attitude and to develop the ability to draw valid conclusion & interdependent thinking.

Social or Citizenship Values:

- Geography offer many possibilities for developing sympathy for the lives and problems of others people. Really it develops in the pupils a social sympathy feeling of relationship to others.

- Geography teaching enables the child to leave his self-centered isolation and to realize that there is a bigger human world beyond his narrow circle of lining and that he is a member of this world.

- Geography helps pupils appraise their real worth. Every person, no matter what type of intelligence he possesses has a place in the society. It is good for the society to keep persons of different skills and calibers. The geography should help pupil to discover their latent qualities and to take pride in their talent.

- To develop a constitive attitude towards all that corners his country.

- To create a requisite of creating love for once country is to make him know it thoroughly.By laying honestly before the pupils intrest,aspirations and tradition of this country.

- To develop and understanding of necessitates lining on a basis of international co-operation and understanding.

- To impart knowledge of geography for solution of the economic,social and poltical problem which helps to bridge the gap and helps in avoiding conflict by bringing about international understanding

Questions for Discussion and Reflection

1. Describe the nature and scope of teaching geography.
2. Brief the aims of teaching geography in schools.
3. Explain the objectives of teaching geography in schools.
4. Discuss the significance of teaching geography in schools.
5. Describe the values of teaching geography in schools.
6.

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UNIT – II PLANNING FOR INSTRUCTION

Objectives

After the completion of the unit, the learners will be able to:

1. explain the steps involved in the lesson plan.
2. design a unit plan for Geography.
3. formulate instructional objectives based on the domains.
4. construct test items for formative evaluation.
5. discuss the different types of test items.

INTRODUCTION

Planning means making decisions about what information to present, how to present the information, and how to communicate realistic expectations to students. If all students in a class were at the same instructional level and if the goals and objectives of schooling were clearly prescribed and the same for all students, then instruction would consist of doing the same things with all students, in the right order, at the right time. But all students are not alike, and the goals and objectives of instruction are not the same for all students. This is why planning is such an important part of instruction.

STEPS IN PLANNING A LESSON

A lesson plan is the instructor's road map of what students need to learn and how it will be done effectively during the class time. Before planning the lesson, it is needed to identify the learning objectives and then design appropriate learning activities and develop strategies to obtain feedback on student learning. The following point helps in planning a lesson.

Herbartian formal steps for lesson planning are as follows

1. Preparation
2. Presentation
3. Association and comparison,
4. Generalization
5. Application
6. Recapitulation

Preparation

In this state simply a ground is prepared. Student is made ready to learn something new. Nothing new is total to the child. Child's previous knowledge is tested in such a way that interest may stimulate for learning something new in the mind of the child. This should be done by linking their previous knowledge with the new learning material.

(ii) Presentation

Before coming to the second step, aims of the lesson are made clear to the students. The methods and techniques employed are related to the subject matter. Material is presented to the students in an orderly manner with suitable examples, taking in account the understanding power of the child. Proper question answer technique is employed to develop the subject matter with mutual participation of the teacher and taught. Proper illustrations and aids are used according to the needs.

(iv) Association

In this step new ideas and knowledge is compared with the known similar facts to arrive at proper generalization, to establish principle or to derive definition. It is the most important step in the process of lesson planning.

(iv)Generalization

In this step by considering the above generalized facts, principles and definitions with the help of association and compression, students themselves draw out the conclusions in this step, if sometimes students are unable to have proper conclusion and generalization of the learning material, teacher should help to correct the result.

(v)Application

After establishing new formula or principle, practical implication of the material are given to the students, related to their everyday life, to have actual verification of the derived formula or principle. This helps to make the learnt material more clear and understandable.

(vi) Recapitulation

In this step assessment of teaching and learning material is done. By putting objective type questions to the students at the end of teaching. If need arise corrections are made. Finally home work is assigned to the students related to the subject matter taught.

SETTING LESSON GOALS

1. Subject matter in the lesson plan should be according to the time for teaching at the disposal of the teacher

2. Provision of homework related to the subject matter taught should be there.

3. It should provide maximum participation of the child in the teaching and learning process.

4. In the lesson plan there should be proper provision of the teaching aids and good illustrations.

5. In the lesson plan there should be proper provision of recapitulation to have view of evaluation of the subject matter taught to the students.

6. In the lesson plan there should be provision of summary of whole subject matter.

7. Lesson plan should be child centered.

8. Example quoted to teach and explain the subject matter should be related to the everyday life of the child

9. Method, procedure and techniques applied for teaching should be according to the age and the mental level of the students.

10. Subject matter arranged in the lesson plan should be related to the previous knowledge of the child.

11. Selection and organization of the subject matter should be to the point and systematics.

12. It should be written clearly and vividly.

DESIGNING A UNIT PLAN

Different meaning has been assigned to the term unit. They are 1. The lesson of the day 2. As a Chapter in a text book etc. Syllabus contains many topics/ units such as Mensuration, Algebra, Triangles trigonometry, Statistics etc.

Definitions of Unit Plan

According to Morrison, H.C. – "A Unit is a comprehensive and significant aspect of the environment of an organized science and art".

According to Preston – "A Unit is as large a block of elated subjects' matters as can be overviewed by the learner."

According to wisely – " The unit is an organized body of information and experience designed to effect significant outcome for the learner"

Unit Planning

A unit plan involves planning a teaching a unit, teaching methods,evaluation of teaching activities, diagnosing and remedial steps all together is called unit planning.

DESIGNING A LESSON PLAN

Planning of a lesson is an important equipment of a teacher in a school or in a college. A lesson plan is strictly individual; it is indeed the creation of the teacher who plans out lesson plan. A plan is a work or is involving much imagination and study. The plan is an unfolding of the teacher's soul; it contains the life-blood of the teacher. Lesson plan is a kind of discipline, which has to be learnt in the training college.

R.L. Stevenson sates the importance of lesson plan as, "To every teacher I would say,

S.NO	Sub Division of content	No. of Period required	Teaching Method	Resource Materials	Evaluation

always plan out your lesson beforehand but do not be slave to it"

Ryburn also said, "To Teach we must use experience already gained as starting point of work". Hence the lesson plan reflects the intelligence, ability, capacity, resourcefulness and personality of the teacher. Lesson planning provides awareness to the structure and content with which teacher is involved in the direction to achieve the objectives.

BLOOM'S TAXONOMY OF EDUCATIONAL OBJECTIVES

Benjamin bloom, has been extremely influential in clarifying and organizing educational thought regarding the classification of objectives, his original work being carried out during the 1950's. Bloom and his co-workers contended that objectives are attainable in three distinct areas, or domains, to which they assigned suitably impressive jargon names: the cognitive domain, affective domain and psychomotor domain.

The cognitive domain

This contains objectives which are related to the acquisition and application of knowledge and understanding, and probably includes the great majority of educational and training objectives. An example of such an objective might be: "The student should be able to calculate all the dimensions of a triangle given the lengths of two sides and the size of the angle between them". Bloom and his co-workers also divided the cognitive domain into six distinct levels, each level building on those below and representing a progressively higher level of cognitive activity. Their hierarchy of the cognitive domain is as follows.

Level 6: Evaluation: Making judgments/critical comparisons on the basis of agreed Criteria.

Level 5: Synthesis: Bringing elements together to form a new, coherent whole.

Level 4: Analysis: Breaking a system down into its constituent elements.

Level 3: Application: Applying procedures/systems/rules in specific situations.

Level 2: Comprehension: Understanding and interpreting information

Level 1: Knowledge : Recalling information

The affective domain

This contains objectives that are concerned with attitudes and feelings which are brought about as a result of some educational or training process. An example of such objectives might be:"The trainees' lecturer should exercise empathy when counselling students".The affective domain was also divided into a number of distinct, hierarchical levels; this work was carried out by Bloom.

Level 5: Characterization: integrating one's beliefs, ideas and attitudes into a total, all-embracing philosophy.

Level 4: Organization: Making adjustments or decisions from among several alternatives.

Level 3: Valuing: Committing oneself to taking up an attitudinal position.

Level 2: Responding: Showing active interest in something.

Level 1: Receiving: Developing an awareness of something.

The Psychomotor domain

This contains objectives that deal with the development of manipulative or physical skills-things like measuring setting up and using equipment, using tools, drawing graphs, and so on. An example of such an objective might be: "The student should be able to assemble and use the distillation apparatus provided".

Level 4: Speech behavior: sound production and projections sound/gesture coordination

Level 3: Non-Verbal Communication: Facial expressions gestures, bodily movements.

Level 2: Finely-Coordinated Movement: Movements of hand and fingers, hand and eye, eye and foot, etc.

Level 1: Gross body Movements: Movements of arms, shoulders, trunk, feet and legs

Format of an Objective-based Lesson Plan

The following format may be used to prepare an objective-based lesson plan.

Objective-based Lesson Plan format

Name of the Student-teacher :   subject :   Date :

Class /Section and Section   :   Unit   :

Name of the school   :   Topic   :

Instructional Objectives : The student -teacher
1. Acquires knowledge of
    a. Understands
2. Applies the scientific knowledge
3. Develops skills
4. Develops interest
5. Develops attitude
6. Appreciates
A. Specifications : the student
    1. Recalls
    2. Recognizes
    3. Differentiates
    4. Cites example
    5. Enjoys
B. Instructional Resources

Required   :

Previous Knowledge of Learners:

Content/Concept	Specification of Behavioural Objectives	Learning Experiences (Teacher/Learner activities)	Evaluation

Follow up Activities(if any):

Signature of the Guide   Signature of the Student-Teacher

MODEL LESSON PLAN – GEOGRAPHY

Name of the School: Student Teacher Name:

Standard   :

                            Guide Teacher   Name:

Unit   : Soils

Date   :

Topic   : Major Soil Types of India

Duration   : 45 Minutes

INSTRUCTIONAL OBJECTIVES   :   THE STUDENT

1. Defines the soil profile

2. Classifies the soils.

3. Explains the agencies in India

4. Analyses major soil types of India.

INSTRUCTIONAL RESOURCES REQUIRED

1. Map showing major soil types of India.

2. Chart showing soil profile.

3. Soils samples.

4. Map.

PREVIOUS KNOWLEDGE OF LEARNERS

Have ever plant the tree? How it is firmly fix?

Content	Specification of behavioural outcomes	Learning Experiences	Evaluation
Soils consist of three layers which are called horizons.	Defines	The teacher defines with the help of chart.	Define soil profile.

Horizons are named as A, B and C from top to bottom. Each horizon contains mineral matters and nutrients. This arrangement of layers known as the soil profile.		Students draw the soil profile in the notebook.	
Soils are classified on the basis of texture and colour. Bases on the texture, main soil types are sandy, clayey, slity and loam. On the basis of colour, they are red, yellow and black.	Classifies	The teacher classifies the soil with the help of samples. Students access the soil samples.	Classify the soil types.
The agencies like Soil Survey of India and Indian Council of Agricultural Research (ICAR) has classified the Indian Soils on the basis of nature, colour and location.	Explains	The teacher explains the role of Soil Survey of India and ICAR. The students abbreviate ICAR.	Write the expansion of ICAR.
The soils of India have been classified into eight types. They are, 1. Alluvial soils, 2. Black soils, 3. Red and yellow	Classifies	The teacher shows the map of major soil type of India and explains. The students locate	Locate the black soil area in map.

soils, 4. Laterite sols 5. Arid soils, 6.Saline soils, 7.Peaty soils and 8. Forest soils.		the soils types in map.	

FOLLOW UP ACTIVITIES

1. Draw a map showing major soil types of India in a chart.

Signature of the Guide

Signature of Student

TYPES OF TEST – ITEMS

1. Multiple-Choice Tests
2. True-False Tests
3. Matching Tests
4. Essay Tests
5. Short-Answer Tests
6. Problem sets
7. Oral exams

Multiple-Choice Tests:

Multiple-choice items can be used to measure both simple knowledge and complex concepts. Since multiple-choice questions the students can give the answer very quickly and correct. Use of this items when the student gave the correct answer a question that student have clear idea about the question. In addition, the items can be easily and reliably scored. However, good multiple-choice questions are difficult to write.

True-false Tests

True-false tests are less reliable than other types of exams. However, these items are appropriate for occasional use. Some faculty who use true-false questions add an "explain" column in which students write one or two sentences justifying their response.

Matching Tests

The matching format is an effective way to test students' recognition of the relationships between words and definitions, events and dates, categories and examples, and so on.

Essay Tests

Essay tests or assignments enable you to judge students' abilities to recognize, interpret material, and express themselves in their own words. Research indicate that students study more efficiently for essay-type examinations than for selection tests: students preparing for essay tests focus on broad issues, general concepts, and interrelationships rather than on specifics details and this studying results in somewhat better student performance regardless of the type of exam they are given(McKeachie,1986)

Essay also given you an opportunity to comment on students' progress, the quality of their thinking, the depth of their understanding, and the difficulties they may be having. However, because essay tests pose only a few questions, their content validity may be low. In addition, the reliability of essay tests is compromised by subjectivity or inconsistencies in grading.

Short-Answer Tests:

Depending on your objectives, short-answer questions can call for one two sentences or a long paragraph. Short-answer tests are easier to write, though they take longer to score, than multiple-choice tests.They also give you some opportunity to see how well students can express their thoughts, thought they are not as useful as longer essay responses for this purpose.

Problem sets

In courses in geography and the sciences, your tests can include problem sets. As a rule of thumb, allow students ten minutes to solve a problem you can do in two minutes.

Oral Exams

Oral exams are sometimes used for undergraduates in foreign language classes. In other classes they are usually seen as too time- consuming, too anxiety provoking for students, and too difficult to score unless the instructor tape-records the answers.

CONSTRUCTING TEST-ITEMS FOR FORMATIVE EVALUATION IN CLASS

General steps

1. Identify and define the learning outcomes to be measured
2. Prepare test specifications
3. Construct relevant test items

4. Review and edit the items

5. Arrange the items in the test

6. Prepare directions

Step 1: Identify and define learning objectives

1. State the general objectives.

2. Develop 5 to 15 general objectives.

3. Begin each general objective with one of the six cognitive domain headings of Bloom's Taxonomy

4. State the specific objectives.

5. For each G.O., develop 3-5 specific objectives.

6. Begin each S.O with an action verb.

Step 2: Preparing Test specifications

1. Select the specific outcomes to be tested

2. Outline the subject matter by listing topic and subtopic areas in the lesson plan

3. Make a two-way table of specifications

Step 3: Construct Relevant Test Items and Consider:

1. Selecting the type of test items to use

2. Selecting type items (e.g, multiple choice, true-false, matching, interpretive exercises)

3. Supply type items(e.g, short answer, essay(restricted response), essay (extended response)

4. Matching items to Specific Objectives

5. For each S.O., write one or more related items, Parts of an Item:

   i. Stem-the question or incomplete sentence.

  ii. Alternatives-the choices

 iii. Distractors-the incorrect choices

Step 4: Review and edit the items

1. Does each test item measure an important learning-outcome included in the table of specifications?

2. Is each item type appropriate for the particular learning outcome to be measured?

3. Does each item present a clearly formulated task?

4. Is the item stated in simple, clear language?

5. Is the item free from extraneous clues?

6. Is the difficulty of the item appropriate for the students to be tested?

7. Is each test item independent and are the items, as a group, free from overlapping?

8. Do the items to be included in the test provide adequate coverage of the table of specifications?

Step 5: Arrange the items in the test

1. The items should be arranged so that all items of the same type are grouped together.

2. The items should be arranged in order of increasing difficulty.

3. For some purposes, it may be desirable to group together items which measure the same learning outcomes or the same subject-matter content.

Step 6: Prepare directions

1. Purpose of the test.

2. Time allowed to complete the test.

3. How to record the answers.

4. Whether to guess when in doubt about the answer.

CONCLUSION

The planning aspects of teaching is so important that it alone can determine the failure or success of teacher. It is the planning of lessons that take into account the interaction between student and teacher that determines the success of the learning experience. Teachers who spend more time in preparation will spend less time in trying to keep their students on the learning track.

Questions for Discussion and Reflection

7. Explain Bloom's Taxonomy of Educational Objectives with suitable examples.

8. Prepare a model Lesson Plan for any one of the topic in 9th standard Geography Text book.

9. Briefly explain the significance of Lesson Plan in teaching Geography.

10. Critically analyse the structure and steps involved in the four fold Lesson Plan.

11. Explain the types of test-items and construct test-items for formative evaluation in class room environment.

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UNIT – III: PRACTICING THE TEACHING SKILLS IN GEOGRAPHY

Objectives:

After the completion of the unit, the learners will be able to:

1. To obtain knowledge on the meaning of teaching.
2. To understand the teaching skills.
3. To analyse the major steps in teaching a mini-lesson.
4. To explore, observe and feedback on integration of teaching steps in mini-teaching

INTRODUCTION

An educational institution performs a significant function of providing learning experiences to lead their students from the darkness of ignorance to the light of knowledge. The key personnel in the institutions who play an important role to bring about this transformation are teachers. As stated by NCTE (1998) in Quality Concerns in Secondary Teacher Education, ‑The teacher is the most important element in any educational program. It is the teacher who is mainly responsible for implementation of the educational process at any stage. This shows that it is imperative to invest in the preparation of teachers, so that the future of a nation is secure. The importance of competent teachers to the nation's school system can in no way be overemphasized.

MEANING OF TEACHING

Teaching includes all the activities of providing education to other. The person who provides education is called teacher. The teacher uses different method for giving best knowledge to his students. He tries his best to make understand students. His duty is to encourage students to learn the subjects. Teaching means interaction of teacher and students. They participate for their mutual benefits. Both have their own objective and target is to achieve them.

UNDERSTANDING MAJOR TEACHING SKILLS

Teaching skills would include providing training and practice in the different techniques, approaches and strategies that would help the teachers to plan and impart instruction, provide appropriate reinforcement and conduct effective assessment. It includes

effective classroom management skills, preparation and use of instructional materials and communication skills.

1. SKILL OF INTRODUCING

This is an important skill required for a teacher. Well begun is half done is a saying which indicates the importance of introducing a lesson. It is the duty of a teacher to bring the students into the classroom mentally. The skill is intended for making effectiveness in introducing of the content. This is always done at the start of a class. Here teacher gives a brief introduction about the lesson in order to pre-dispose the pupil's mind to it.

There are many ways to present an introduction. Here are a few:

1. Asking questions to get the students thinking about the topic of the lesson.

2. Showing pictures that relate to the lesson topic.

3. Telling a story to show the importance of the topic.

4. Bringing in real objects related to the lesson.

2. SKILL OF EXPLAINING

Teaching is not primarily telling. It's helping other people learn. That means the focus is on the learners, not the teacher. People learn best through experiencing something themselves, so when you are striving to teach something, you are constantly trying to Get into the shoes of the learners so that you can better understand where they are and what they need from you to learn the subject understudy. Explaining can be defined as an activity to bring about an understanding of a concept, principle etc. it is an activity to fill the gap in someone's understanding.

In classroom the teacher explains ideas and concepts. It is the most commonly used skill and is the essence of instruction. Explanation is a key skill. Generally, the skill of explanation is complex Explanation is to explain or to give understanding to another person. It leads from the known to the unknown, it bridges the gap between a person's knowledge or experience and new phenomena, and it may also aim to show the interdependence of phenomena in a general sable manner. It assists the learner to assimilate and accommodate new data or experience.

In a classroom, an explanation is a set of interrelated statements made by the teacher related to a phenomenon, an idea, etc. in order to bring about or increase understanding in the

pupils about it. The teacher should practice more and more of desirable behaviours like using explaining links using beginning and concluding statements and testing pupil understands behaviours like making irrelevant statements, lacking in continuity, using inappropriate vocabulary, lacking in fluency, and using vague words and phrases as far as possible.

A class is not homogeneous group. Some pupils are intelligent some have normal intelligence, some are mature and others are immature. But the teacher has to impart knowledge to all. To present the subject matter in the simplified form before the pupils and making it acquirable is called the skill of explanation. It is necessary in all the subjects. In its absence the presentation of the subject matter is not possible. In the skill of explanation, such words are used in the statements by which the statements exhibit the clarity of their meanings.

The explanation serves two purposes: (1) to introduce the subject by giving some background about its usefulness and application; and (2) to describe the subject in a simple, complete, and tantalizing way. The explanation should create a desire to become proficient in the subject under study

The components of skill of explaining involved

1. Clarity

2. Continuity

3. Relevance to content using beginning and concluding statements

4. Covering essential points

5. Simple

6. Relevant and interesting examples appropriate media

7. Use of inducts, deductive approach, it can be functional, causal or sequential

Characteristics of effective explanation

1. *Coordination in Statements*: Coordination in the statements used during the explanation is very essential; otherwise there will be all hotch- potch.

2. *Relevant Statements*: While presenting the subject matter, the concerned statements should be relevant.

3. *Fluency in Language:* The teacher should use fluent language so that the pupils may listen and understand his thoughts.

4. *Connecting Link:* The use of words, idioms or connecting links such as 'therefore' as a result of etc. is essential to link the different thought or statements.

5. *Clear Beginning Statement*: Before starting any explanation, the teacher should make the pupils aware of what he is to teach on that day through a clear beginning statement.

6. *Use of proper Words*: The teacher should use proper words for explaining an object or an event otherwise he would be in a state of confusion

3. SKILL OF QUESTIONING

Successful teaching highly dependent on questioning technique employed in the teaching sessions. Questioning is an important teaching skill that a teacher must learn. The teacher should learn to ask suitable, appropriate and meaningful questions. Questioning is definitely a skill. We can very easily answer a question but it is too difficult to ask a question.

A question is any sentence which has an interrogative form or function. In classroom settings, teacher questions are defined as instructional cues or stimuli that convey to students the content elements to be learned and directions for what they are to do and how they are to do it. Questioning promotes involvement, initiates thinking, creates motivation and enhances learning.

Effective questioning is a real compliment to the instructional skills. It shows the ability to understand the student's real needs. It shows that for meaning that's deeper than the spoken message. Effective questioning is a powerful, learned skill.

For students, questioning strategies help to categorize and anticipate exam questions, allowing for more effective preparation. The strategies are also useful for study groups, focusing efforts and allowing members to test each other. They improve the student's ability to clarify, reorganize, and accurately explain new information. Questioning also aids in self-assessment and self-monitoring.

Basis of Questioning skill

Questioning skills refer to one's ability to formulate and respond to questions about situations, objects, concepts, and ideas. Questions may derive from oneself or from other people.

There are two levels of questions:

1. **Low-level questions refer** to questions that require one to recall information that has been registered in memory. Low-level questions operate on the level of knowledge, drawing from one's knowledge base of a subject.
2. **The High-level questions** encompass questions that require one to process information rather than simply recall it. High-level questions operate on one's ability to comprehend, apply, analyze, synthesize, and evaluate information.

Questioning techniques

Good questions are essential to effective communication between: the teacher and the student: the teacher who lack the skill to effectively question their student create disinterest and boredom on the part of the student. They also ignore a fine opportunity to open communication lines for determining the effectiveness of the lesson. Good questions expand on central thoughts, develops the subject, and not on minor, nice-to-know points. Let us look at some rules for asking questions.

• Distribute questions at random. Do not always ask the same student or those sitting in a particular area. Ask questions of the entire class to promote thinking in all students and get them involved.

•Acknowledge all answers to ensure incorrect or vague answers are clarified.

•Don't use catch or trick questions. Students will not participate and you could possibly lose them if they feel humiliated.

•Allow enough time for the student to think about and give an answer. Do not waste time waiting if the student clearly does not know the answer, but do not cut the student off before ample time is given for the complete though process or answer period.

•Begin questions with the words that require thoughtful answers, such as, "Why, When, How, What," etc. Stay away from questions that can be answered with a simple yes or no. This will help stimulate and even guide students thinking.

•Avoid frequent group or choral responses. This method provides answers that are often unintelligible and errors that are hard to pick up.

•Do not waste time "pumping" a student. If the trainee does not know the answer, either offer an explanation or ask the question of another student.

4. SKILL OF VARYING THE STIMULUS

Varying the stimulus is described as a deliberate change in the behaviours of the teacher in order to sustain the attention of the learners throughout the lesson. The variation in the stimulus helps in avoiding monotony and in generating interest among the students which in turn makes learning effective.

Learning in the classroom depends, to a large extent, on the attention of the students on the learning task. It is therefore, essential for the teacher to secure and sustain student's attention for making his teaching effective. Continuous use of the same stimulus or activity for longer period induces inattention. The inattention is caused in two ways: one is continued focus of the students on the same stimulus for a long time restricts his postural mobility which leads to fatigue. Next is the continued use of the same stimulus for longer duration introduces the element of monotony, which brings in dullness. This will be further aggravated because of the short span of student's attention. Their attention tends to shift from one stimulus to another frequently. They find it difficult to attend to one stimulus for more than a few minutes. The problem of inattention is a challenge to the teacher, unless he is in a position to secure and sustain student's attention. It is therefore, essential for the teacher to secure and sustain student's attention towards the topic of the lesson.

One of the significant ways to secure and sustain students' attention is to introduce the elements of variation in teaching. The variation can be introduced in several ways depending upon the teaching activity. Appropriate variation in different dimensions can help a teacher to secure and sustain students' attention. The set of teacher behaviours that tend to secure and sustain student's attention in teaching learning situation in the classroom constitutes the skill of varying the stimulus.

Some of the components of varying the stimulus are as follows:

1. Movement
2. Gestures
3. Change in voice
4. Focusing
5. Change in interaction pattern
6. Pausing
7. Student's physical participation
8. Aural visual switching

5. NON – VERBAL CUES

Non-verbal communication has been defined as communication without words. They are usually made with the help of the movements of the eye, hand, head, body, and facial expressions. Facial expression will lead to encourage pupil to participate actively in learning situations. Positive non-verbal cues include smiling, nodding the head, a delighted laugh, patting on the shoulder, asking the students to clap. The students can be asked to clap their hands for correct answers given by a student.

Disapproval without suing words has the effect on negative reinforcement. Negative non-verbal cues include staring, looking angry, shaking the head, beating, caning, bruising, raising the eyebrows, tapping foot impatiently and walking around etc.

6. SKILL OF REINFORCEMENT

This skill is the most important one than other teaching skills. Reinforcement, the term implies the use of the technique for influencing behaviour of individuals in desired direction. The concept of reinforcement is based on the hedonistic principles, which envisages that all individuals tend to repeat the pleasant experiences and avoid unpleasant ones. The skill is being used to utilize good behaviours of the learners and to avoid the undesirable behaviours of the learners. The teacher would like the student's desirable behaviours and criterion responses to be retained and undesirable behaviours to be eliminated. For reinforcing student's desirable behaviours and criterion responses he uses positive verbal and non-verbal reinforcers. These reinforcers not only strengthen the student's desirable behaviours but also develop confidence in them.

Besides, they enhance their positive self-concept. Absence of positive reinforcers for student's desirable behaviours may erode their confidence and lead to poor self-image. Positive reinforcements encourage students to participate actively in classroom interactions.

It stimulates them to achieve more, thereby, creating a sense of achievement. Skilled use of reinforcers helps a teacher to promote student's learning. The skill of reinforcement refers to the effective use of reinforcers. It, can therefore be defined as 'the effective use of reinforcers to modify student's behaviour in the desired direction".

7. SKILL OF CLOSURE

This skill is useful for a teacher to close his teaching properly. The teacher is to summarise all the teaching during the period and provide opportunities for the students to correlate the learnt matter with the past and future knowledge. This is to be done by statements or by asking questions.

8. FLUENCY IN COMMUNICATION

Communication in general is a process of sending and receiving messages that enables humans to share knowledge, attitude, and skills. Communication is a series of experiences of hearing, seeing, smelling, tasting, and touching / feeling. Although we usually identify communication with speech, communication is composed of two dimension: verbal and non-verbal. Both verbal and non-verbal plays a significant role in teaching learning process. Verbal communication is divided into Intra verbal: intonation of word and sound and extra verbal: implication of words and phrases, semantics.

The teacher uses knowledge of effective verbal and nonverbal communication techniques as well as instructional media and technology to foster active inquiry, collaboration, and supportive interaction in the classroom.

UNDERSTANDING MAJOR STEPS IN TEACHING A MINI-LESSON

Instructional Procedures and Activities: Provide a detailed discussion of the mini lesson (15-20 min) using the following headings:

MOTIVATION

This step is considered to be the preparatory step, wherein the teacher is trying to prepare the minds of the students ready to receive the subject matter. Hence, this step identifies the mental readiness of the students. The teacher will be able to check the students' entering behavior before he starts teaching the lesson. Thus testing students' previous knowledge develops interest in the minds of students and helps to maintain curiosity of the students.

PRESENTATION

It is the key step and only through which the actual process of teaching is going to take place. Here the aims of the lesson should be stated clearly and the heading shold be written on the blackboard. We have to provide situation for both the teacher and the students to participate in the process of teaching and learning. Our ultimate aim of the presentation is to make the concepts understandable to the students. Therefore, use of simple language is recommended. Appropriate and specific examples and illustrations of the concepts will make the understanding better. The interest of the students on the subject matter should be maintained continuously by the way of asking questions from time to time in this stage. Use of instructional aids like charts, audiovisuals, specimen etc in an appropriate manner is strongly recommended during presentation.

INTERACTION

Interaction in the classroom will be done by speaking, sharing opinion, listening to others and establishing a mutual consent. Students in the learning process support when they are done by interacting directly with the object of learning and communicating in groups and also provide the ability of gaining mastery over the subject.

REFLECTION

Students will be given opportunity to express their ideas, experiences and opinions. Students will be cooperative, respect the opinions of others, responsible, honest on information receiving and able to give decisions.

SUMMING-UP

This stage is meant for the teachers to know whether the students have grasped and understood the concepts taught or not. This can be achieved by reviewing the lesson and by giving assignments to the students. Only through this step achieving closure is possible.

MINI-LESSON

- It is a teaching training technique for learning teaching skills.

- It employs real teaching situation for developing skills and helps to get deeper knowledge regarding the art of teaching.

- A mini lesson is a basic precursor to a bigger or broader topic. It is a short lesson that can be taught in just a few minutes, but it can benefit the students in lessons to come.

- For instance, you may teach a basic topic like fact versus opinion by sharing a variety of statements and having students tell you if the statement is fact or opinion.

- This practice may take only 20 minutes, but teaches a valuable lesson to the students and sets the foundation for further discussion of writing styles or reading concepts.

OBSERVATION AND FEEDBACK ON THE PRACTICE OF INTEGRATION OF TEACHING SKILLS

The complex teaching act can be split into component skills, each simple, well defined and limited. These skills can be identified, practiced, evaluated, controlled and acquired through training.

The teaching skills developed through training are to be observed by the peers/ teacher educators. Immediate feedback may be given to the student-teachers individually using the feedback forms.

Distribute a copy of both Assessment formats (skills & steps) to the pre-service teachers (peers)

INTEGRATING THE STEPS IN MINI TEACHING (Assessment by Peers/Teacher Education)				
TEACHING STEPS	AVERAGE (SCORE 1)	GOOD (SCORE 2)	VERY GOOD (SCORE 3)	TOTAL
Motivation				
Presentation				
Interaction				
Reflection				
Summing Up				

Range of scores:5-15

 OVERALL ASSESSMENT OF TEA CHING STEPS

AVERAGE _____   GOOD _____ VERY GOOD_____

Interpretation of scores

Average   : 5

Good   : 6-10

Very Good   :11-15

Observation and Feedback on Integration of teaching steps in Mini-Teaching

INTEGRATING SKILLS IN MINI TEACHING (Assessment by Peers/Teacher Educators)				
Teaching skills	AVERAGE (SCORE 1)	GOOD (SCORE 2)	VERY GOOD (SCORE 3)	TOTAL
Introducing				
Explaining				
Questioning				
Varying the stimulus				
Non verbal cues				
Reinforcement				
Closure				
Fluency in Communication				

Range of scores:8-24

 OVERALL ASSESSMENT OF TEACHING STEPS

AVERAGE ____   GOOD ____ VERY GOOD_____

Interpretation of scores

Average   : 8

Good   : 9-16

Very Good   :17-24

CONCLUSION

　　Today as never before, meeting our society's challenges demands educational excellence. Reinvigorating the economy, achieving energy independence with alternative technologies and green jobs, and strengthening our health care system require a skilled populace that is ready for the critical challenges we face. There is widespread consensus, however, that our education systems are failing to adequately prepare all students with the essential 21st century knowledge and skills necessary to succeed in life, career and citizenship.

Questions for Discussion and Reflection

1. Briefly explain the major steps in teaching a mini lesson.

2. Write a mini-lesson with multiple teaching skill for class IX in the Geography subject.

3. Explain the mini lesson format.

4. Critically analyse the skill of varying the stimulus.

5. Explain the skill of explaining with its skill components.

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UNIT - IV   METHODS OF TEACHING GEOGRAPHY

Objectives:

After the completion of the unit, the learners will be able to:

1. explain the various methods of teaching Geography.

2. identify the different teacher centered methods of teaching.

3. analyse the recent trends in teaching and learning Geography.

4. adopt the small group interactive learning methods.

5. discuss the various learner centered methods .

INTRODUCTION

Different educators have proposed different methods of teaching geography. Knowledge of these methods may help in working out a teaching-learning strategy. It is not an educational sound for a teacher to commit himself to any particular method. A teacher should adopt an approach considering the nature of the children, their interests and maturity and the resources available. The merits and demerits of various methods listed.

A teacher has to make uses of various kinds of methods, devices and techniques in teaching. It is not appropriate for a teacher to commit to one particular method. A teacher should adopt a teaching approach after considering the nature of the children, their interests and maturity and the resources available. Every method has certain merits and few demerits and it is the work of a teacher to decide which method is best for the students.

TEACHER – CENTERED METHODS

1. Lecture Method
2. Demonstration Method
3. Team Teaching

(1) LECTURE METHOD

The lecture method is the most widely used form of presentation. Every teacher has to know how to develop and present a lecture. They also must understand the scopes and limitations of this method. Lecturers are used to introduce new topics, summarizing ideas, showing relationships between theory and practice, reemphasizing main points, etc. This method is adaptable to many different settings (small or large groups).

- It may be used to introduce a unit or a complete course.
- Finally, lectures can be effectively combined with other teaching methods to add meaning and direction. The lecture teaching is favorable for most teachers because it

allows some active participation by the students. The success of the teaching lecture depends upon the teacher's ability to communicate effectively with the class. However, in this method, the feedback is not very obvious and thus the teacher must develop a keen perception for subtle responses from the class-facial expressions, manner of taking notes and apparent interest or disinterest in the lesson. The successful teacher will be able to interpret the meaning of these reactions and adjust the lesson accordingly.

Preparing the Teaching Lecture:
1. Planning
2. Rehearsing
3. Delivering a lecture

Planning:

The following four steps are followed in the planning phase of preparation:
- Establishing the objective and desired outcomes;
- Researching the subject;
- Organizing the material; and
- Planning productive classroom activities

Rehearsing:

After completing the preliminary planning and writing of the lesson plan, the teacher should rehearse the lecture to build self-confidence. It helps to smooth out to use notes, visual aids, and other instructional devices.

Delivering a lecture

In the teaching lecture, simple rather than complex words should be used whenever possible. The teacher should not use substandard English. If the subject matter includes technical terms, the teacher should clearly define each one so that no student is in doubt about its meaning. Whenever possible, the teacher should use specific words rather than general words.

Another way the teacher can add life to the lecture is to vary his or her tone of voice and pace of speaking. In addition, using sentences of different length also helps. To ensure clarity and variety, the teacher should normally use sentences of short and medium length.

For a teacher notes are must because they help to keep the lecture on track. The teacher should use them modestly and should make no effort to hide them from the students. Notes may be written legibly or typed, and they should be placed where they can be consulted easily.

Advantages of the Lecture method

1. Gives chance for the teacher to expose students through all kinds of material.
2. Allows the teacher to precisely determine the aims, content, organization, pace and direction of a presentation
3. Can be used to arouse interest in a subject
4. Can complement and clarify text material.
5. Complements certain individual learning preferences
6. Facilitates large-class communication

Disadvantages of the Lecture Method

1. Places students in a passive rather than an active role, which hinders learning
2. Encourages one-way communication; therefore, the lecturer must make a conscious effort to become aware of student problems and student understanding of content without verbal feedback.
3. Requires a considerable amount of time for unguided student outside of the classroom to enable understanding and long-term retention of content
4. Requires the teacher to have effective speaking skills

(2) DEMONSTRATION METHOD

Defining demonstration of learning is complicated by the fact that educators use many different terms when referring to the general concept, and the terms may or may not be used synonymously from place to place. For example, the terms capstone exhibition, culminating exhibition, learning exhibition, exhibition of learning, performance exhibition, senior exhibition, or student exhibition may be used, in addition to capstone, capstone experience, capstone project, learning demonstration, performance demonstration, and many others. Educators may also create any number of homegrown terms for demonstrations of learning—far too many to catalog here.

Teachers not only use demonstrate specific learning concepts within the classroom, they can also participate in demonstration classrooms to help improve their own teaching strategies, which may or may not be demonstrative in nature. Although the literature is limited, studies show that the effects of demonstration classroom teachers includes a change of perspective in relating to students, more reflection in the teachers' own classroom strategies, and more personal responsibility for student learning.

Advantages of demonstration method

1. It helps in involving various senses to make learning permanent.
2. Through teacher, behavior is autocratic; he invites the cooperation of pupils in teaching learning process.
3. It develops interest in the learners and motivates them for their active participation
4. Any simple or complex sill becomes easy to understand.

Disadvantages of demonstration method

1. It can be use only for skill subject.
2. Only attentions of the learners are invites towards the activity demonstrated. They are free to discuss about it.
3. Due to poor economic conditions of the government schools, there is scarcity of audio Visual aids and equipment and the teacher are not so creative to produce handmade modes for demonstration.
4. There is a general lack of sincerity and diligence among teachers who which to
5. Complete the syllabus or syllabi at the earliest without putting sincere efforts.

(3) TEAM TEACHING

Team teaching involves a group of instructors working purposefully, regularly, and cooperatively to help a group of students of any age learn. Teachers together set goals for a course, design a syllabus, prepare individual lesson plans, teach students, and evaluate the results. They share insights, argue with one another, and perhaps even challenge students to decide which approach is better.

Teams can be single-discipline, inter disciplinary, or school-within-a-school teams that meet with a common set of students over an extended Period of Time. New teachers may be paired with veteran teachers. Innovations are encouraged, and modifications in class size, location, and time are permitted. Different personalities, voices, values, and approaches spark interest, keep attention, and prevent boredom.

The team-teaching approach allows for more interaction between teachers and students. Faculty evaluates students on their achievement of the learning goals; students evaluate faculty members on their teaching proficiency. Emphasis is on student and faculty growth, balancing initiative and shared responsibility, specialization and broadening horizons, the clear and interesting presentation of content and student development, democratic participation and common expectations, and cognitive, affective, and behavioral outcomes. This combination of analysis, synthesis, critical thinking, and practical

applications can be done on all levels of education, from kindergarten through graduate school.

Working as a team, teacher's model respect for differences, inters dependence, and conflict-resolution skills. Team members together set the course goals and content, select common materials such as texts and films, and develop tests and final examinations for all students. They set the sequence of topics and supplemental materials. They also give their own interpretations of the materials and use their own teaching styles. The greater the agreement on common objectives and interests, the more likely that teaching will be interdependent and coordinated.

Teaching periods can be scheduled side by side or consecutively. For example, teachers of two similar classes may team up during the same or adjacent periods so that each teacher may focus on that phase of the course that he or she can best handle. Students can sometimes meet all together, sometimes in small groups supervised by individual teachers or teaching assistants, or they can work singly or together on projects in the library, laboratory, or fieldwork. Teachers can be at different sites, linked by video-conferencing, satellites, or the Internet.

Breaking out of the taken-for-granted single-subject, single-course, single-teacher pattern encourages other innovations and experiments. For example, students can be split along or across lines of sex, age, culture, or other interests, and then recombined to stimulate reflection. Remedial programs and honors sections provide other attractive opportunities to make available appropriate and effective curricula for students with special needs or interests. They can address different study skills and learning techniques. Team teaching can also offset the danger of imposing ideas, values, and mindsets on minorities or less powerful ethnic groups. Teachers of different backgrounds can culturally enrich one another and students.

Advantages of Team Teaching

No Students learn at the same rate. Periods of equal length are not appropriate for all learning situations. Educators are no longer dealing primarily with top-down transmission of the tried and true by the mature and experienced teacher to the young, immature, and inexperienced pupil in the single-subject classroom. Schools are moving toward the inclusion of another whole dimension of learning. The lateral transmission to every sentient member of society of what has just been discovered, invented, created and manufactured. For this, team members with different areas of expertise are invaluable.

Of course, team teaching is not the only answer to all problems plaguing teachers, students, and administrators. It requires planning, skilled management, willingness to risk

change and even failure, humility, open-mindedness, imagination, and creativity. But the results are worth it.

Teamwork improves the quality of teaching as various experts approach the same topic from different angles: theory and practice, past and present, different genders or ethnic backgrounds. Teacher strengths are combined and weaknesses are remedied. Poor teachers can be observed, critiqued, improved by the other team members in a nonthreatening, supportive context. The evaluation done by a team of teachers will be more insightful and balanced than the introspection and self-evaluation of an individual teacher.

Disadvantages of Team teaching

Team teaching is not always successful. Some teachers are rigid personality types or may be wedded to a single method. Some simply dislike the other teachers on the team. Some do not want to risk humiliation and discouragement at possible failures. Some fear they will be expected to do more work for the same salary. Others are unwilling to share the spotlight or their pet ideas or to lose total control.

Team teaching makes more demands on time and energy. Members must arrange mutually agreeable times for planning and evaluation. Discussions can be draining and group decisions take longer. Rethinking the courses to accommodate the team-teaching method is often inconvenient.

Opposition may also come from students, parents, and administrators who may resist change of any sort. Some students flourish in a highly structured environment that favors repetition. Some are confused by conflicting opinions. Too much variety may hinder habit formation.

Salaries may have to reflect the additional responsibilities undertaken by team members. Team leaders may need some form of bonus. Such costs could be met by enlarging some class sizes. Non-professional staff members could take over some responsibilities.

LEARNER CENTERED METHODS

Learner-centered methods are those methods are those methods where the focus of attraction is learners than teachers. It is through the involvement of learners the method develops. The recent psychological approaches in the classrooms give more importance to learner centered methods than teach centered methods.

(I) PROJECT METHOD

Project method owes its origin to the pragmatic school of philosophy. It was

Propound by W H. Kilpatrick and was perfected by J. A.Stevenson. The method consists of building a comprehensive unit around an activity that may be carried out in the school or outside. The essence of this method is to carry out a useful task in a group in which all the students work co-operatively. Learning by doing and learning by living are the two basic principles involved and children learn through association, co-operation and activity.

Definition

- "A project is a unit of whole-hearted purposeful activity carried on preferably in its natural setting". Kilpatrick
- "A project is a problematic and carried to completion in its natural setting" - Stevenson.
- "A project is a bit of real life that has been imparted in to the school" - Ballard.

1. Principles of the Project Method

1. The principle of freedom
2. The principle of reality
3. The principle of activity
4. The principle of experience
5. The principle of utility
6. The principle of interest
7. The principle of sociability

Major steps of the Project Method

1. Providing a situation
2. Choosing and purposing
3. Planning
4. Carrying out the project (executing)
5. Evaluating
6. Recording

Kinds of Project

1. Producer type: Here the emphasis is directed towards the actual construction of a material object or article.
2. Consumer type: Here the objective is to obtain either direct or vicarious experience such as reading and learning stories or listening to music etc.

3. Problems Type: Here the purpose is to solve a problem involving the intellectual process such as determining the e/m ratio of an election.

4. Drill type: Here the purpose is to attain efficiency in some activity. E.g. swimming, driving etc.

Merits of Project method

1. The method is in accordance with psychological laws of learning

    i. Law of readiness - pupil are ready to learn creating interest, purpose and life like situation.

    ii. Law of exercise - by practice we learn things, self-activity on the part of students create experience in later life.

    iii. Law of effect - child should be satisfied and feel happy in what he is learning.

2. It promotes co-operation and group interaction.

3. It gives training in a democratic way of learning and living.

4. There is no place for rote memorization.

5. Provides dignity of labor, develop respect, and taste for all types of work.

Demerits of Project Method

1. Project absorbs large amount of time and can be used as a part of science work only.

2. Many aspect of curriculum will not yield to project work.

3. Larger projects in the hands of an inexperienced and unskillful teacher lead to boredom.

4. Textbook written on this lines are not available.

5. The method is highly expensive, as pupil has to purchase lot of item, travel and do outdoor work.

(2) PEER TUTORING

• Peer tutoring is a flexible, peer-mediated strategy that involves students serving as academic tutors and tutees. Typically, a higher performing student is paired with a lower performing student to review critical academic or behavioral concepts.

• It is a widely-researched practice across ages, grade levels, and subject areas

• The intervention allows students to receive one-to-one assistance

• Students have increased opportunities to respond in smaller groups

• It promotes academic and social development for both the tutor and tutee

- Student engagement and time on task increases
- Peer tutoring increases self-confidence and self-efficacy
- The strategy is supported by a strong research base

Types of Peer Tutoring

Classwide Peer Tutoring (CWPT) –Class wide peer tutoring involves dividing the entire class into groups of two to five students with differing ability levels. Students then act as tutors, tutees, or both tutors and tutees. In CWPT, student pairings are fluid and may be based on achievement levels or student compatibility.

Cross-age Peer Tutoring (CPT) - Older students are paired with younger students to teach or review a skill. The positions of tutor and tutee do not change. The older student serves as the tutor and the younger student is the tutee. The older student and younger student can have similar or differing skill levels, with the relationship being one of a cooperative or expert interaction. Tutors serve to model appropriate behavior, ask questions, and encourage better study habits. This arrangement is also beneficial for students with disabilities as they may serve as tutors for younger students.

Peer Assisted Learning Strategies (PALS) - It involves a teacher pairing students who need additional instruction or help with a peer who can assist. Groups are flexible and change often across a variety of subject areas or skills. Cue cards, small pieces of cardstock upon which are printed a list of tutoring steps, may be provided to help students remember PALS steps. All students have the opportunity to function as a tutor or tutee at differing times. Students are typically paired with other students who are at the same skill level, without a large discrepancy between abilities.

Reciprocal Peer Tutoring (RPT): Two or more students alternate between acting as the tutor and tutee during each session, with equitable time in each role. Often, higher performing students are paired with lower performing students. RPT utilizes a structured format that encourages teaching material, monitoring answers, and evaluating and encouraging peers. Both group and individual rewards may be earned to motivate and maximize learning.

Same-age Peer Tutoring: Peers who are within one or two years of age are paired to review key concepts. Students may have similar ability levels or a more advanced student can be paired with a less advanced student. Students who have similar abilities should have an equal understanding of the content material and concepts. When pairing students with differing levels, the roles of tutor and tutee may be alternated, allowing the lower performing student to quiz the higher performing student. Answers should be provided to the student

who is lower achieving when acting as a tutor in order to assist with any deficits in content knowledge.

(3) INDIVIDUAL ACTIVITIES

The social aspect of activities is just as important as the creative, leisure and learning aspects. Mentors make great efforts to help people join small friendly groups to share experience and skills and support each other in maintaining the group in the long-term. Some participants are housebound. In these circumstances, mentors encourage activities that people can pursue individually at home. Sometimes, arrangements may be made for an external artist or 'provider' to visit the person for a while. Wherever possible, the participant is introduced to others who might share their interests, by phone, letter, or visiting. Some people prefer to pursue interests on their own.

(4) EXPERIENTIAL LEARNING

The word experiential essentially means that learning and development are achieved through personally determined experience and involvement, rather than on received teaching or training, typically in group, by observation, listening, study of theory or hypothesis, or some other transfer of skills or knowledge. The expression 'hands-on' is commonly used to describe types of learning and teaching which are to a lesser or greater extent forms of experiential learning.

The expression 'chalk-and-talk' (the teacher writes on a board and speaks while learners listen and look and try to absorb facts) refers to a style of teaching or training which contains no experiential learning aspect whatsoever.

Experiential learning, especially used at the beginning of a person's new phase of learning, can help to provide a positive emotional platform that will respond positively and confidently to future learning, even for areas of learning which initially would have been considered uncomfortable or unnecessary.

Experiential learning also brings into play the concept of multiple intelligences - the fact that people should not be limited by the 'three Rs' and a method of teaching based primarily on reading and writing.

Experiential learning is a way to break out of the received conditioned training and teaching practices which so constrain people's development in schools and work.

(5) PROBLEM - SOLVING METHOD

The method is defined as a planned attack upon a difficulty for finding a solution. It is

also defined as the process of raising a problem in the minds of the pupils in such a way as to stimulate purposeful reflective thinking for arriving at a rational solution. In this method, the person uses his ability to analyze a problem that confronts him in order to arrive a solution.

Steps in problem solving method

1. Sensing the problem
2. Interpreting, defining and delimiting the problem.
3. Collecting relevant data
4. Organizing and evaluating the data
5. Formulating tentative solution
6. Drawing conclusion and making generalization
7. Application of generalization to new situation

SMALL GROUP/ WHOLE CLASS INTERACTIVE LEARNING

Small group teaching has become more popular as a means of encouraging student learning. While beneficial the tutor needs a different set of skills for those used in lecturing, and more pertinently, small group work is an often luxury many lecturers cannot afford. A further consideration with small group teaching is the subjective perspective of what constitutes a small group. A lecturer used to taking 400 students in a lecture would define 50 students as a small group, while a lecturer used to a group of 50 students would define 5-10 students as a small group. In a discussion, where participation is assessed some students may not speak up in a group that begins to be get bigger than 10 participants and in addition tutors would find it hard to assess participation by individual students in groups with numbers greater than this.

(1) STUDENT SEMINAR

A seminar either is a form of academic instruction, at an academic institution or offered by a commercial or professional organization. It has the function of bringing together small groups for recurring meetings, focusing each time on some particular subject, in which everyone resent is requested to actively participate. This is often accomplished through an ongoing Socratic dialogue with a seminar leader or instructor, or through a more formal presentation of research. It is essentially a place where assigned readings are discussed, questions can be raised and debates conducted. Student seminars are the open presentations done by the students before their peers and teachers. The word seminar is derived from the Latin word seminarian, meaning "seed plot".

Some Tips for Seminar Preparation

1. Choose a topic: Choose a topic that will sustain your interest and will allow you to exhibit enthusiasm during your presentation.

2. Keep your Audience in Mind: The primary objective in giving a talk should be to communicate an interesting idea to students who attend the seminar. This means that the talk should be delivered in a way that students in attendance understand what you are saying, so be mindful of their background.

3. Tell a story/ anecdote: Begin with solid motivation for your problem and plenty of illuminating examples. Only after your audience understands what your topic is and why they should care about it should you spend time working carefully through the relevant science.

4. Keep timing in mind: Choose a topic that you can motivate and explicate comfortably in this window of time.

Scoring Indicators for Evaluation of seminar

1. Ability to Collect Data: Sufficient, Relevant, Accuracy of facts
2. Ability to prepare seminar Paper: Introduction, Content Organization, Conclusion
3. Presentation: Communication, Competence, Fluency, Spontaneity
4. Understanding the Subject: Involvement in the Discussion, Responding suitably

(2) GROUP DISCUSSIONS

Active learning is implemented by organizing the class into small groups of students who can work together, foster their own learning strategy and create an atmosphere in which information sharing can takes place. Instructional techniques involving group controlled learning experiences provide room for the learner's self-development and active participation in the teaching learning process. A discussion is a teaching technique that involves exchange of ideas with active learning and participation by all concerned. Discussion is an active process of teacher-pupil involvement in the classroom environment. This allows a student present its own perspective about something freely. Four basic concepts are to be considered for initiating small group discussion

• Process - the interactions that takes place within the group

• Roles - each group member's specific responsibilities within the group

• Leadership - the capacity to guide and direct others in a group setting

• Cohesion - group members support for one another

(3) MIXED ABILITY GROUPING

It refers to grouping together students of different abilities. Usually this kind of grouping occurs when the group consists of students with different ages with one or two years span. The term "mixed aged grouping" or "heterogeneous grouping" is used for this case but we prefer to use the more general term of "mixed ability grouping" since the basic criterion for grouping is ability and not necessarily age. In mixed ability groups there are some students that are more mature and experienced than other ones and thus they have more advanced ability to acquire knowledge. The main aim of setting up mixed ability groups is not to produce homogeneity of ability in a group as this is the case in ability grouping, but to increase interaction across students with different abilities.

In other words the purpose of mixed ability grouping is for children to benefit by their intellectual and social interaction with other students of their group that have different social behavior and ability to learn. The former reveals the main difference of mixed ability grouping with ability grouping. While grouping children with same ability the goal is to achieve homogeneity of the group and homogenize instruction for students of the group on basis different of grades or ages but based on ability.

RECENT TRENDS

1. Constructivist learning
2. Problem based learning
3. Brain based learning
4. Collaborative learning
5. Flipped learning
6. Blended learning
7. E-learning trends
8. Video conferencing

(1) CONSTRUCTIVIST LEARNING

Constructivism is a learning theory that has its foundation in philosophy and anthropology as well as psychology. The constructivist approach to education attempts to shift education from a teacher-dominated focus to a student-centered one. The role of the teacher focuses on assisting students in developing new insights. Students are taught to assimilate experience, knowledge and insights with what they already know and from this they need to construct new meanings. Constructivist learning is based on students' active participation in problem solving and critical thinking regarding a learning activity which they

find relevant and engaging. They are "constructing" their own knowledge by testing ideas and approaches base on their prior knowledge and experience, applying these to new situations and integrating the new knowledge gained with pre-existing intellectual constructs.

In the constructivist theory, the emphasis is placed on the learner or the student rather than the teacher of the instructor. The learner interacts with objects and events and thereby gains an understanding of the features held by such objects or events. The learner constructs her own conceptualizations and solutions to problems. Learner autonomy and initiative is accepted and encouraged. Exploring or experiencing the physical surroundings, experiential education is a key method of constructivism. To the constructivists, the act of teaching is the process of helping learners creates knowledge. In constructivist, thinking learning is also affected by the context, beliefs and attitude of the learner.

There are many different schools of thought within this theory, all of which fall within the same basic assumption about learning. The main two are cognitive constructivism (e.g., Theory of Piaget) and Social constructivism (e.g., Theory of L.S. Vygotsky).

Cognitive Constructivism

Cognitive constructivism is generally attributed to Jean Piaget, who articulated mechanisms by which knowledge is internalized by learners. The process of accumulating the knowledge are through accommodation and assimilation, individuals construct new knowledge from their experiences.

It is important to note that constructivism is not a particular pedagogy. In fact, constructivism is a theory describing how learning happens, regardless of whether learners are using their experiences to understand a lecture of following the instructions for building a model airplane. In both cases, the theory of constructivism suggests that learners construct knowledge out of their experiences. However, constructivism is often associated with pedagogic approaches that promote active learning, or learning by doing. Today constructivist teaching is based on recent research about the human brain.

The major views of constructivism can be summarized as follows:

- Emphasis learning and not teaching
- Encourage and accepts learner autonomy and initiative
- Sees learners as creatures of will and purpose
- Thanks of learning as a process
- Encourages learner inquiry
- Acknowledges the critical role of experience in learning
- Nurtures learners natural curiosity

• Takes the learner's mental model into account etc.

Social Constructivism

Social constructivism maintains that human development is socially situated and knowledge is constructed through interaction with others. It is a sociological theory of knowledge that applies the general philosophical constructivism into the social assumptions of Social Constructivism. Social constructivism is based on specific assumptions about reality, knowledge, and learning. To understand and apply models of instruction that are rooted in the perspectives of social constructivists, it is important to know the premises that underlie them. The most important assumptions of the theory of social constructivism is

1. The assumption that human beings rationalize their experience by creating a model of the social world and the way that it functions

2. The belief in language as the most essential system through which humans construct reality.

(2) PROBLEM BASED LEARNING (PBL)

Problem-based learning (PBL) is a student-centered pedagogy in which students learn about a subject through the experience of solving an open -ended problem. Students learn both thinking strategies and domain knowledge. Problem - based learning (PBL) is an approach that challenges students to learn through engagement in a real problem. A format simultaneously develops both problem solving strategies and disciplinary knowledge bases and skills by placing students in the active role of problem-solvers confronted with an ill-structured situation that simulates the kind of problems they are likely to face as future managers in complex organizations. Problem-based learning makes a fundamental shift from a focus on teaching to a focus on learning. The process is aimed at using the power of authentic problem solving to engage students and enhance their learning and motivation. Several unique aspects define the PBL approach:

• Learning takes place within the contexts of authentic tasks, issues, and problems that are aligned with real world concerns.

• In a PBL course, students and the instructor become co-learners, co-planners, co-producers, and co-evaluators as they design, implement, and continually refine their curricula.

• The PBL approach is grounded in solid academic research on learning and on the best practices that promote it. This approach stimulates students to take responsibility for their own learning, since there are few lectures, no structured sequence of assigned

readings, and so on.

- PBL is unique in that it fosters collaboration among students, stresses the development of problem solving skills within the context of professional practice, promotes effective reasoning and self-directed learning, and is aimed at increasing motivation for life-long learning.

Problem-based learning begins with the introduction of an ill-structured problem on which all learning is centered. Most of the learning occurs in small groups rather than in lectures. Teacher's role is more like that of a facilitator and coach of student learning, acting at times as a resource person, rather than as knowledge-holder and disseminator. Similarly, your role, as a student, is more active, as you are engaged as a problem-solver, decision-maker, and meaning-maker, rather than being merely a passive listener and note-taker.

Characteristics of Problem-Based Learning (PBL)

Problem-Based Learning (PBL) is a pedagogical approach and curriculum design methodology often used in higher education and K-12 standard settings.

The following are some of the defining characteristics of PBL:

1. Learning is driven by challenging, open-ended problems with no one "right" answer
2. Problems/cases are context specific
3. Students work as self-directed, active investigators and problem-solvers in small collaborative groups (typically of about five students)
4. A key problem is identified and a solution is agreed upon and implemented
5. Teachers adopt the role as facilitators of learning, guiding the learning process and promoting an environment of inquiry.

Learning outcomes of Problem Based Learning

A well-designed Problem based learning task provides students with the opportunity to develop skills related to:

- Managing tasks and holding leadership roles
- Oral and written communication
- Self-awareness and evaluation of group processes
- Working independently
- Critical thinking and analysis.

Basic Steps in designing a Problem Based Learning Task

There are some important aspects, which we want to take care before going for a problem based learning task

1. Articulate the learning outcomes of the task. What do you want students to know or be able to do because of participating in the assignment?

2. Create the problem. Ideally, this will be a real-world situation that resembles something students may encounter in their future class or lives. Cases are often the basis of PBL activities.

3. Establish ground rules at the beginning to prepare students to work effectively in groups.

4. Introduce students to group processes and do some warm up exercises to allow them to practice assessing both their own work and that of their peers.

(3) BRAIN BASED LEARNING (BBL)

Brain - based learning refers to teaching methods, lesson designs, and school programs that are based on the latest scientific research about how the brain learns, including such factors as cognitive development-how students learn differently as they age, grow, and mature socially, emotionally, and cognitively. It is totally based on the structure and function of the brain. As long as the brain is not prohibited from fulfilling its normal processes, learning will occur. Brain-based learning is motivated by the general belief that learning can be accelerated and improved if educators base how and what they teach on the science of learning, rather than on past educational practices, established conventions, or assumptions about the learning process. For example, it was commonly believed that intelligence is a fixed characteristic that remains largely unchanged throughout a person's life. However, recent discoveries in cognitive science have revealed that the human brain physically changes when it learns, and that after practicing certain skills it becomes increasingly easier to continue learning and improving those skills.

Instructional techniques emerges from Brain Based Learning

The three instructional techniques associated with brain-based learning:

1. Orchestrated immersion: Creating learning environments that fully immerse students in an educational experience

2. Relaxed alertness: Trying to eliminate fear in learners, while maintaining a highly challenging environment

3. Active processing: Allowing the learner to consolidate and internalize information by actively processing it.

(4) COLLABORATIVE LEARNING

Effective communication and Collaboration are essential for becoming a successful

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learner. It is primarily through dialogue and examining different perspectives that students become knowledgeable, strategic, self-determined, and empathetic. Moreover, involving students in real world tasks and linking new information to prior knowledge requires effective communication and collaboration among teachers, students and others. Indeed, it is through dialogue and interaction that curriculum objectives come alive. Collaborative learning affords students enormous advantages, which is not available in traditional instruction.

"Collaborative learning" is an umbrella term for a variety of educational approaches involving joint intellectual effort by students, or students and teachers together. Usually, students are working in groups of two or more, mutually searching for understanding, solutions, or meanings, or creating a product. Collaborative learning activities vary widely, but most center on students' exploration or application of the course material, not simply the teacher's presentation or explication of it.

Collaborative learning represents a significant shift away from the typical teacher centered or lecture-centered milieu in college classrooms. In collaborative classrooms, the lecturing/ listening/note-taking process may not disappear entirely, but it lives alongside other processes that are based in students' discussion and active work with the course material. Teachers who use collaborative learning approaches tend to think of themselves less as expert transmitters of knowledge to students, and more as expert designers of intellectual experiences for students-as coaches or mid-wives of a more emergent learning process.

Essential features of Collaborative Learning

1. A group learning task is designed based on shared learning goals and outcomes
2. Students work in teams to master academic materials
3. Reward systems are group oriented than individual oriented
4. Co-operative behavior involves trust building activities, joint planning and understanding of team support.
5. Students involvement in learning activities are more
6. Encourages students to acquire an active-voice in shaping their ideas

Advantages of Collaborative Learning

1. Promotes social and intellectual involvement
2. Cultivation of teamwork, community building, and leadership skills
3. Enhanced student satisfaction and promoting positive attitudes
4. Open expression of ideas in groups
5. Patience in hearing others

6. Team building
7. Shared responsibility.

(5) FLIPPED LEARNING

Flipped Learning is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter.

Students at home view flipped Learning Short video lectures before the class session, while in-class time is devoted to exercises, projects, or discussions. The flipped classroom describes a reversal of traditional teaching where students gain first

exposure to new material outside of class, usually via reading or lecture videos, and then class time is used to do the harder work of assimilating that knowledge through strategies such as problem solving discussion or debates.

Flipped Classroom and Implications for Teaching

The flipped classroom constitutes a role change for instructors, who give up their front-of-the-class position in favor of a more collaborative and cooperative contribution to the teaching process. There is a concomitant change in the role of students, many of whom are used to being cast as passive participants in the education process, where instruction is served to them. The flipped model puts more of the responsibility for learning on the shoulders of students while giving them greater impetus to experiment. Activities can be student-led, and communication among students can become the determining dynamic of a session devoted to learning through hands-on work.

(6) BLENDED LEARNING

Blended learning is a planned combination of online learning and face-to-face instruction using variety of learning resources. A flexible learning strategy integrates innovative and technological advances of online learning with interaction and participation of traditional face-to-face classroom learning.

Blended learning strategies vary according to the discipline, the year level, student characteristics and learning outcomes, and have a student-centered approach to the learning design. Blended learning can promote learner's access and flexibility, increase the level of active learning, and achieve better student experiences and outcomes. For teachers, blended learning can improve teaching and class management practices. A blend might include:

1. Face-to-face and online learning activities and formats

2. Traditional classes with different modalities, such as regular, weekend, evening, part time, semester

3. Use of technology interfaces like social media, wikis and various web sources

4. Group work, Simulation, debate, Online Assignments, Practical etc.

5. Both usual classroom human factors and digital learning resources of the web

6. Psychological concerns are addressed in the face to face interaction and technological concerns are addressed in the online learning

Blended learning should be viewed as a pedagogical approach that combines the effectiveness and socialization opportunities of the classroom with the technologically enhanced active learning possibilities of the online environment, rather than a ratio of delivery modalities.

Teachers in the Blended learning modality can

• Foster a class culture of hard work and persistence

• Monitor students throughout the period for motivation and learning

• Intervene to personalize instruction when data shows that students are struggling

• Build personal relationships of trust and caring

(7) E-LEARNING TRENDS

E-learning is the use of electronic media and information and communication technologies (ICT) in education. E-learning is broadly inclusive of all

Forms of educational technology in learning and teaching. Technology-Enhanced Learning (TEL), Computer-Based Instruction (CBI). Computer-Based Training (CBT), Computer-Assisted Instruction or Computer - Aided   Instruction (CAI),Internet-Based Training (IBT), Web-Based Training (WBT), Online education, Virtual education, Virtual   Learning Environments (VIE). E-learning can occur in or out of the classroom.

Synchronous and asynchronous

E -learning may be either synchronous or asynchronous.   Synchronous learning occurs in real-time, with all participants interacting at the same time, while asynchronous learning is self - paced and allows participants to engage in the exchange of ideas or information without the dependency of other participant's involvement at the same time.

Synchronous learning involves the exchange of ideas and information with one or more participants during the same period. A face-to-face discussion is an example of

Synchronous communications. In e-learning environments, examples of synchronous communications include online real-time live teacher instruction and feedback, Skype

Conversations, or chat rooms or virtual classrooms where everyone is online and working collaboratively at the same time.

Asynchronous learning may use technologies such as email, blogs, wikis, and discussion boards, as well as web-supported textbooks, hypertext documents, audio video courses, and social networking. Asynchronous learning is particularly beneficial for students who have health problems or have childcare responsibilities and regularly leaving the home to attend lectures is difficult.

E-Learning

1. Automation
2. Augmented Learning
3. Big Data
4. Going for Cloud Computing
5. Gamification
6. M - Learning
7. Personalization

(8) VIDEO CONFERENCING

Video conferencing is two-way interactive communication delivered using telephone or Internet technologies that allows people at different location to come together for a meeting. The video conference can be as simple as a conversation between two people in private offices involves several sites with more than one person in large rooms at different sites. A basic video conference setup has a camera and a microphone. Video from the camera and audio from the microphone is converted into a digital format and transmitted to a receiving location using a coding and decoding device, often referred to as a "codec". At that receiving location is another codec device that decodes the receiving digital stream into a form that can be seen and heard on monitors or televisions. At the same time, video and audio from cameras and microphones at the received location is sent back to the original location.

Benefits of Video Conferencing

Video conferencing saves travel time and money. Participants can see and hear all other participants and communicate both verbally and visually, creating a face- to- face experience. PowerPoint and other on screen graphic, as well as other cameras are also available presentation options. People downtime is reduced and productivity gains are achieved by removing the logistics of flight preparations, airport delays, hotel stays, and all

the other inconveniences of business travel. In distance education, video conferencing provides quality access to students who could not travel to or could afford to relocate to a traditional campus. Video conferences can also be recorded and made available in a variety of ways. Besides distance education, other applications include meetings, dissertation and thesis defenses, tele-medical procedures, and online conferences.

People use video conferencing when:

- A live conversation is needed.
- Visual information is an important component of the conversation.
- Parties of the conversation cannot physically come to the same location.
- Expense or time of travel is a consideration.
- Examples of how video conferencing can benefit people around campus.
- Guest lecturer invited into a class from another institution.
- Researcher collaborates with colleagues at other institutions on a regular basis.
- Thesis defense at another institution.
- Administrators from different parts of campus need to collaborate on administrator issues such as a campus strategic plan.
- Researcher needs to meet with a review committee about a grant.
- Student interviews with an employer in another city.

Conclusion

Every learner learns on his/her own unique way and strategy. The learning is taking place with an individual speed, depending on student's attitude and level of prerequisite knowledge. In designing the teaching process, teacher should take into consideration differences among the students in the target group. Enough of space must be provided for processing and memorizing the presented information. Combination of different teaching methods can produce quality in fulfilling all teaching functions.

Questions for Discussion and Reflection

1. Explain the teacher centered methods of teaching Geography.
2. Critically analyze the recent trends in teaching Geography.
3. Explain briefly the learner centered methods of teaching Geography
4. Discuss the interactive methods of teaching geography.

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UNIT - V RESOURCES FOR TEACHING GEOGRAPHY

Objectives:

After the completion of the unit, the learners will be able to:

1. explain the various types of resources for teaching Geography.
2. adopt the community resources in the instructional process.
3. utilize the information and communication technology resources in teaching
4. identify the needs of resources in teaching Geography.

INTRODUCTION

Teachers use a wide range of stimulating and exciting materials to teach the concepts outlined in the curriculum to ensure that students are actively involved in their learning. In time, students and parents witness a shift from textbook based to standards based instruction, bringing educational practices in line with the best school systems around the world. The power of the learning environment to influence and promote learning is significant and the learning spaces and learning resources provide important opportunities for students to explore ideas and knowledge, collaborate, solve problems and develop knowledge and skills. Carefully selected digital technology resources are used to enable children to access global connections and resources while also encouraging new ways of thinking. The introduction of technology rich environments and multi-sensory resources can also be useful in reaching each student strengths and engaging students to become life-long learners.

PRINT RESOURCES

Print resource refers to paper publications circulated in the form of physical editions of books, magazines, journals and newsletters**.** Print resource improves the students reading skills and vocabulary development. It is a good source of additional information for teachers. It helps the teacher for both lecture and Linguistic. Lecture approach - source of information for the teacher's lessons .Linguistic Approach - help to develop ones vocabulary and reading skills.

(I) NEWS PAPERS

Teachers are always looking for new ways to create student interest in current events. One of the best ways to do so is to utilize newspapers in the classroom. In the past teachers

would deem newspaper reading as boring, and leave it to a once a month lesson. Using newspapers in the classroom is an effective classroom teaching tools for several reasons:

1. It makes learning fun.

2. It's an inexpensive way to educate.

3. It's adaptable for all grades and curriculum.

4. Provides good reading habits.

5. Has a section of interest for everyone like comics and sports.

6. Reinforce math concepts by challenging students to find and circle as many numbers as they can in the newspaper in two minutes. Then challenge them to find and circle as many math words as they can.

7. Make the students to solve the Sudokku and Puzzles.

Tips for Using the Newspaper in Class

1. Allow students time to read the paper.

2. Focus on one section at a time.

3. Introduce new vocabulary words first.

4. Explain the functions of a newspaper and how it works before you start a lesson.

5. Use the sports section to reinforce math concepts.

(II) JOURNALS

An academic or scholarly journal is a periodical publication in which scholarship relating to a particular academic discipline is published. Academic journals serve as permanent and transparent forums for the presentation, scrutiny and discussion of research. They are usually peer-reviewed or refereed. It is a daily record of news and events of a personal nature. Newspaper or magazine that deals with a particular subject or professional activity. Some of the Geography journals are:

a) Teaching Children Geography (TCG)

It is an official journal of the National Council of Teachers of Geography and is intended as a resource for elementary school students, teachers, and teacher educators. The focus of the journal is on intuitive, exploratory investigations that use informal reasoning to help students develop a strong conceptual basis that leads to greater geographical abstraction.

b) Geography Teaching in the Middle School (GTGS)

It is an official peer-reviewed journal of the National Council of Teachers of Geography and is intended as a resource for middle school students, teachers, and teacher educators. The focus of the journal is on intuitive, exploratory investigations that use

informal reasoning to help students develop a strong conceptual basis that leads to greater geographical abstraction.

(IV) GEOGRAPHY ENCYCLOPEDIAS

An encyclopedia is a type of reference work holding a comprehensive summary of information from either all branches of knowledge or a particular branch of knowledge. Encyclopedias are divided into articles or entries, which are usually accessed alphabetically by article name. Encyclopedia entries are longer and more detailed than those in most dictionaries generally speaking, unlike dictionary entries, which focus on linguistic information about words encyclopedia articles focus on factual information concerning the subject. Some of the Geography encyclopedia are the Encyclopedia of Geography (also EOM and formerly Encyclopedia of Geography) is a large reference work in geography and Britannica encyclopedia for the history of Geography

AUDIO RESOURCES

Audio Resources:

Audio aids are important tools for teaching learning process. It helps the teacher to present the lesson effectively and students learn and retain the concepts better and for longer duration. Use of audio aids improves students' critical and analytical thinking. It helps to remove abstract concepts through visual presentation. However, improper and unplanned use of these aids can have negative effect on the learning outcome. It develops the students listening skills as well as make learning more effective. In this approach students think deeply with these learning materials.

(i) Radio talk

It is a radio format containing discussion about topical issues. Most shows are regularly hosted by a single individual, and often feature interviews with a number of different guests. Talk radio typically includes an element of listener participation, usually by broadcasting live conversations between the host and listeners who "call in" (usually via telephone) to the show. Listener contributions are usually screened by a show's producer(s) in order to maximize audience interest and, in the case of commercial talk radio, attract advertisers. Generally, the shows are organized into segments, each separated by a pause for advertisements; however, in public or non-commercial radio, music is sometimes played in place of commercials to separate the program segments. Variations of talk radio include conservative talk, hot talk, liberal talk (increasingly known as Progressive talk) and sports talk.

(ii) Audio tapes

Audio tapes support students learning in the following ways. It

1. provides diverse teaching techniques for learning
2. gives the teacher a voice– this can reduce the feeling of isolation for cloud based students, but also helps located students feel connected
3. can be used to simplify and explain complex problems
4. can allow students to access the learning materials as often as required
5. allows students to learn at their own pace, with instant playback, rewind and pause
6. reduces frequently asked questions from students
7. can be re-used

(iii) DVDs and CDs

The introduction of educational CDs and DVDs for school children has made studies very interesting for students as well as parents. These tools provide children with real life examples helping them to easily understand what is being conveyed to them. These CDs and DVDs help the children in their overall development by familiarizing them with technology and their uses.

Today there is a wide range of educational CDs and DVDs for school children of all ages, available in various stores as well as online. They help in transforming our passive system of learning into an interactive one with the help of high quality graphics and videos along with text that help children retain things in their memory for a long time.

The benefits of learning through educational CDs and DVDs are:

1. They provide a good overall experience for children.
2. Preschooler can easily learn reading skill with the help of this digital tool.
3. School giving children can easily understand the concepts through various graphical representation and illustrations.
4. Practice session using the tools can enhance their knowledge considerably on various topics.

VISUAL RESOURCES

(i) Pictures

Pictures make concepts memorable and employable. When someone views the image, they rapidly associate it with the principle. This enables imagery to play a primary role in creating culture in an organization because every culture speaks a language. A set of images can quite literally represent an entire value system. There is significant impact on the learner

when a visual aid is connected to a verbal explanation. It actually speeds up the learning process.

(ii) Charts

The primary advantage of using a chart in a presentation is that they help the audience to visualize the point of the presentation. It emphasize the main point, make the data more convincing, provide a compact way of presenting information and help audiences stay engaged. Disadvantages of using chart includes being time consuming to construct and costly to produce. They also require technology that some may lack.

(iii) Posters

Poster is the process of showing the content and the findings of a topic to an audience or a group of audiences at different times. It is often used to assess student learning in group research projects. Peer and tutor assessment can be used as part of the grading process. Poster assessment encourages creativity. Poster assessment is short and succinct. This would require the students to think distinctively and select the important factors that need to be shown. The ability to summarize is important. Poster assessment can be assessed by peers at different times even without the presence of the creator.

(iv) Photographs

A Photograph is worth a thousand words through which a complex idea can be conveyed with just a single still image. Pictures make it possible to absorb large amounts of data quickly. Using photographs for explaining complex phenomena is one of the teaching aids of modern education system all over the world. As the world is changing day by day so are the methods of instructions as the modern curriculum requires conceptual elaborations. Visual aids have the tendency to materialize the thoughts of students in the form of graphics to give thoughts a concrete frame of reference. Use of photographs is important for students because they are more likely to believe findings when the findings are paired with colored images describing complex situations during learning as opposed to other representational data such as complex book text.

(v) Flash cards

There are many ways to help children learn math facts. Flash cards can be effective if it is used at right time. It is important to help children build a conceptual understanding of math facts so that one can transfer knowledge across contexts. After conceptually understanding math facts, flash cards can helps to improve math fact fluency by isolating individual concepts, encouraging to focusing attention and effort on specific components of complex geography problems.

A flashcard or flash card is a set of cards bearing information, as words or numbers, on either or both sides, used in classroom drills or in private study. One writes a question on a card and an answer overleaf. Flashcards can bear vocabulary, historical dates, formulas or any subject matter that can be learned via a question-and-answer format. Flashcards are widely used as a learning drill to aid memorization by way of spaced repetition.

(vi) MAPS

Meaning of map

A map is an accurate representation plain surface in the form of a diagram drawn to scale, the details of boundaries of continents, countries etc. Geographical details like location of mountains, rivers, altitude of a place, contours of the earth surface and important locations can also be presented accurately with reference to a convenient scale with suitable color scheme.

Significance of map study

In social studies the learning of many geographical, historical and economic concepts becomes unreal, inadequate and incomplete without map media. A resourceful teacher by motivating the pupils will turn the fear of map into the genuine love for them. This, however, pre-supposes the invariable uses of maps at every possible opportunity by the teacher in the classroom, and the possession of individual atlases by the pupils. Every student should also know certain elementary aspects of map preparation such as copying, enlarging, reducing, symbolizing, coloring, gardening and preparation of map. Most of the students develop a version to maps becomes they do not know skills relating to map preparation.

Identification of various aspects of maps

1. Understanding and interpreting the key of index.

2. Understanding the lines- boundary lines, lines of communication, lines indicating the rivers, contours, meridians and parallels.

3. Understanding the colors, tints, shadows, and symbols in a map or globe.

4. The top of every map is not north, but the direction of northern pole is north.

5. Globe is the only real map. All the flat surfaces are distorted representations of earth in one way or other.

6. Distinction between the various types of maps such as relief, political, distribution maps, etc.

7. Understanding of the position of earth in the universe.

Many students suffer from a notion that the earth leans in June towards the sun northwards and in December southwards and thus the seasons are formed. Earth never dances that way. The student shall understand that the inclination of earth is constant and the learning effect changes due to its rotation around the sun.

Variety of maps

1**. Relief maps (regional and the world).**This requires the knowledge of colors, contours, symbols and the other connected ethics of map making.

2. **Historical maps.** Maps in history reveal the changing times, the growth and decline of various kingdoms of man's life. Knowledge of lines of boundaries and other symbols is necessary. Every geography map shall contain some important relied aspects also.

3. **Distribution maps**. Generally, the student shall associate with the following types of distribution maps:

  a. Vegetation maps

  b. Population maps

  c. Economic maps

  d. Statistical maps

  e. Dot maps

  f. Pictorial maps

  g. Language, race and other human division maps etc.

4. **Geographical maps.** Contour maps, weather maps, seismological maps archaeological maps, rainfall maps, geological maps etc

The uses of maps:

A. With color as a basic symbol, maps may be used to express:

1. Land- use patterns

2. Topography

3. Political divisions

4. Political relationship

5. Economic relationship

6. Cultural relationship

7. Religious relationship

8. Population density

9. Climate or aspects of climate

10. Distribution of resources.

B. Through the use of conventional or invented symbol, maps may be used to express:

1. Any of the ideas listed for color, but with substitutions of crosshatching or visual textures.

2. Production, total of selected items.

3. Distribution of fauna and flora.

4. Clothing, shelter and basic foods in various areas, total or selected.

5. Population.

6. Military power.

7. Routes of all kinds.

8. Centers of commerce.

9. Communication of various sizes.

10. Points of historical interest.

C. Three- dimensional maps most adequately express topography and land-use patterns.

D. Rearranged maps (maps in which location and size of nations and continents are distorted to express significant relationship) are particularly good for showing:

1. Political relationships.

2. Economic relationships.

3. Cultural relationships.

4. Religious relationships.

SPECIMENS

These are also effective teaching aids in geography. They become more potent when used with other teaching aids such as pictures, maps, charts.

They say 'A bird in hand is worth two in the bush." This saying acquires a new meaning when it is applied to the use of objects and specimens.

Specimens may be defined as typical objects or parts of objects which have been removed from their natural setting and environment.

These teaching aids are powerful interest-arousing devices which possess the capacity of bringing into play all the five senses- touch, sight, hearing, smell and taste.

MODELS:

Original materials are quite rare in geography. Even those which exist are within easy reach of all schools. Therefore, the models- the three dimensional representations of real things-can be used with great advantage in the teaching of geography.

A model may be defined as a replica of an object as it is or in a reduced or in an enlarged form. Models can afford a substitute for most of the geographic remains. They give a vivid impression of the real.

Use of models in teaching helps in visualizing the geographical reality. Sometimes, models may be the shortest and easiest way of presenting certain concepts to pupils.

Models can help geography teachers to teach according to the source method. The use of models is especially useful in primary and junior secondary classes.

Types of Models:

 A variety of models can be used for illustrating geography.

  i.   Models of human dwellings, crops, food, vegetables,   utensils, ornaments, costumes, etc., in different ages are very useful in geography teaching. They may also be used for class dramatizations and exhibitions, besides ordinary geography teacher.

ii. Models of places which are sites of events of the greatest geographical importance.

iii. Models illustrating agriculture, means of transport and communication through the ages, can create an interest in the process of development and impress upon the students the extent of man's progress.

iv. Models of documents can go a long way in teaching Geography by the source method.

v. Models of agriculture and sculpture are very useful in developing proper concepts. Such models are available from commercial firms.

vi. Models of food shelter crops during the different ages can help in creating proper awareness among pupils regarding the process of agricultural development.

Qualities of a good Model

1. Accuracy
2. Simplicity
3. Utility
4. Interesting
5. Inexpensive and easily available
6. Participation of the whole class

Principles of Use

a) Models should be used in class in an interesting manner.

b) Everyone in the class must be able to see the model easily, and preferably, the entire class should see it at the same time.

c) Models should be used in conjunction with other learning materials as text, films, dramatization and resource persons etc.,

d) Students should be encouraged to examine the models, ask questions and make generalization.

e) Students should be encouraged to produce models to illustrate many of the objects, concepts.

ICT RESOURCES

(i) Radio

Radio has been used in different formats for educational purposes the world round. Radio technology was first developed during the late nineteenth century and came into popularity as an educational medium during the early twentieth century. Although often

overshadowed as educational medium vis-à-vis other technologies such as television, radio remains a viable medium that has proven educational worth in terms of both pedagogical importance and geographical reach. Radio is capable of delivering high quality educational programming to highly diversified audiences located across broad geographical expanses – all at a low per unit production cost. Three main advantages of radio: (1) improved educational quality and relevance; (2) lowered per student educational costs; and (3) improved access to education, particularly for disadvantaged groups.

(ii) Television

When teachers use educational television programs during class, the relationship between teachers and student changes. Usually the status quo of the classroom is the teacher imparts knowledge while students absorb the information. Educational programs change the status quo by, in a way, making the educator and children peers who can share and discuss the viewing experience. Teachers can take advantage of this shift in roles by encouraging small group discussions after watching the show. Educators can set specific goals or activities for students in these small groups, which allow them to explore their own questions and share their ideas on the given topic with their classmates. The instructor can then ask one member of the small group to share their team's insights with the rest of the class, strengthening the absorption of knowledge.

(iii) Internet

The internet has a lot to offer the teacher. There are authentic resources and materials, places where you can find prepared lesson plans, ideas and worksheets. The advantages of the internet to teachers include

* The incredible expanse of the internet means the teacher has the ability to tailor lessons very specifically to students' needs and interests. Learners tend to respond better when they feel involved and engaged in the subject and the extent of the web means that if you can find out what the students are interested in, you can find it on the web.

* Much material is modern and up to date, which helps motivate students. Good web sites continually update their material.

* Students enjoy using the net in their free time, and will appreciate its use in class

* It's a dynamic medium involving movement from site to site, promoting decision-making and learner independence.

The internet contains a lot of resources that teachers can access and use to prepare teaching materials. These range from sites specifically designed for teachers and learners to sites from national and international newspapers, museums, galleries and so on. Teachers can use these materials much the same way as they would other print-based resources, to create worksheets. But if teachers are fortunate enough to have access to a computer room in their school then it is possible to use the internet with students during a class, exploiting the net as a dynamic medium.

Using the internet brings the 'real world' into the classroom and gives the students an opportunity to explore learning in a different way. However, having students facing a computer rather than the teacher, means teachers of internet lessons do need to be vigilant.

(iv) Multimedia

One of the techniques to improving the students' meets the academic needs and helps them developing geographical skills is providing multimedia during the process of teaching and learning in the classroom. *It* means the use of electronic media to store and experience *multimedia*content. *Multimedia*means that computer info can be represented through audio, graphics, image, video and animation in addition to traditional media. Multimedia classroom provide the students chances for interacting with diverse texts. The writing aims to find out some advantages of the use of multimedia in the classroom. Through the media the teacher could give more opportunity to students to express their opinions and enjoy during the course. The highly presence and motivation also bring positive aspects to students so that they can improve their skills.

(v) Interactive white board

We connect the white board to a computer and share documents, websites and even play games. With a large touch screen, students will be excited to come up to the white board to help complete notes, do examples or take part in one of the many interactive games and demonstrations that can be used.

COMMUNITY RESOURCES

Community experiences can enrich social studies in instructions in ways more than one. To achieve the purposes of social studies, the child must, become a real part of the community in which he lives, interact with it and contribute to it. To become an effective citizen, the child must become a responsible member of community with civic attitudes and

ideals compatible with the spirit of democracy. There is no more effective way of becoming this kind of person than through practicing what such a person will do.

A variety of community experiences offer the child the laboratory in which he may experiment with life in the community and begin to find his place in it. It is good to note that it is impossible to separate the school from the community. They are glued together the aspirations of the community are the manifestations of the school system. The idea of making the community the best of the school and the school the best of the community represents a fruitful and essential extension of accepted educational thinking and practice. In order to nourish and invigorate democracy, community study and service through school education must be made essential. This movement is the most significant single development of its kind in our generation, and it seem destined to grow greatly with continuing sound experimentation at all school levels, in all teaching field, with all types of students, and in all community areas – local, regional, national and international. The most important community resources for teaching Geography are Field trips, Geography Exhibition, Geography Lab, Geography Resource Centre and Geography Club.

(i) Field Trips

Field trips is undertaken for securing information, changing attitudes, awakening interest, developing appreciation, promoting ideals, enjoying new experiences. They can initiate a unit of study, they can be a part of the core of it or they can give it the finishing touch. They are a very good means of getting knowledge first hand of confirming and supplementing second hand knowledge. They are a means for sharpening observation, testing principles and doing everything.

Field trips are useful for educational purposes in many ways:
1. They stimulate imagination and learning by providing sensory perceptions
2. They integrate classroom instruction by exposing the artificially of traditional subject matter divisions and enable the pupils to view facts and forces as they exist in their everyday relationship in living communities.
3. Through the filled trips, the students may come to realize community in ways which bookish learning cannot by its very nature allow.
4. They enable the pupils to learn the art of living with others such as travelling in the same conveyances, sharing rooms, sitting at the same table.

5. They expand emotional and intellectual horizons by making them acquainted with people whose manner, customs, living standards, outlook and interests may be quite different from their own.

(ii) Geography exhibitions/fair

It is important for the faculties to **support the kids** in presenting something that they have learned in the most beautiful manner. There are certain benefits of organizing such exhibitions in schools. Students get a platform to show what they have learned and what they are good at, as well.

There are many students who always try to implement the things that they learn and they find these **platforms of exhibitions** a great way to showcase what and all that they have tried. It is always good to give the students a chance for implementing the things that they have learned and also to a*pply their ideas and present things differently* in their own unique way.

It makes the students really creative and they have practical knowledge to learn what they read. It increases their thirst for knowledge and drives away their boredom and monotony. It has become a tradition in our educational field that students need not see, learn and practice the things they deal with practically. Arranging regular geography fair can contribute a great deal to sensitize their desire and interest for science and geography. Students of this age want to create something. It is quite natural. When they get chance for creation, definitely it exercises a profound impact on their overall learning. It also helps develop the social skills of learns as it increase interaction and relations with local community which is a big part of learning.

(iv) Geography Club

The Geography club plays an important role in creating interest in geography in schools. This helps the students in having an idea of the practical utility of geography in addition to creating their interest in Geography.

Importance of the club:

1. Geography Club is useful in arousing and maintaining interest in Geography.
2. Gifted students get an opportunity to satisfy their needs and interests by actively participating in the activities of geography clubs.

3. It is helpful in making proper utilization of leisure time.

4. The students get an opportunity of geographical hobbies, recreational geography, geographical projects, geographical games, geographical discussions and debates, and geographical innovations.

5. It provides an opportunity to read geographical literature.

6. It provides an opportunity of leadership, cooperation and joint responsibility

Organization of Geography Club

Geography Club will be a great help in teaching of Geography. Such a club should be run by the students under the guidance of the teacher. Geography Club is an organization of the students, by the students, for the students. For proper running of a club the most important thing is the preparation of a draft constitution of the club. This draft be prepared by the Geography teacher in consultation with the head of the institution. This draft constitution should provide all important details about the name of the club, aims and objectives of the club, details regarding membership and the fee etc. For efficient and successful working of Geography club an expert body has suggested the organization i.e 1) Patron 2) In-charge 3) Staff advisor 4) Associate Staff Advisors. The club may have an elected/ nominated executive committee amongst the students i.e. 1) President 2) Vice-president 3) Secretary 4) Treasurer.

Activities of the Club:

1.Arranging lecturers by renowned Geography Teachers or Scholars.

2.Celebrating days and events pertaining to the history of Geography or men of Geography.

3.Organizing Geographical competitions.

4.Organizing recreational activities in Geography.

5.Preparing Geographical aids and illustrations.

6.Organizing Geographical exhibitions or fairs.

7.Geographical articles for the school magazine.

8.Organizing seminars and career courses relating to Geography.

(v) Geography textbook

The geography textbook is an important source for learning geography and it plays a key role in effective teaching and learning. A textbook should stimulate reflective thinking and develop problem-solving ability among students. The textbooks should present real

learning situations, which are challenging and interesting for the students and should not render itself as a means of rote learning.

Text books and teachers' guides occupy a unique place in the teaching learning process. Text book are an indispensable part of primary and secondary education. The text book is a teaching instrument. It is not only a source of information, but a course of study, a set of unit plans and learning guide. It helps to revise and reinforce the language material already taught. In the absence of any other instructional material, the text book becomes a potent tool in the hand of a teacher to teach the skill of a language and the more so of a foreign language.

Qualities of a Good Geography Textbook

The qualities of a good textbook in geography can be broadly classified under Physical features, Author, Content, Organization and presentations, Language, Exercise and illustration.

(i) Physical features:

1. Paper: the paper used in the textbook should be of superior quality
2. Binding: it should have quality strong and durable binding
3. Printing: it should have quality printing, bold font and easily readable font.
4. Size: bulky and thick. It should be handy
5. Cover: it should have an appealing and attractive cover page.

(ii) Author

1. Qualified author should write it
2. Experienced teacher should write it
3. Competent teachers should write it
4. It should be written by committee of experts constituted by the state government
5. For the authors, certain minimum academic and professional qualifications may be prescribed.

(iii)Content

1. It should be child centered
2. The subject matter should be arranged from simple to complex and concrete to abstracts.
3. The subject matter should create interest in the pupil.
4. It should be objective oriented
5. It should be written according to prescribed syllabus
6. It should satisfy the demands of examination

7. The answers given at the end of each section should be correct

8. It should include the recent developments in the geography relating to the content dealt with.

9. Oral geography should fine its due place in the textbook.

(iv) Organization and presentation

1. It should provide for individual differences.

2. There should be sufficient provision for revision, practice and review.

3. It should stimulate the initiative and originality of the students

4. It should offer suggestion to improve study habits.

5. It should facilitate the use of analytic, synthetic, inductive, deductive, problem solving and heuristic approaches to teaching.

6. Content should be organize in a psychological consideration.

7. Content should be organize in a logical way.

8. It should suggesting project work, fieldwork and laboratory work.

(v)Language

1. The language used in the textbook should be simple and easily understandable and within the grasp of the pupils

2. The style and vocabulary used should be suitable to the age group of student for whom the book is written.

3. The term and symbols used must be those, which are popular and internationally accepted

4. It should be written in lucid, simple, precise and scientific language.

(vi) Exercise and Illustrations:

1. The illustrations should be accurate

2. The illustrations should be clear and appropriate

3. It should contain some difficult problems

4. It should contain exercises to challenge the geographically gifted students.

5. There should be well-graded exercises given at the end of every topic.

6. The exercise should develop thinking and reasoning power of the pupils.

Qualities of a Geography Teacher

A Geography teacher should

1. motivate and engage the students.

2. convey the beauty of the subject.

3. encourage their students to go beyond the classroom with their learning.

4. help them feel confident in their geographical abilities.

5. have sound subject knowledge.

6. make the subject easier by adopting suitable strategy.

7. provide guidance and support to the students while solving the problem.

8. provide alternate strategies to help struggling students grasp difficult concepts.

9. have good attitude and actions.

Conclusion

Imagination and creativity in using community resources can help students connect school science and geography with applications in the community, as well as helping students better learn basic concepts. Children learn science and geography from many sources, in a range of different ways, and for a variety of purposes. Taking students out onto the school grounds, exposing them to innovative materials, or inviting guests who can give unique insights are a few ways to increase their learning experiences. Teachers should be well trained through in-service training to maximize the benefits of using these aids. The curriculum should be designed such that there are options to activity based learning through audio-visual aids. In addition, government should fund resources to purchase audio-visual aids in schools.

Questions for Discussion and Reflection

1. Discuss the effect of ICT resources for teaching Geography.

2. What are print resources? Explain the need of print resources for teaching Geography.

3. Analyze the various types of resources in teaching Geography.

4. Bring out the need for community resources in the Geographical instructional process.

5. Explain the different types of audio and video resources with examples.

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Course 7(a): Pedagogy of History

(Part –I Methodology)

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UNIT – I: AIMS AND OBJECTIVES OF HISTORY

At the end of the course, the student teachers will be able to:

➢ Know the nature and scope of history

➢ Understand aims of teaching history

➢ Interest to learn objectives of history

➢ Analyze need and importance of teaching history

➢ Acquire knowledge of values of history

MEANING

History is often said to be the "queen" or "mother" of the social sciences. It outdates the other social sciences, having appeared in schools long before the others with the possible exception of geography. It is the basis of all subjects of study which fall under the category of Humanities and Social sciences. It is also the basis of the study of philosophy, politics, economics and even art and religion. No wonder, it is considered an indispensable subject in the complete education of man.

The term history is derived from the Greek word 'Historia' meaning 'information' or 'an enquiry conducted to find truth'. The other meaning is 'what has actually passed or happened'. It has been variously put though one and the same in essence.

"History is the present thought about the past, history is thought and nothing else" said by **Croce**.

NATURE OF HISTORY

  I.   History is the study of man.

 II.   It is concerned with man in time.

III.   It is concerned with man in space also.

 IV.   It explains the present.

  V.   It is a dialogue between the events of the past and progressively emerging future ends.

 VI.   It is the story of the growth of human consciousness, both in its individual and collective aspects.

VII.   Continuity and coherence are the necessary requisites of history.

SCOPE OF HISTORY

The scope of history is from local history to national and from national to international. The knowledge of the child should not be limited to the events of his own country. It should be extended to the study of history of other countries because the events and the problem of a particular country are sure to affect the whole world. The scope of history is, thus, as vast and wide as humanity itself.

"History is a veritable mine of life experience and the youth of today studies history that may be profit by the experiences of the race" **Jones.**

AIMS OF TEACHING HISTORY

"History is not simply information regarding the affairs of the kings who have passed away but a science which explains the intellect and furnishes the wise with examples." **Tarikh-i-Daudi**

"The aim of history is not to please nor to give practical maxims of conduct, nor to fire one with patriotic fervor, nor to afford mental training nor to arouse the emotions but to equip the readers with knowledge, pure, simple and truthful."

- ✓ To promote self-understanding:
- ✓ To give proper conception of time, space and society:
- ✓ To enable the pupils to assess the values and achievement of their own age:
- ✓ To teach tolerance:
- ✓ Feed the education of intellect and leave the reset to history:
- ✓ To awaken interest in the subject and to keep it.
- ✓ Modern youth is to be equipped intellectually to the fullest:
- ✓ It is a storehouse of wisdom
- ✓ It inculcates intellectual discipline
- ✓ Development of memory, imagination and reasoning power

OBJECTIVES OF TEACHING HISTORY

- ➢ **Knowledge**: The pupil should acquire knowledge of terms, concepts, facts, events, symbols, ideas, conventions, problems, trends, personalities, chronology and generalisations, etc., related to the study of history. The pupil should able to: recall, recognize, show and read.

> **Understanding:** The pupil should develop understanding of terms, facts, principal events, trends, etc., related to the study of history. The pupil should be able to: classify facts, illustrate events, compare and contrast events, explain events, discriminate, identify, arrange facts, detect errors, interpret and extract.

> **Critical Thinking**: The subject should enable the pupils to develop critical thinking. The pupil should be able to: identify, analyse, collect, select, draw and verify.

> **Practical Skills**: The subject enables the pupils to develop practical skills helpful in the study and understanding of historical facts. The pupil should be able to: draw maps, charts, diagrams and prepare models, etc.,

> **Interests**: The subject should enable the pupils to develop interest in the study of history. The pupil, on his own, should be able to: collect coins and other historical materials, participate in historical dramas and mock sessions of historical events, visits places of historical interest, archaeological sites, museums and archives, read historical documents, maps and charts, write articles on historical and other related topics.

NEED AND IMPORTANCE OF TEACHING HISTORY

People live in the present. They plan for and worry about the future. History, however, is the study of the past. Given all the demands that press in from living in the present and anticipating what is yet to come, why bother with what has been? Given all the desirable and available branches of knowledge, why insist—as most American educational programs do—on a good bit of history? And why urge many students to study even more history than they are required to?

Any subject of study needs justification: its advocates must explain why it is worth attention. Most widely accepted subjects—and history is certainly one of them—attract some people who simply like the information and modes of thought involved. But audiences less spontaneously drawn to the subject and more doubtful about why to bother need to know what the purpose is.

Historians do not perform heart transplants, improve highway design, or arrest criminals. In a society that quite correctly expects education to serve useful purposes, the functions of history can seem more difficult to define than those of engineering or medicine. History is in fact

very useful, actually indispensable, but the products of historical study are less tangible, sometimes less immediate, than those that stem from some other disciplines.

In the past history has been justified for reasons we would no longer accept. For instance, one of the reasons history holds its place in current education is because earlier leaders believed that a knowledge of certain historical facts helped distinguish the educated from the uneducated; the person who could reel off the date of the Norman conquest of England (1066) or the name of the person who came up with the theory of evolution at about the same time that Darwin did (Wallace) was deemed superior—a better candidate for law school or even a business promotion. Knowledge of historical facts has been used as a screening device in many societies, from China to the United States, and the habit is still with us to some extent. Unfortunately, this use can encourage mindless memorization—a real but not very appealing aspect of the discipline. History should be studied because it is essential to individuals and to society, and because it harbors beauty. There are many ways to discuss the real functions of the subject—as there are many different historical talents and many different paths to historical meaning. All definitions of history's utility, however, rely on two fundamental facts.

History Helps Us Understand People and Societies

In the first place, history offers a storehouse of information about how people and societies behave. Understanding the operations of people and societies is difficult, though a number of disciplines make the attempt. An exclusive reliance on current data would needlessly handicap our efforts. How can we evaluate war if the nation is at peace—unless we use historical materials? How can we understand genius, the influence of technological innovation, or the role that beliefs play in shaping family life, if we don't use what we know about experiences in the past? Some social scientists attempt to formulate laws or theories about human behavior. But even these recourses depend on historical information, except for in limited, often artificial cases in which experiments can be devised to determine how people act. Major aspects of a society's operation, like mass elections, missionary activities, or military alliances, cannot be set up as precise experiments. Consequently, history must serve, however imperfectly, as our laboratory, and data from the past must serve as our most vital evidence in the unavoidable quest to figure out why our complex species behaves as it does in societal settings. This, fundamentally, is why we cannot stay away from history: it offers the only extensive evidential base for the contemplation and analysis of how societies function, and people need to have some sense of how societies function simply to run their own lives. History Helps Us Understand Change and

How the Society We Live in Came to Be The second reason history is inescapable as a subject of serious study follows closely on the first. The past causes the present, and so the future. Any time we try to know why something happened—whether a shift in political party dominance in the American Congress, a major change in the teenage suicide rate, or a war in the Balkans or the Middle East—we have to look for factors that took shape earlier. Sometimes fairly recent history will suffice to explain a major development, but often we need to look further back to identify the causes of change. Only through studying history can we grasp how things change; only through history can we begin to comprehend the factors that cause change; and only through history can we understand what elements of an institution or a society persist despite change.

The Importance of History in Our Own Lives

These two fundamental reasons for studying history underlie more specific and quite diverse uses of history in our own lives. History well told is beautiful. Many of the historians who most appeal to the general reading public know the importance of dramatic and skillful writing—as well as of accuracy. Biography and military history appeal in part because of the tales they contain. History as art and entertainment serves a real purpose, on aesthetic grounds but also on the level of human understanding. Stories well done are stories that reveal how people and societies have actually functioned, and they prompt thoughts about the human experience in other times and places. The same aesthetic and humanistic goals inspire people to immerse themselves in efforts to reconstruct quite remote pasts, far removed from immediate, present-day utility. Exploring what historians sometimes call the "pastness of the past"—the ways people in distant ages constructed their lives—involves a sense of beauty and excitement, and ultimately another perspective on human life and society.

History Contributes to Moral Understanding

History also provides a terrain for moral contemplation. Studying the stories of individuals and situations in the past allows a student of history to test his or her own moral sense, to hone it against some of the real complexities individuals have faced in difficult settings. People who have weathered adversity not just in some work of fiction, but in real, historical circumstances can provide inspiration. "History teaching by example" is one phrase that describes this use of a study of the past—a study not only of certifiable heroes, the great men and women of history who successfully worked through moral dilemmas, but also of more ordinary people who provide lessons in courage, diligence, or constructive protest.

History Provides Identity

History also helps provide identity, and this is unquestionably one of the reasons all modern nations encourage its teaching in some form. Historical data include evidence about how families, groups, institutions and whole countries were formed and about how they have evolved while retaining cohesion. For many Americans, studying the history of one's own family is the most obvious use of history, for it provides facts about genealogy and (at a slightly more complex level) a basis for understanding how the family has interacted with larger historical change. Family identity is established and confirmed. Many institutions, businesses, communities, and social units, such as ethnic groups in the United States, use history for similar identity purposes. Merely defining the group in the present pales against the possibility of forming an identity based on a rich past. And of course nations use identity history as well—and sometimes abuse it. Histories that tell the national story, emphasizing distinctive features of the national experience, are meant to drive home an understanding of national values and a commitment to national loyalty.

Studying History Is Essential for Good Citizenship

A study of history is essential for good citizenship. This is the most common justification for the place of history in school curricula. Sometimes advocates of citizenship history hope merely to promote national identity and loyalty through a history spiced by vivid stories and lessons in individual success and morality. But the importance of history for citizenship goes beyond this narrow goal and can even challenge it at some points.

History that lays the foundation for genuine citizenship returns, in one sense, to the essential uses of the study of the past. History provides data about the emergence of national institutions, problems, and values—it's the only significant storehouse of such data available. It offers evidence also about how nations have interacted with other societies, providing international and comparative perspectives essential for responsible citizenship. Further, studying history helps us understand how recent, current, and prospective changes that affect the lives of citizens are emerging or may emerge and what causes are involved. More important, studying history encourages habits of mind that are vital for responsible public behavior, whether as a national or community leader, an informed voter, a petitioner, or a simple observer.

What Skills Does a Student of History Develop?

What does a well-trained student of history, schooled to work on past materials and on case studies in social change, learn how to do? The list is manageable, but it contains several overlapping categories.

The Ability to Assess Evidence: The study of history builds experience in dealing with and assessing various kinds of evidence—the sorts of evidence historians use in shaping the most accurate pictures of the past that they can. Learning how to interpret the statements of past political leaders—one kind of evidence—helps form the capacity to distinguish between the objective and the self-serving among statements made by present-day political leaders. Learning how to combine different kinds of evidence—public statements, private records, numerical data, visual materials—develops the ability to make coherent arguments based on a variety of data. This skill can also be applied to information encountered in everyday life.

The Ability to Assess Conflicting Interpretations: Learning history means gaining some skill in sorting through diverse, often conflicting interpretations. Understanding how societies work—the central goal of historical study—is inherently imprecise, and the same certainly holds true for understanding what is going on in the present day. Learning how to identify and evaluate conflicting interpretations is an essential citizenship skill for which history, as an often-contested laboratory of human experience, provides training. This is one area in which the full benefits of historical study sometimes clash with the narrower uses of the past to construct identity. Experience in examining past situations provides a constructively critical sense that can be applied to partisan claims about the glories of national or group identity. The study of history in no sense undermines loyalty or commitment, but it does teach the need for assessing arguments, and it provides opportunities to engage in debate and achieve perspective.

Experience in Assessing Past Examples of Change: Experience in assessing past examples of change is vital to understanding change in society today—it's an essential skill in what we are regularly told is our "ever-changing world." Analysis of change means developing some capacity for determining the magnitude and significance of change, for some changes are more fundamental than others. Comparing particular changes to relevant examples from the past helps students of history develop this capacity. The ability to identify the continuities that always accompany even the most dramatic changes also comes from studying history, as does the skill to determine probable causes of change. Learning history helps one figure out, for example, if

one main factor—such as a technological innovation or some deliberate new policy—accounts for a change or whether, as is more commonly the case, a number of factors combine to generate the actual change that occurs.

Historical study, in sum, is crucial to the promotion of that elusive creature, the well-informed citizen. It provides basic factual information about the background of our political institutions and about the values and problems that affect our social well-being. It also contributes to our capacity to use evidence, assess interpretations, and analyze change and continuities. No one can ever quite deal with the present as the historian deals with the past—we lack the perspective for this feat; but we can move in this direction by applying historical habits of mind, and we will function as better citizens in the process.

History Is Useful in the World of Work

History is useful for work. Its study helps create good businesspeople, professionals, and political leaders. The number of explicit professional jobs for historians is considerable, but most people who study history do not become professional historians. Professional historians teach at various levels, work in museums and media centers, do historical research for businesses or public agencies, or participate in the growing number of historical consultancies. These categories are important—indeed vital—to keep the basic enterprise of history going, but most people who study history use their training for broader professional purposes. Students of history find their experience directly relevant to jobs in a variety of careers as well as to further study in fields like law and public administration. Employers often deliberately seek students with the kinds of capacities historical study promotes. The reasons are not hard to identify: students of history acquire, by studying different phases of the past and different societies in the past, a broad perspective that gives them the range and flexibility required in many work situations. They develop research skills, the ability to find and evaluate sources of information, and the means to identify and evaluate diverse interpretations. Work in history also improves basic writing and speaking skills and is directly relevant to many of the analytical requirements in the public and private sectors, where the capacity to identify, assess, and explain trends is essential. Historical study is unquestionably an asset for a variety of work and professional situations, even though it does not, for most students, lead as directly to a particular job slot, as do some technical fields. But history particularly prepares students for the long haul in their careers, its qualities helping adaptation and advancement beyond entry-level employment. There is no denying that in our society many people who are drawn to historical study worry about relevance. In our

changing economy, there is concern about job futures in most fields. Historical training is not, however, an indulgence; it applies directly to many careers and can clearly help us in our working lives.

Why study history? The answer is because we virtually must, to gain access to the laboratory of human experience. When we study it reasonably well, and so acquire some usable habits of mind, as well as some basic data about the forces that affect our own lives, we emerge with relevant skills and an enhanced capacity for informed citizenship, critical thinking, and simple awareness. The uses of history are varied. Studying history can help us develop some literally "salable" skills, but its study must not be pinned down to the narrowest utilitarianism. Some history—that confined to personal recollections about changes and continuities in the immediate environment—is essential to function beyond childhood. Some history depends on personal taste, where one finds beauty, the joy of discovery, or intellectual challenge. Between the inescapable minimum and the pleasure of deep commitment comes the history that, through cumulative skill in interpreting the unfolding human record, provides a real grasp of how the world works.

VALUES OF TEACHING HISTORY

Writers have been expressing diametrically opposite views regarding the value of history as a subject of study in schools. There are others, who claim that history is a school of morals. It makes people wise. It can help in the training of able statesmen and intelligent and useful citizens. It trains the mental faculties such as critical thinking, memory and imagination. It quickens and deepens understanding, gives an insight into the working of social, economic, political and technological forces.

   a. Disciplinary value

   b. Informative value

   c. Educational value

   d. Ethical value

   e. Cultural value

   f. Political value

    g. Nationalistic value

    h. Internationalistic value

    i. Vocational value

Questions

1. Explain the nature and scope of history.

2. Critically analyse the need and importance of teaching history.

3. Describe the values of teaching history.

4. Give detail explanation of nature and scope of teaching history.

5. Write about an objective of teaching history.

References:

1. Arora.K.L. (2005). Teaching of History, Ludhiana: Tandon Publications.

2. Kochhar.S.K. (2006). Teaching of History, New Delhi: Sterling Publishers.

3. Mangal.S.K. and Uma Mangal. (2008). Teaching of social studies, New Delhi: PHI Learning Pvt. Ltd.

UNIT II   PLANNING FOR INSTRUCTION

At the end of the course, the student teachers will be able to:

➢ Understand the steps in planning a lesson and setting lesson goals

➢ Draw designing a lesson plan

➢ Understand bloom taxonomy of educational objectives

➢ Know different types of test items

➢ Understand formative evaluation procedures

INTROUDUCTION

An organized planning always plays a substantial role in the execution of any task in our life. This is why, planning is a must for the successful execution of a task or a project. It not only caters to the proper realization of the aims or purposes of doing that task but also helps in proper utilization of the time and energy on the part of human and material resources. The same is equally true for the process of teaching-learning. The teachers who plan their work properly are quite efficient and effective in their teaching task. This is why; a history teacher should concentrate on a wise planning of his teaching and instructional work carried along with his students during the whole session.

MEANING OF INSTRUCTION

At the time of imparting instruction, i.e., teaching-learning of a particular lesson, unit or sub-unit of history, a teacher has to place before him some definite and very specific objectives which would be attained within a specified classroom period and resources in hand. Through these specific classroom teaching-learning objectives, known as instructional objectives, a teacher tires to bring desired changes in the behavior of his pupils. In this way, the term instructional objectives in relation to the teaching of history may be defined as a group of statements formulated by a teacher for describing what the pupils are expected to do or will be able to do once the process of classroom instruction is over.

In fact, what a teacher obtains as instructional output in the teaching-learning process are nothing but some type of behavioural change in the pupils that may be expected as a result of the instruction related to a particular lesson, unit or sub-unit of the subject. Instructional objectives are thus nothing but description of the pupil's terminal behavior expected out of the ongoing classroom instruction.

DESIGNING A UNIT PLAN

Unit planning stand for the planning of the instructional work of the session by dividing the prescribed syllabus into some well-defined and meaningful units.

Thus, by the term unit we may understand one of the most complete and meaningful sub-divisions of prescribed course of a subject, centred around a single principle, process, problem or purpose that is capable of helping in the realization of the desired teaching-learning of the subject.

Carter V. Good: "Unit may be described as an organization of various activities, experiences and types of learning around a central problem or purpose developed comparatively by a group of pupils under teacher-leadership."

IMPORTANCE AND ADVANTAGES OF UNIT PLANNING

➢ The syllabus in terms of contents and learning experiences to be covered in the whole session is suitably divided into units in view of the time available for the teaching of history. It helps in the proper coverage of the syllabus within the available time and duration of the session.

➢ Unit planning has a proper provision for the diagnosis of the learning difficulties of the students and subsequent remedial instruction.

➢ Units represent the unified and integrated wholes of the meaningful and purposeful content material and learning experiences. The organization of the subject matter and learning experiences into such meaningful wholes is quite advantages both from the educational as well as psychological angles to the students.

DESIGNING LESSON PLAN

In simple words lesson planning in history means the planning of a daily lesson related to a particular unit of the subject history to be covered by the history teacher in a specific school period for the realization of some stipulated instructional objectives. It is a sort of theoretical chalking out of the details of the journey that a history teacher is going to perform practically in the classroom along with his students.

Now the work of chalking out the details of such journey or preparation on the part of a teacher for executing the task of actual classroom teaching may be done either at the cognitive level or prefer in the written form by writing a lesson plan.

In this planning, a teacher of history may have to pay considerations to the following essential aspects:

- o Broader goals of objectives of the subject history

- o Setting and defining of the classroom objectives related to the present unit of history.

- o Organization of the relevant subject matter to be covered in the given lesson for the realization of the set objectives.

- o The decision about the method of presentation of the subject matter, teaching strategies, classroom interaction and management.

- o Appropriate provision for evaluation and feedback.

HOW TO PLAN LESSON FOR TEACHING HISTORY

The educationists and researchers in the field of pedagogy have suggested, from time to time, some appropriate guidelines for the planning of these daily lessons. However, the schedule suggested by the renowned educationist Herbart in the shape of his famous five steps has remained quite popular for the planning in almost all the subjects of school curriculum. The five steps suggested by him for the lesson planning are as below: Preparation, Presentation, Comparison and association, Generalization and application.

<u>**MODEL LESSON PLAN**</u>

Name of the Student teacher: XXXXXXXX

Name of the School: XXXXXXXX   **Class Section/Session: XXXXX**

Subject: Teaching of History   **Unit: VI**

Topic : India's First War of Independece-1857   **Date: XXXX**

Objectives	The student teacher will be able to :
	i) Know the names of the main heroes of the first war of independence.
	ii) Understand India's first war of independence was fought.
	iii) Describe the causes of the first war of independence.
	iv) Analyze the factors or causes leading to the failure of the war.
	v) Recall about the main events of the first war of independence in detail.
Instructional Materials	i) Pictures/charts of the main heroes of the first war of independence
	ii) Model of army weapons
	iii) Indian outline map
	iv) Power point presentation
Previous knowledge of the students	1. When did India get freedom?
	2. Who was ruling India before its independence in 1947?
	3. What did Indians do for getting them freed from the British subjugation?
	The teacher raises the following questions to motivate the students to study the lesson**.**
	1. Are you know Independence war?
	2. Could say any independence country name in the world?
	3. Who was ruled before independence of India?
	After this process the teacher writes the lesson title **"India First war of Independence-1857"** on the black board.

Content/Concept	Specification of Behavioural changes	Learning Experiences (Teacher/Learner Activities)	Evaluation
The main causes of the war: **Political cause:** Lord Dalhousie new rules and regulations against for Indian rulers.	Listen, Observes	All these factors and causes presents before the students through a chart or transparency. This also explains, discusses and shows in the map to the students for their clear grasping. Students listen to the teacher and carefully observe the graphic aids for acquaints with the political causes of the expansions of the war.	Which state was ruled by Rani Lakshmi bai in the first war of Indian independence?
Military Causes: Being paid less salary to Indian soldiers – Indian soldiers could be sent overseas for fighting.	Understands, Clarifies		Who was the governor general of during first war of Indian Independence?
Religious and Social Causes: Widow marriage – Ban on sati Partha.	Describes	After power point presentation, this fully explains and discusses with the students for proper clarification and reflective thinking by the students.	What are religious and social causes for begun first war of Indian Independence?
Causes of failure of the war: Its immature initiation earlier than the scheduled date of 31st May, 1857.	Analyzes	The students cooperate with the teacher in responding to the question asked by the teacher during and after the presentation of the social and religious causes.	

		The teacher and students analyzes the following points: lack of single purpose or goal; lack of resources; lack of proper organization and leardership.	
Its limitation to northern India only.			
Discussion Method	Clarifies	The teacher is giving a topic to the students for discussion. **"Economic Causes of the first war of Indian Independence"** Students take active part in knowing about the economic causes for the resentment growing among the Indian masses against the British rulers by actively responding to the questions put to them by the teacher.	Which foreign traders occupied Indian business? Who was destroyed Indian economy in 1857?
Summary	Recalls	The teacher utilizes power point presentation for summary of the lesson.	

Follow up activities:

1. **Draw a time line chart and mention important events from 1850 to 1900.**

    Signature of the Guide   **Signature of the Student-teacher**

TAXONOMY OF OBJECTIVES IN THE COGNITIVE DOMAIN

Knowledge : it represents the lowest level of the objective belonging to the cognitive domain and primarily aims for the acquisition of the knowledge concerning:

a) Specific facts, teriminolgy, methods and process and

b) Generalized priniciples, theories and structures.

The knowledge objectives mainly call for the recall and recognition level of one's memory and therefore, their evaluation is primarily made through a simple recall or multiple choice type questions.

Comprehensions: it is based on knowledge. If there is no knowledge, there will be no comprehension. On the ladder of the acquisition of cognitive abilities, its level is little higher than the knowledge. Specifically, it means the basic understanding of the facts, ideas, methods, processes, principles or theories, etc.,

Application: the knowledge is useful only when it is possible to employ it. The application of an idea, principle or theory may be made possible only when it is grasped and understood properly. Therefore, the category of application automatically involves both the earlier categories, ie., knowledge and comprehension. Under this objective the learner is required to acquire the ability to make use of the abstract or generalized ideas, principles in the particular and concrete situations.

Analysis: analysis refers to an understanding at a higher level. It is a complex cognitive process that involves knowledge, comprehension as well as application of an idea, fact, principle, or theory. Through the realization of these objectives the learner is expected to acquire the necessary skill in drawing inferences, discriminating, making choices and selection, and separating apart the different components or elements of a concept, object or principle.

Synthesis: the objectives belonging to this category aim to help the learner to acquire necessary ability to combine the different elements or components of an idea, object, concept, or principle to produce an integrated picture, i.e a figure of wholeness. As a result he may be expected to propagate or present a theory or principle by combining different approaches, ideas, view-points. He may arrive at something new or originate some novel things or ideas after synthesizing all what is known to him earlier. In this way, it calls for creativity aspect of the cognitive abilities

and therefore may be considered definitely a higher level of learning involving knowledge, comprehension, application as well as analysis.

Evaluation: this category of objectives aims to develop in the learner the ability to make proper value judgment about what has been acquired by him in the form of knowledge, understanding, application, analysis and synthesis. It represents definitely the highest level of the objectives belonging to the cognitive domain and involves all the five categories described earlier. As a result, the learner is expected to take proper decision about the quantitative and qualitative value of a particular idea, object, principle or theory. He may arrive at an appropriate decision about the matter and methods by making use of all the cognitive abilities acquired through the earlier categories of cognitive objectives.

TAXONOMY OF OBJECTIVES IN THE AFFECTIVE DOMAIN

The affective domain describes learning objectives that emphasize a feeling tone, an emotion, or a degree of acceptance or rejection. Affective objectives vary from simple attention to selected phenomena to complex but internally consistent qualities of character and conscience. We found a large number of such objectives in the literature expressed as interests, attitudes, appreciations, values, and emotional sets or biases.

Here are descriptions of each step in the taxonomy, starting at the most basic level.

Receiving is being aware of or sensitive to the existence of certain ideas, material, or phenomena and being willing to tolerate them. Examples include: to differentiate, to accept, to listen (for), to respond to.

Responding is committed in some small measure to the ideas, materials, or phenomena involved by actively responding to them. Examples are: to comply with, to follow, to commend, to volunteer, to spend leisure time in, to acclaim.

Valuing is willing to be perceived by others as valuing certain ideas, materials, or phenomena. Examples include: to increase measured proficiency in, to relinquish, to subsidize, to support, to debate.

Organization is to relate the value to those already held and bring it into a harmonious and internally consistent philosophy. Examples are: to discuss, to theorize, to formulate, to balance, to examine.

Characterization by value or value set is to act consistently in accordance with the values he or she has internalized. Examples include: to revise, to require, being rated high in the value, to avoid, to resist, to manage, to resolve.

TAXONOMY OF OBJECTIVES IN THE PSYCHOMOTOR DOMAIN

The classification, of psychomotor objectives, was first Simpson(1966) and was later modified by Harrow(1972). Those given by Harrow are being described in the following under six different categories arranged from the lowest to the highest levels of functioning.

An alternative taxonomy in the psychomotor domain has been proposed by Dr. R.H. Dave(1969).

Imitation: The learner observes and then imitates an action. These behaviors may be crude and imperfect. The expectation that the individual is able to watch and then repeat an action.

Manipulation: Performance of an action with written or verbal directions but without a visual model or direct observation. The action may be performed crudely or without neuromuscular coordination at this stage. Notice that the action verbs are the same as those for the imitation stage. The difference is that these actions are performed with the aid of written and verbal instruction, not visual demonstration.

Precision: Requires performance of some action independent of either written instructions or a visual model. One is expected to reproduce an action with control and to reduce errors to a minimum.

Articulation: Requires the display of coordination of a series of related acts by establishing the appropriate sequence and performing the acts accurately, with control as well as with speed and timing.

Naturalization: High level of proficiency is necessary. The behavior is performed with the least expenditure of energy, becomes routine, automatic, and spontaneous.

TYPES OF TEST ITEMS

Here mentioned such types of test items.

1. Standardized tests(usually written test with objective type of questions)

2. Teacher made informal test

    I. Written paper and pencil tests

        a. Essay type tests

        b. Short answers type tests

        c. Objective type tests

    II. Oral test

    III. Practical test.

CONSTRUCTION OF TEST-ITEMS FOR FORMATIVE EVALUATION IN CLASS

The formative evaluation may be carried out both in formal (e.g., checklists, quizzes, question-answers, assignments and tests) as well as informal (e.g., observations, listening to students comments and conversations) way. Construction of test items is a serious job for a teacher, it requires adequate planning beforehand. Usually this work can be properly accomplished through the following steps:

1. **Setting objectives**: the first and the most important step is to make oneself clear about the objectives for which one is going to frame the test. In all situations the objectives of the test should be properly decided and defined in terms of specific behavior changes expected from the pupils as a result of studying a particular unit or course of study.

2. **Coverage of the syllabus or contents:** the contents to be covered in the test are directly dependent upon what has been taught by the teacher. The teacher should keep an outline of the learning experience given by him. Although no major unit or subtopic of what has been taught should be left, yet it is not essential at all to ask for each and every thing discussed by the teacher in the class. In other words, a reasonable coverage or various aspects of the learning experiences given to the students should be the goal.

3. **Decision about the types of items or questions:** decision about the types of questions to be set in the test paper is also an essential aspect of its construction. As

pointed out earlier, all the three forms-essay type, short answer type and objective type-should find place in a good test.

4. **Decision about the time:** The total time given to the students for giving responses to the items of test should also be decided.

5. **Preparation of the blueprint:** this is the most crucial step in the planning of the test. Blue print is a sort of the decision for the test paepr in which we present detailed question wise distribution of marks over specific objectives, topics and forms of questions. Therefore, all the factors mentioned in the above four steps, i.e. objectives to be tested, contents to be covered, types of questions to be asked, and total time to be given, should be kept in mind while preparing the blueprint or design of the test.

6. **Item formats:** item or questions to be included in the test require proper organization and arrangement.

7. **Try-out and item analysis:** After planning, as suggested here, the test so prepared must be administered in an appropriate sample of students for its try out and suggested task of item analysis.

8. **Designing or preparing the final form of the test:** As a result of try out and item analysis of the test, the improper items can be declared form the test more function able. This final form should then be printed as the situation demands, for the needed evaluation of the students test.

9. **Preparation of scoring key:** to ensure objectivity in scoring, it is advisable to have a pre-determind way of scoring. It is not only the objective type items that require an advance preparation of a scoring key, but also in case of easy and short answer type questions the answer and procedure for scoring should be predetermined.

Questions

1. Write lesson plan steps and draw a lesson plan for any one lesson in history from IX standard.

2. Critically analyse bloom taxonomy of educational objectives.

3. Describe psychomotor domain and its different categories.

4. Explain different types of achievement test.

5. Illustrate on formative evaluation procedures.

References:

1. Arora.K.L. (2005). Teaching of History, Ludhiana: Tandon Publications.

2. Kochhar.S.K. (2006). Teaching of History, New Delhi: Sterling Publishers.

3. Mangal.S.K. and Uma Mangal. (2008). Teaching of social studies, New Delhi: PHI Learning Pvt. Ltd.

4. https://www.historians.org/

UNIT –III   PRACTICING THE TEACHING SKILLS IN HISTORY

At the end of the course, the student teachers will be able to:

➢ understand major teaching skills

➢ practice and learn mini-lesson with multiple teaching skills

➢ understand major steps in teaching in mini-lesson

➢ develop integration of teaching skills

➢ know importance of observation and feedback

Meaning of Teaching

The analytical concept of teaching considers teaching as a complex skill comprising of various specific teaching skills. Those teaching skills can be defined as a set of interrelated component teaching behaviours for the realization of specific instructional objectives. These component teaching behaviours may be modified through the exercise done in practicing the teaching skills, and thus a student teacher may be able to acquire necessary teaching skills for becoming an effective teacher.

Understanding major teaching skills:

    I.   Introducing

    II.   Explaining

    III.   Questioning

    IV.   Varying the Stimulus

    V.   Non-verbal cues

    VI.   Reinforcement

    VII.   Closure and fluency in communication

I. Skill of Introducing the Lesson

The skill of introducing the lesson may be defined as proficiency in the use of verbal and non-verbal behavior, teaching aids and appropriate devices for making the pupils realize the need of studying the lesson by establishing positive and affective rapport with them. This skill involves the following component behaviours:

> ➢ Student teacher is able to utilize previous knowledge and experiences of his pupils.

> ➢ He is able to maintain continuity of the ideas and information in the introduction of lesson.

Thus, utilization of previous experiences, use of appropriate devices, maintenance of continuity in the main parts of the introduction, and relevancy of the verbal and non-verbal behavior are the major component behaviours or constituents of the skill of introducing lesson.

II. Skill of Explaining

A teacher has to learn the skill of explaining in order to make the pupils understand many Ideas, concepts or principles that need explanation. Explanation is nothing but a few interrelated appropriate statements. Thus the skill of explaining may be defined as the art of learning the use of interrelated appropriate statements by the teacher for making the pupils understand the desired concept, phenomenon or principle.

It is by all means a verbal skill and has two main aspects as follows:

> ➢ The selection of appropriate statements relevant to the age, maturity, previous knowledge, and concept of the concept or phenomenon.

> ➢ The skill of interrelating and using the selected statements for the proper understanding of the concept or phenonmenon.

Components of the skill: the skill of explaining a concept or phenomenon consists of two types of behavior – desirable and undesirable. In the practice of the skill, the occurrence of the desirable behavior is to be increased whereas the undesirable behaviours are to be decreased and extinguished.

I. Desirable behaviours: using appropriate beginning and concluding statements, using explaining links, covering essential points, testing pupils understanding.

II. Undersirable behaviours: using irrelevant statements, lacking continuity in statements, lacking fluency and using inappropriate vocabulary, vague words and phrases.

III. Skill of Questioning

Questioning skill may be defined as a teaching skill helpful in putting the desired meaningful, clear and concise, grammatically correct, simple and quite straight-forward questions to the students in a classroom teaching-learning situation for the purpose of drawing their attention on one or the other teaching points, making them active and alert to the ongoing teaching-learning process, testing their understanding and comprehension at various stages of the lesson, and motivating as well as providing them opportunity for the proper expression of their thoughts, imagination, recall and recognition and creative and constructive faculties.

Elements of questioning skill: the elements related to the questioning skill may be properly discussed in the following manner by placing them into their two fold division namely the framing of questions and the presentation of these questions to the students.

Questions can serve their purposes well when these are framed with necessary care and preparation on the part of a teacher by taking cognizance of the following things:

    I.   Relevance

    II.   Clarity

    III.   Precision or conciseness

    IV.   Specification

    V.   Grammatically correct

Presentation of questions in the class: questioning skill asks for the proper presentation of the questions in the history class by a history teacher. It calls ususally for paying attention over the components as follows:

    I.   Voice of the teacher

    II.   Speed and pause

    III.   Distribution of questions

    IV.   Teacher behavior

IV.　Skill of Stimulus Variation

Generally a teacher makes use of an appropriate stimulus for evoking the desired response/responses. However, a continued use of such stimulus may induce disinterest and disattention on account of many physiological and psychological factors. The stimulus variation, i.e., variation or change in the stimuli available in learner's environment, provides an answer. Thus skill of stimulus variation may be defined as a set of behaviours for brining desirable change of variation in the stimuli used to secure and sustain pupils attention towards classroom activities.

Components of the skill: the skill of introducing change or variation in the attention capturing stimuli in a classroom comprises of the following component behaviours:

I)　movements,

II)　gestures,

III)　changes in voice,

IV)　focusing,

V)　change in the interaction styles,

VI)　pausing,

VII)　aural-visual switching and

VIII)　physical involvement of the students.

V.　Skill of Reinforcement

Reinforcement as a technique belongs to the area of psychology of learning and helps in influencing the response or behaviours of the learners. There are two types of reinforcement, viz. positive reinforcement and negative reinforcement. While the use of the former contributes towards strengthening the desirable responses or behaviours,the latter are used for weakening or eliminating the undesirable responses or behaviours. For the better results, the use of the positive reinforcement is to be increased while that of negative reinforcement is to be decreased or eliminated.

In view of the above discussion, the skill of reinforcement may be defined as the are of learning the judicious and effective use of reinforcement by a teacher for influencing the pupil's behavior in the desired direction directed towards maximum pupils participation for realizing the better results in the teaching-learning process.

Components of the Skill: the components of the skill of reinforcement may be listed as follows:

Desirable behaviours:

  I.   use of positive verbal reinforcers

  II.   use of positive non-verbal reinforcers

  III.   use of extra verbal reinforcers

Undesirable behaviours:

  I.   use of negative verbal reinforcers

  II.   use of negative non-verbal reinforcers

  III.   inappropriate or wrong use of reinforcement

    Gestures are **non-verbal cues** provided in the oral message given by the teacher for enhancing the value of the message. They are usually made with the help of the movements of eye, hand, head, body and facial expression like extending the hands in a typical shape to indicate how big or small an object is.

MODEL MINI-LESSON PLAN

Name of the student teacher: XXXXXX   Name of the School: XXXXX

Class/Section and Session: XXXXXXX   Subject: History

Unit : II   Topic: Cultural Heritage of Tamil Nadu

Motivation	The teacher has been motivating the students to study a new lesson, and asking few questions related to new lesson: 1) What are the religion names you know? Hindu, Christian, Islam. Etc., 2) What are the festivals celebrated by Hindu religions people? Diwali, Pongal, Vinayagar Chadurthi,

	etc.,
	3) What are the festivals celebrated by Christian religions people? Christmas, Good Friday, All souls day, etc.,
	4) On the festival occasions are we sharing foods, sweets with neighbors home? Yes
	5) Could you say any famous art and architecture place in Tamil Nadu? Mahapalipuram, good if any?
	Today, let us see the lesson "Cultural Heritage of Tamil Nadu"
Presentation	The teacher has been presenting the lesson to the students. He/She is being written the lesson title on the Black Board and students coarsely read the lesson title. Flash cards are being used to display on important Key terms on the lesson. - Administrative System - Society - Sangam Literature - Religion - Art and Architecture The teacher has been displaying religious festival pictures to the students. - Diwali - Christmas - Ramzan
Interaction	The teacher is being clarified students doubts with help of power point and following questions are being raised by the students. 1) How many major epics are there in sangam literature? Five major epics ie., Silapadhikaram, Manimekalai, Kundalakesi, Valayapathi and Sivagasinthamani. 2) What were the revenues of the kingdom? War excise, tolls, duties on salt, periodical gifts and tributes. The teacher is being given small title to the students for peer group discussion under his monitoring. "Siddha system of medicine" "Sangam music"

Reflection	The teacher should encourage the students to think and rethink about the lesson, as well as he/she can raise such questions.
	1) Name the important temples constructed during Chola period? Tanjore, Gangai Konda chola puram etc.,
	The small title is being given to the students for group discussion under the monitoring by the teacher.
	"Five Thinais"
Summing up	The teacher is being used power point presentation for synthesis of the whole lesson.

Student Teacher

Signature of the Observer

TAMILNADU TEACHERS EDUCATION UNIVERSITY

MINI-TEACHING PRACTICE: INTEGRATION OF TEACHING SKILLS

ASSESSMENT BY PEERS / TEACHER EDUCATOR

Note: Put a tick mark ( ) against the appropriate mastery level of the skill

Score Value: Average = 1, Good =2, Very Good=3

Name of the Student-teacher: xxxxx   Duration: 20 Minutes

Teaching Skill	Average	Good	Very Good	Total
Introducing				
Explaining				
Questioning				
Varying the Stimulus				
Non-verbal cues				
Reinforcement				
Closure				
Fluency in communication				
Total				

Range of Score: 8 - 24

OVERALL ASSESSMENT OF MINI TEACHING

Average		Good		Very Good	

Interpretation of scores: Average : 8   Good : 9 -16 Very Good : 17 -24

Signature of the Observer

TAMILNADU TEACHERS EDUCATION UNIVERSITY

PRACTICING MINI-LESSON: INTEGRATING THE STEPS IN TEACHING

ASSESSMENT BY PEERS / TEACHER EDUCATOR

Note: Put a tick mark ( ) against the appropriate mastery level of the steps

Score Value: Average = 1, Good = 2, Very Good= 3

Name of the Student-teacher: xxxxx   Duration: 20 Minutes

Teaching Skill	Average	Good	Very Good	Total
Motivation				
Presentation				
Interaction				
Reflection				
Summing up				
Total				

Range of Score: 5 - 15

OVERALL ASSESSMENT OF MINI TEACHING

Average		Good		Very Good	

Interpretation of scores: Average : 5   Good : 6-10 Very Good : 11-15

Signature of the Observer

Questions

1. Discuss the importance of major teaching skills in teaching.

2. Define the skill reinforcement. Describe its essential components and present a suitable mini-lesson plan for practicing this skill.

3. What you understand by the skill of stimulus variation? Illustrate the process through a mini-lesson.

4. What is mini-teaching ? Discuss its merits and limitations for teachers training programme.

5. Describing the skill of questioning along with its different components. How can this skill be practiced through mini-teaching?

References:

Arora.K.L. (2005). Teaching of History, Ludhiana: Tandon Publications.

Kochhar.S.K. (2006). Teaching of History, New Delhi: Sterling Publishers.

Mangal.S.K. and Uma Mangal. (2008). Teaching of social studies, New Delhi: PHI Learning Pvt. Ltd.

UNIT - IV METHODS OF TEACHING HISTORY

Objectives:

At the end of the course, the student teachers will be able to:

1. explain the various methods of teaching history.
2. identify the different teacher centered methods of teaching.
3. analyse the recent trends in teaching and learning history.
4. adopt the small group interactive learning methods.
5. discuss the various learner centered methods .

Introduction

Different methods of teaching mathematics have been proposed by different educators. Knowledge of these methods may help in working out a teaching-learning strategy. It is not an educational sound for a teacher to commit himself to any particular method. A teacher should adopt an approach considering the nature of the children, their interests and maturity and the resources available. The merits and demerits of various method listed.

A teacher has to make uses of various kind of methods, devices and techniques in teaching. It is not appropriate for a teacher to commit to one particular method. A teacher should adopt a teaching approach after considering the nature of the children, their interests and maturity and the resources available. Every method has certain merits and few demerits and it's the work of a teacher to decide which method is best for the students.

Teacher – centered Methods:

1. Lecture Method
2. Demonstration Method
3. Team Teaching

(1) Lecture method

The lecture method is the most widely used form of presentation. Every teacher has to know how to develop and present a lecture. They also must understand the scopes and limitations of this method.Lectures are used to introduce new topics, summarizing ideas, showing relationships between theory and practice, reemphasizing main points, etc. This method is adaptable to many different settings (small or large groups).

• It may be used to introduce a unit or a complete course.

• Finally, lectures can be effectively combined with other teaching methods to add meaning and direction.

The lecture teaching is favorable for most teachers because it allows some active participation by the students. The success of the teaching lecture depends upon the teacher's ability to communicate effectively with the class. However in this method the feedback is not very obvious and thus the teacher must develop a keen perception for subtle responses from the class-facial expressions, manner of taking notes and apparent interest or disinterest in the lesson. The successful teacher will be able to interpret the meaning of these reactions and adjust the lesson accordingly.

Preparing the Teaching Lecture :

1. Planning
2. Rehearsing
3. Delivering a lecture
4. Use of notes

Planning: The following four steps are followed in the planning phase of preparation:

• Establishing the objective and desired outcomes;

• Researching the subject;

• Organizing the material; and

• Planning productive classroom activities.

*Rehearsing***:** After completing the preliminary planning and writing of the lesson plan, the teacher should rehearse the lecture to build self-confidence. It helps to smooth out to use notes, visual aids, and other instructional devices.

Delivering a lecture

In the teaching lecture, simple rather than complex words should be used whenever possible. The teacher should not use substandard English. If the subject matter includes technical terms, the teacher should clearly define each one so that no student is in doubt about its meaning. Whenever possible, the teacher should use specific words rather than general words.

Another way the teacher can add life to the lecture is to vary his or her tone of voice and pace of speaking. In addition, using sentences of different length also helps. To ensure clarity and variety, the teacher should normally use sentences of short and medium length.

For a teacher notes are must because they help to keep the lecture on track. The teacher should use them modestly and should make no effort to hide them from the

students. Notes may be written legibly or typed, and they should be placed where they can be consulted easily.

Advantages of the Lecture method

1. Gives chance for the teacher to expose students through all kinds of material.
2. Allows the teacher to precisely determine the aims, content, organization, pace and direction of a presentation.
3. Can be used to arouse interest in a subject.
4. Can complement and clarify text material.
5. Complements certain individual learning preferences.
6. Facilitates large-class communication.

Disadvantages of the Lecture Method

1. Places students in a passive rather than an active role, which hinders learning.
2. Encourages one-way communication; therefore, the lecturer must make a conscious effort to become aware of student problems and

   student understanding of content without verbal feedback.
3. Requires a considerable amount of time for unguided student outside of the classroom to enable understanding and long-term retention of content.
4. Requires the teacher to have effective speaking skills.

(2) Demonstration Method

Defining demonstration of learning is complicated by the fact that educators use many different terms when referring to the general concept, and the terms may or may not be used synonymously from place to place. For example, the terms capstone exhibition, culminating exhibition, learning exhibition, exhibition of learning, performance exhibition, senior exhibition, or student exhibition may be used, in addition to capstone, capstone experience, capstone project, learning demonstration, performance demonstration, and many others. Educators may also create any number of homegrown terms for demonstrations of learning—far too many to catalog here.

Teachers not only use demonstrate specific learning concepts within the classroom, they can also participate in demonstration classrooms to help improve their own teaching strategies, which may or may not be demonstrative in nature. Although the literature is limited, studies show that the effects of demonstration classroom teachers includes a change of perspective in relating to students, more reflection in the teachers' own classroom strategies, and more personal responsibility for student learning.

Advantages of demonstration method

1. It helps in involving various sense to make learning permanent .
2. Through teacher behaviour is autocratic, he invites the cooperation of pupils in teaching learning process.
3. It develops interest in the learners and motivates them for their active participation
4. Any simple or complex sill becomes easy to understand.

Disadvantages of demonstration method

1. It can be used only for skill subject.
2. Only attention of the learners is invited towards the activity demonstrated. They are free to discuss about it.
3. Due to poor economic conditions of the government schools there is scarcity of audio Visual aids and equipment and the teacher are not so creative to produce handmade modes for demonstration.
4. There is a general lack of sincerity and diligence among teachers who which to
5. Complete the syllabus or syllabi at the earliest without putting sincere efforts.

(4) Team teaching

Team teaching involves a group of instructors working purposefully, regularly, and cooperatively to help a group of students of any age learn. Teachers together set goals for a course, design a syllabus, prepare individual lesson plans, teach students, and evaluate the results. They share insights, argue with one another, and perhaps even challenge students to decide which approach is better.

Teams can be single-discipline, inter disciplinary, or school-within-a-school teams that meet with a common set of students over an extended period of time. New teachers may be paired with veteran teachers. Innovations are encouraged, and modifications in class size, location, and time are permitted. Different personalities, voices, values, and approaches spark interest, keep attention, and prevent boredom.

The team-teaching approach allows for more interaction between teachers and students. Faculty evaluate students on their achievement of the learning goals; students evaluate faculty members on their teaching proficiency. Emphasis is on student and faculty growth, balancing

initiative and shared responsibility, specialization and broadening horizons, the clear and interesting presentation of content and student development, democratic participation and common expectations, and cognitive, affective, and behavioural outcomes. This combination of analysis, synthesis, critical thinking, and practical applications can be done on all levels of education, from kindergarten through graduate school.

Working as a team, teachers model respect for differences, inter dependence, and conflict-resolution skills. Team members together set the course goals and content, select common materials such as texts and films, and develop tests and final examinations for all students. They set the sequence of topics and supplemental materials. They also give their own interpretations of the materials and use their own teaching styles. The greater the agreement on common objectives and interests, the more likely that teaching will be interdependent and coordinated.

Teaching periods can be scheduled side by side or consecutively. For example, teachers of two similar classes may team up during the same or adjacent periods so that each teacher may focus on that phase of the course that he or she can best handle. Students can sometimes meet all together, sometimes in small groups supervised by individual teachers or teaching assistants, or they can work singly or together on projects in the library, laboratory, or fieldwork. Teachers can be at different sites, linked by video-conferencing, satellites, or the Internet.

Breaking out of the taken-for-granted single-subject, single-course, single-teacher pattern encourages other innovations and experiments. For example, students can be split along or across lines of sex, age, culture, or other interests, then recombined to stimulate reflection. Remedial programs and honours sections provide other attractive opportunities to make available appropriate and effective curricula for students with special needs or interests. They can address different study skills and learning techniques. Team teaching can also offset the danger of imposing ideas, values, and mindsets on minorities or less powerful ethnic groups. Teachers of different backgrounds can culturally enrich one another and students.

Advantages of Team Teaching

All the Students do not learn at the same rate. Periods of equal length are not appropriate for all learning situations. Educators are no longer dealing primarily with top-down transmission of the tried and true by the mature and experienced teacher to the young, immature, and

inexperienced pupil in the single-subject classroom. Schools are moving toward the inclusion of another whole dimension of learning. The lateral transmission to every sentient member of society of what has just been discovered, invented, created, manufactured, or marketed. For this, team members with different areas of expertise are invaluable.

Of course, team teaching is not the only answer to all problems plaguing teachers, students, and administrators. It requires planning, skilled management, willingness to risk change and even failure, humility, open-mindedness, imagination, and creativity. But the results are worth it.

Teamwork improves the quality of teaching as various experts approach the same topic from different angles: theory and practice, past and present, different genders or ethnic backgrounds. Teacher strengths are combined and weaknesses are remedied. Poor teachers can be observed, critiqued, and improved by the other team members in a nonthreatening, supportive context. The evaluation done by a team of teachers will be more insightful and balanced than the introspection and self-evaluation of an individual teacher.

Disadvantages of Team teaching

Team teaching is not always successful. Some teachers are rigid personality types or may be wedded to a single method. Some simply dislike the other teachers on the team. Some do not want to risk humiliation and discouragement at possible failures. Some fear they will be expected to do more work for the same salary. Others are unwilling to share the spotlight or their pet ideas or to lose total control.

Team teaching makes more demands on time and energy. Members must arrange mutually agreeable times for planning and evaluation. Discussions can be draining and group decisions take longer. Rethinking the courses to accommodate the team-teaching method is often inconvenient.

Opposition may also come from students, parents, and administrators who may resist change of any sort. Some students flourish in a highly structured environment that favours repetition. Some are confused by conflicting opinions. Too much variety may hinder habit formation.

Salaries may have to reflect the additional responsibilities undertaken by team members. Team leaders may need some form of bonus. Such costs could be met by enlarging some class sizes. Non- professional staff members could take over some responsibilities.

(5) Source Method

In the 20ᵗʰ century, there are large numbers of text books on history and students are so much used to them that they can little reaise as to when and how they can be made to realize that the writers of these text books drew on the works, monuments, autobiographies and accounts of the travellers of foreign lands who visited their country in the past. Thus, they compiled history from various sources which they alone could understand. An investigation of the original sources of history by the students is called the source method.

Classification of sources

The sources of history are in fact the traces left by human beings in the past. They are found in various forms. "In some sense every thing that man now is or has is a trace left by the past, present, personal, memories, personal mental habits, present ideals, present social customs and institutions, language, literature, material products of human industry, physical man himself and the physical remains of men." There exist a variety of sources which are classified in different ways.

I) Literary sources:

➢ The vedas

➢ Epics

➢ The Dharmasastras

➢ The puranas

➢ The budhist literature

➢ The jain literature

➢ The arthashastra of Kautilya

➢ Patanjali Mahabhashya

II The Secular Literature

The secular literature may be divided into two classes:

i)   The private literature

The private literature is that which is produced by an author in a private capacity. Such type of literature includes dramas, novels, poetry and prose. They provide useful information about the social, religious, economic and cultural life of the people.

ii) The official literature

The official literature is that which is produced in an official capacity, for example, despatches, firmans, etc. they throw proper light on the social and religious as well as the economic and political conditions of the age to which they belong.

Archaeology

It has contributed a lot particularly to the history of ancient India. Under the heading of archaeology, historical information can be obtained from inscriptions, numismatics and monuments.

The Role of the Teacher of History

Last the students should develop distaste for the subject; the teacher should take some precautions while using this method:

He should encourage the students to visit libraries frequently in order to find out some original documents.

Time for a discussion of the topics about which the students have read from original sources, should be set apart. They may be asked to write their own impressions and inferences.

The main aim of the teacher of history is not to make students research scholars in history but to put them on the road to research in history.

Whenever the documents are found in the languages other than one which the students know, he should their language problem, and as far as possible, makes things intelligible to them.

Limitations of this method

No single book is available which deals with a large variety of the topics of history. Students may have to fall on may resources for a single topic of history. The historical sources, especially for the boys of the school going age have not been compiled.

Most of the original sources of Indian history are available in Persian or Urudu or Sanskirit or Pali or Arabic whereas all these languages are foreign to students.

The use of the method is not possible at the junior stage. The result of its excessive use is doubtful even at high and the higher secondary stages.

Students, if asked to read the various sources of history, may develop a hatred for the subject, if they have not been given proper training in their handling.

Learner Centered Methods

Learner-centered methods are those methods are those methods where the focus of attraction is learners than teachers. It is through the involvement of learners the method develops. The recent psychological approaches in the classrooms give more importance to learner centered methods than teach centered methods.

(i) Project Method

Project method owes its origin to the pragmatic school of philosophy. It was propounded by W H. Kilpatrick and was perfected by J. A.Stevenson. The method consists of building a comprehensive unit around an activity which may be carried out in the school or outside. The essence of this method is to carry out a useful task in a group in which all the students work co-operatively. Learning by doing and learning by living are the two basic principles involved and children learn through association, co-operation and activity.

Definition

- "A project is a unit of whole-hearted purposeful activity carried on preferably in its natural setting". Kilpatrick

- "A project is a problematic and carried to completion in its natural setting" - Stevenson.

- "A project is a bit of real life that has been imparted in to the school" - Ballard.

Principles of the Project Method

1. The principle of freedom.
2. The principle of reality.
3. The principle of activity.
4. The principle of experience.
5. The principle of utility.
6. The principle of interest.
7. The principle of sociability

Major steps of the Project Method

1. Providing a situation
2. Choosing and purposing
3. Planning
4. Carrying out the project (executing)
5. Evaluating
6. Recording

Kinds of Project

1. *Producer type*: Here the emphasis is directed towards the actual construction of a material object or article.

2. *Consumer type*: Here the objective is to obtain either direct or vicarious experience such as reading and learning stories or listening to music etc.

3. *Problems Type:* Here the purpose is to solve a problem involving the intellectual process such as determining the e/m ratio of an election.

4. *Drill type*: Here the purpose is to attain efficiency in some activity. E.g. swimming, driving etc.

Merits of Project method

1. The method is in accordance with psychological laws of learning

   i. Law of readiness - pupil are ready to learn creating interest, purpose and life like situation.

   ii. Law of exercise - by practice we learn things, self-activity on the

part of students create experience in later life.

       iii.   Law of effect - child should be satisfied and feel happy in what he is learning.

2. It promotes co-operation and group interaction.

3. It gives training in a democratic way of learning and living.

4. There is no place for rote memorization.

5. Provides dignity of labor and develop respect and taste for all types of work.

Demerits of Project Method

1. Project absorbs large amount of time and can be used as a part of science work only.

2. Many aspect of curriculum will not yield to project work.

3. Larger projects in the hands of an inexperienced and unskillful teacher lead to boredom.

4. Text book written on this lines are not available.

5. The method is highly expensive as pupil has to purchase lot of item, travel and do outdoor work.

(2) Peer Tutoring

- Peer tutoring is a flexible, peer-mediated strategy that involves students serving as academic tutors and tutees. Typically, a higher performing student is paired with a lower performing student to review critical academic or behavioral concepts.

- It is a widely-researched practice across ages, grade levels, and subject areas

- The intervention allows students to receive one-to-one assistance

- Students have increased opportunities to respond in smaller groups

- It promotes academic and social development for both the tutor and tutee

- Student engagement and time on task increases

- Peer tutoring increases self-confidence and self-efficacy

- The strategy is supported by a strong research base

Types of Peer Tutoring

*Classwide Peer Tutoring (CWPT) –*Class wide peer tutoring involves dividing the entire class into groups of two to five students with differing ability levels. Students then act as tutors, tutees, or both tutors and tutees. In CWPT, student pairings are fluid and may be based on achievement levels or student compatibility.

Cross-age Peer Tutoring (CPT) - Older students are paired with younger students to teach or review a skill. The positions of tutor and tutee do not change. The older student serves as the tutor and the younger student is the tutee. The older student and younger student can have similar or differing skill levels, with the relationship being one of a cooperative or expert interaction. Tutors serve to model appropriate behavior, ask questions, and encourage better study habits. This arrangement is also beneficial for students with disabilities as they may serve as tutors for younger students.

Peer Assisted Learning Strategies (PALS)- It involves a teacher pairing students who need additional instruction or help with a peer who can assist. Groups are flexible and change often across a variety of subject areas or skills. Cue cards, small pieces of cardstock upon which are printed a list of tutoring steps, may be provided to help students remember PALS steps. All students have the opportunity to function as a tutor or tutee at differing times. Students are typically paired with other students who are at the same skill level, without a large discrepancy between abilities.

*Reciprocal Peer Tutoring (RPT)***:** Two or more students alternate between acting as the tutor and tutee during each session, with equitable time in each role. Often, higher performing students are paired with lower performing students. RPT utilizes a structured format that encourages teaching material, monitoring answers, and evaluating and encouraging peers. Both group and individual rewards may be earned to motivate and maximize learning.

*Same-age Peer Tutoring***:** Peers who are within one or two years of age are paired to review key concepts. Students may have similar ability levels or a more advanced student can be paired with a less advanced student. Students who have similar abilities should have an equal understanding of the content material and concepts. When pairing students with differing levels, the roles of tutor and tutee may be alternated, allowing the lower performing student to quiz the higher performing student. Answers should be provided to the student who is lower achieving when acting as a tutor in order to assist with any deficits in content knowledge.

(3) Individual activities

The social aspect of activities is just as important as the creative, leisure and learning aspects. Mentors make great efforts to help people join small friendly groups to share experience and skills and support each other in maintaining the group in the long-term. Some participants are housebound. In these circumstances, mentors encourage activities that people can pursue individually at home. Sometimes, arrangements may be made for an external artist or 'provider' to visit the person for a while. Wherever possible, the participant is introduced to others who

might share their interests, by phone or letter or visiting. Some people prefer to pursue interests on their own.

(4) Experiential learning

The word experiential essentially means that learning and development are achieved through personally determined experience and involvement, rather than on received teaching or training, typically in group, by observation, listening, study of theory or hypothesis, or some other transfer of skills or knowledge. The expression 'hands-on' is commonly used to describe types of learning and teaching which are to a lesser or greater extent forms of experiential learning.

The expression 'chalk-and-talk' (the teacher writes on a board and speaks while learners listen and look and try to absorb facts) refers to a style of teaching or training which contains no experiential learning aspect whatsoever.

Experiential learning, especially used at the beginning of a person's new phase of learning, can help to provide a positive emotional platform which will respond positively and confidently to future learning, even for areas of learning which initially would have been considered uncomfortable or unnecessary.

Experiential learning also brings into play the concept of multiple intelligences - the fact that people should not be limited by the 'three Rs' and a method of teaching based primarily on reading and writing.

Experiential learning is a way to break out of the received conditioned training and teaching practices which so constrain people's development in schools and work.

Small group/ whole class interactive learning

Small group teaching has become more popular as a means of encouraging student learning. While beneficial the tutor needs a different set of skills for those used in lecturing, and more pertinently, small group work is an often luxury many lecturers cannot afford. A further consideration with small group teaching is the subjective perspective of what constitutes a small group. A lecturer used to taking 400 students in a lecture would define 50 students as a small group, while a lecturer used to a group of 50 students would define 5-10 students as a small group. In a discussion, where participation is assessed some students may not speak up in a group that begins to be get bigger than 10 participants and in addition tutors would find it hard to assess participation by individual students in groups with numbers greater than this.

(1) Student Seminar

A seminar is a form of academic instruction, either at an academic institution or offered by a commercial or professional organization. It has the function of bringing together small groups for recurring meetings, focusing each time on some particular subject, in which everyone resent is requested to actively participate. This is often accomplished through an ongoing Socratic dialogue with a seminar leader or instructor, or through a more formal presentation of research. It is essentially a place where assigned readings are discussed, questions can be raised and debates can be conducted. Student seminars are the open presentations done by the students before their peers and teachers. The word seminar is derived from the Latin word seminarian, meaning "seed plot".

Some Tips for Seminar Preparation

1. *Choose a topic*: Choose a topic which will sustain your interest and will allow you to exhibit enthusiasm during your presentation

2. *Keep your Audience in Mind*:   The primary objective in giving a talk should be to communicate an interesting idea to students who attend the seminar. This means that the talk should be delivered in a way that students in attendance understand what you are saying, so be mindful of their background.

3. *Tell a story/ anecdote*: Begin with solid motivation for your problem and plenty of illuminating examples. Only after your audience understands what your topic is and why they should care about it should you spend time working carefully through the relevant science.

4. *Keep timing in mind:* Choose a topic that you can motivate and explicate comfortably in this window of time.

Scoring Indicators for Evaluation of seminar
1. *Ability to Collect Data:* Sufficient, Relevant, Accuracy of facts.
2. *Ability to Prepare seminar Paper*: Introduction, Content Organization, Conclusion.
3. *Presentation:* Communication, Competence, Fluency, Spontaneity.
4. *Understanding the Subject:* Involvement in the Discussion, Responding suitably.

(2) Group discussions

Active learning can be implemented by organizing the class into small groups of students who can work together, foster their own learning strategy and create an atmosphere in which information sharing can takes place. Instructional techniques involving group controlled learning experiences provide room for the learners self-development and active participation in the teaching learning process. A discussion is a teaching technique that involves exchange of ideas with active learning and participation by all concerned. Discussion is an active process of teacher-pupil involvement in the classroom environment. This allows a student present its own perspective about something freely. Four basic concepts are to be considered for initiating small group discussion

- Process - the interactions that takes place within the group

- Roles - each group member's specific responsibilities within the group

- Leadership - the capacity to guide and direct others in a group setting.

- Cohesion - group members support for one another
  Different Types of Small Group Discussions

(3) Mixed ability grouping

It refers to grouping together students of different abilities. Usually this kind of grouping occurs when the group consists of students with different ages with one or two years span. The term "mixed aged grouping" or "heterogeneous grouping" is used for this case but we prefer to use the more general term of "mixed ability grouping" since the basic criterion for grouping is ability and not necessarily age. In mixed ability groups there are some students that are more mature and experienced than other ones and thus they have more advanced ability to acquire knowledge. The main aim of setting up mixed ability groups is not to produce homogeneity of ability in a group as this is the case in ability grouping, but to increase interaction across students with different abilities.

In other words the purpose of mixed ability grouping is for children to benefit by their intellectual and social interaction with other students of their group that have different social behavior and ability to learn. The former reveals the main difference of mixed ability grouping with ability grouping. While grouping children with same ability the goal is to achieve homogeneity of the group and homogenize instruction for students of the group on basis different of grades or ages but based on ability.

Recent trends in Teaching and Learning Mathematics

1. Constructivist learning
2. Problem based learning
3. Brain based learning
4. Collaborative learning
5. Flipped learning
6. Blended learning
7. e-learning trends
8. Video conferencing

(1) Constructivist learning

Constructivism is a learning theory that has its foundation in philosophy and anthropology as well as psychology. The constructivist approach to education attempts to shift education from a teacher-dominated focus to a student-centered one. The role of the teacher focuses on assisting students in developing new insights. Students are taught to assimilate experience, knowledge and insights with what they already know and from this they need to construct new meanings. Constructivist learning is based on students' active participation in problem solving and critical thinking regarding a learning activity which they find relevant and engaging. They are "constructing" their own knowledge by testing ideas and approaches base on their prior knowledge and experience, applying these to new situations and integrating the new knowledge gained with pre-existing intellectual constructs.

In the constructivist theory the emphasis is placed on the learner or the student rather than the teacher of the instructor. It is the learner who interacts with objects and events and thereby gains an understanding of the features held by such objects or events. The learner constructs her own conceptualizations and solutions to problems. Learner autonomy and initiative is accepted and encouraged. Exploring or experiencing the physical surroundings, experiential education is a key method of constructivism. To the constructivists, the act of teaching is the process of helping learners creates knowledge. In constructivist thinking learning is also affected by the context, beliefs and attitude of the learner.

There are many different schools of thought within this theory, all of which fall within the same basic assumption about learning. The main two are: Cognitive constructivism (e.g., Theory of Piaget) and Social constructivism (e.g., Theory of L.S. Vygotsky).

Cognitive Constructivism

Cognitive constructivism is generally attributed to Jean Piaget, who articulated

mechanisms by which knowledge is internalized by learners. The process of accumulating the knowledge are through accommodation and assimilation, individuals construct new knowledge from their experiences.

It is important to note that constructivism is not a particular pedagogy. In fact, constructivism is a theory describing how learning happens, regardless of whether learners are using their experiences to understand a lecture of following the instructions for building a model airplane. In both cases, the theory of constructivism suggests that learners construct knowledge out of their experiences. However, constructivism is often associated with pedagogic approaches that promote active learning, or learning by doing. Today constructivist teaching is based on recent research about the human brain.

The major views of constructivism can be summarized as follows:

- Emphasis learning and not teaching
- Encourage and accepts learner autonomy and initiative
- Sees learners as creatures of will and purpose
- Thanks of learning as a process
- Encourages learner inquiry
- Acknowledges the critical role of experience in learning
- Nurtures learners natural curiosity
- Takes the learner's mental model into account etc..

Social Constructivism

Social constructivism maintains that human development is socially situated and knowledge is constructed through interaction with others. It is a sociological theory of knowledge that applies the general philosophical constructivism into the social assumptions of Social Constructivism. Social constructivism is based on specific assumptions about reality, knowledge, and learning. To understand and apply models of instruction that are rooted in the perspectives of social constructivists, it is important to know the premises that underlie them. The most important assumptions of the theory of social constructivism is

1. The assumption that human beings rationalize their experience by creating a model of the social world and the way that it functions

2. The belief in language as the most essential system through which humans construct reality

(2)Problem Based Learning (PBL)

Problem-based learning (PBL) is a student-centered pedagogy in which students learn about a subject through the experience of solving an open -ended problem. Students learn both thinking strategies and domain knowledge. Problem - based learning (PBL) is an approach that challenges students to learn through engagement in a real problem. It is a format that simultaneously develops both problem solving strategies and disciplinary knowledge bases and skills by placing students in the active role of problem-solvers confronted with an ill-structured situation that simulates the kind of problems they are likely to face as future managers in complex organizations. Problem-based learning makes a fundamental shift from a focus on teaching to a focus on learning. The process is aimed at using the power of authentic problem solving to engage students and enhance their learning and motivation. There are several unique aspects that define the PBL approach:

- Learning takes place within the contexts of authentic tasks, issues, and problems that are aligned with real world concerns.

- In a PBL course, students and the instructor become co-learners, co-planners, co-producers, and co-evaluators as they design, implement, and continually refine their curricula.

- The PBL approach is grounded in solid academic research on learning and on the best practices that promote it. This approach stimulates students to take responsibility for their own learning, since there are few lectures, no structured sequence of assigned readings, and so on.

- PBL is unique in that it fosters collaboration among students, stresses the development of problem solving skills within the context of professional practice, promotes effective reasoning and self-directed learning, and is aimed at increasing motivation for life-long learning.

Problem-based learning begins with the introduction of an ill-structured problem on which all learning is centered. Most of the learning occurs in small groups rather than in lectures. Teacher's role is more like that of a facilitator and coach of student learning, acting at times as a resource person, rather than as knowledge-holder and disseminator. Similarly, your role, as a student, is more active, as you are engaged as a problem-solver, decision-maker, and

meaning-maker, rather than being merely a passive listener and note-taker.

Characteristics of Problem-Based Learning (PBL)

Problem-Based Learning (PBL) is a pedagogical approach and curriculum design methodology often used in higher education and K-12 standard settings.

The following are some of the defining characteristics of PBL:

1. Learning is driven by challenging, open-ended problems with no one "right" answer
2. Problems/cases are context specific
3. Students work as self-directed, active investigators and problem-solvers in small collaborative groups (typically of about five students)
4. A key problem is identified and a solution is agreed upon and implemented
5. Teachers adopt the role as facilitators of learning, guiding the learning process and promoting an environment of inquiry

Learning outcomes of Problem Based Learning

A well designed Problem based learning task provides students with the opportunity to develop skills related to:

- Managing tasks and holding leadership roles
- Oral and written communication
- Self-awareness and evaluation of group processes
- Working independently
- Critical thinking and analysis

Basic Steps in designing a Problem Based Learning Task

There are some important aspect which we want to take care before going for a problem based learning task

1. Articulate the learning outcomes of the task. What do you want students to know or be able to do as a result of participating in the assignment?
2. Create the problem. Ideally, this will be a real-world situation that resembles something students may encounter in their future class or lives. Cases are often the basis of PBL activities.
3. Establish ground rules at the beginning to prepare students to work effectively in

groups.

4. Introduce students to group processes and do some warm up exercises to allow them to practice assessing both their own work and that of their peers.

(3)Brain Based Learning (BBL)

Brain - based learning refers to teaching methods, lesson designs, and school programs that are based on the latest scientific research about how the brain learns, including such factors as cognitive development-how students learn differently as they age, grow, and mature socially, emotionally, and cognitively. It is totally based on the structure and function of the brain. As long as the brain is not prohibited from fulfilling its normal processes, learning will occur. Brain-based learning is motivated by the general belief that learning can be accelerated and improved if educators base how and what they teach on the science of learning, rather than on past educational practices, established conventions, or   assumptions about the learning process. For example, it was commonly believed that intelligence is a fixed characteristic that remains largely unchanged throughout a person's life. However, recent discoveries in cognitive science have revealed that the human brain physically changes when it learns, and that after practicing certain skills it becomes increasingly easier to continue learning and improving those skills.

Instructional techniques emerges from Brain Based Learning

The three instructional techniques associated with brain-based learning:

1. ***Orchestrated immersion*:** Creating learning environments that fully immerse students in an educational experience.

2. ***Relaxed alertness*:** Trying to eliminate fear in learners, while maintaining a highly challenging environment.

3. ***Active processing*:** Allowing the learner to consolidate and internalize information by actively processing it.

(4)Collaborative Learning

Effective communication and Collaboration are essential for becoming a successful learner. It is primarily through dialogue and examining different perspectives that students become knowledgeable, strategic and self-determined and empathetic. Moreover, involving students in real world tasks and linking new information to prior knowledge requires effective communication and collaboration among teachers, students and others. Indeed it is through

dialogue and interaction that curriculum objectives come alive. Collaborative learning affords students enormous advantages which is not available in traditional instruction.

"Collaborative learning" is an umbrella term for a variety of educational approaches involving joint intellectual effort by students, or students and teachers together. Usually, students are working in groups of two or more, mutually searching for understanding, solutions, or meanings, or creating a product. Collaborative learning activities vary widely, but most center on students' exploration or application of the course material, not simply the teacher's presentation or explication of it.

Collaborative learning represents a significant shift away from the typical teacher centered or lecture-centered milieu in college classrooms. In collaborative classrooms, the lecturing/ listening/note-taking process may not disappear entirely, but it lives alongside other processes that are based in students' discussion and active work with the course material. Teachers who use collaborative learning approaches tend to think of themselves less as expert transmitters of knowledge to students, and more as expert designers of intellectual experiences for students-as coaches or mid-wives of a more emergent learning process.

Essential features of Collaborative Learning

1. A group learning task is designed based on shared learning goals and outcomes
2. Students work in teams to master academic materials
3. Reward systems are group oriented than individual oriented
4. Co-operative behavior involves trust building activities, joint planning and understanding of team support.
5. Students involvement in learning activities are more
6. Encourages students to acquire an active-voice in shaping their ideas

Advantages of Collaborative Learning

1. Promotes social and intellectual involvement
2. Cultivation of teamwork, community building, and leadership skills
3. Enhanced student satisfaction and promoting positive attitudes
4. Open expression of ideas in groups
5. Patience in hearing others
6. Team building

7. Shared responsibility

(5) Flipped Learning

Flipped Learning is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter.

Flipped Learning Short video lectures are viewed by students at home before the class session, while in-class time is devoted to exercises, projects, or discussions. The flipped classroom describes a reversal of traditional teaching where students gain first exposure to new material outside of class, usually via reading or lecture videos, and then class time is used to do the harder work of assimilating that knowledge through strategies such as problem solving discussion or debates.

Flipped Classroom and Implications for Teaching

The flipped classroom constitutes a role change for instructors, who give up their front-of-the-class position in favor of a more collaborative and cooperative contribution to the teaching process. There is a concomitant change in the role of students, many of whom are used to being cast as passive participants in the education process, where instruction is served to them. The flipped model puts more of the responsibility for learning on the shoulders of students while giving them greater impetus to experiment. Activities can be student-led, and communication among students can become the determining dynamic of a session devoted to learning through hands-on work.

(6) Blended learning

Blended learning is a planned combination of online learning and face-to-face instruction using variety of learning resources. It is a flexible learning strategy that integrates innovative and technological advances of online learning with interaction and participation of traditional face-to-face classroom learning.

Blended learning strategies vary according to the discipline, the year level, student characteristics and learning outcomes, and have a student-centered approach to the learning design. Blended learning can promote learner's access and flexibility, increase the level of

active learning, and achieve better student experiences and outcomes. For teachers, blended learning can improve teaching and class management practices. A blend might include:

1. Face-to-face and online learning activities and formats

2. Traditional classes with different modalities, such as regular, weekend, evening, part time, semester

3. Use of technology interfaces like social media, wikis and various web sources

4. Group work, Simulation, debate, Online Assignments,   Practicals etc.

5. Both usual classroom human factors and digital learning resources of the web

6. Psychological concerns are addressed in the face to face interaction and technological concerns are addressed in the online learning

Blended learning should be viewed as a pedagogical approach that combines the effectiveness and socialization opportunities of the classroom with the technologically enhanced active learning possibilities of the online environment, rather than a ratio of delivery modalities.

Teachers in the Blended learning modality can

- Foster a class culture of hard work and persistence

- Monitor students throughout the period for motivation and learning

- Intervene to personalize instruction when data shows that students are struggling

- Build personal relationships of trust and caring

(7) e-learning

e-learning is the use of electronic media and information and communication technologies (ICT) in education. E-learning is broadly inclusive of all forms of educational technology in learning and teaching. Technology-Enhanced Learning (TEL), Computer-Based Instruction(CBI). Computer-Based Training (CBT), Computer-Assisted Instruction or Computer - Aided Instruction (CAI),Internet-Based Training (IBT), Web-Based Training (WBT), Online education, Virtual education, Virtual Learning Environments (VIE). e-learning can occur in or out of the classroom.

Synchronous and asynchronous

e -learning may either be synchronous or asynchronous. Synchronous learning occurs in real-time, with all participants interacting at the same time, while asynchronous learning is

self-paced and allows participants to engage in the exchange of ideas or information without the dependency of other participants involvement at the same time.

Synchronous learning involves the exchange of ideas and information with one or more participants during the same period of time. A face-to-face discussion is an example of synchronous communications. In e-learning environments, examples of synchronous communications include online real-time live teacher instruction and feedback, Skype conversations, or chat rooms or virtual classrooms where everyone is online and working collaboratively at the same time.

Asynchronous learning may use technologies such as email, blogs, wikis, and discussion boards, as well as web-supported textbooks, hypertext documents, audio video courses, and social networking. Asynchronous learning is particularly beneficial for students who have health problems or have child care responsibilities and regularly leaving the home to attend lectures is difficult.

e-Learning trends

- ✓ Automation
- ✓ Augmented Learning
- ✓ Big Data
- ✓ Going for Cloud Computing
- ✓ Gamification
- ✓ M - Learning
- ✓ Personalization

(8) Video conferencing

Video conferencing is two-way interactive communication delivered using telephone or Internet technologies that allows people at different location to come together for a meeting. The video conference can be as simple as a conversation between two people in private offices involve several sites with more than one person in large rooms at different sites. A basic video conference setup has a camera and a microphone. Video from the camera and audio from the microphone is converted into a digital format and transmitted to a receiving location using a coding and decoding device, often referred to as a "codec". At that receiving location is another codec device that decodes the receiving digital stream into a form that can be seen and heard on monitors or televisions. At the same time, video and audio from cameras and microphones at the

received location is sent back to the original location.

Benefits of Video Conferencing

Video conferencing saves travel time and money. Participants can see and hear all other participants and communicate both verbally and visually, creating a face- to- face experience. PowerPoint and other on screen graphic, as well as other cameras are also available presentation options. People downtime is reduced and productivity gains are achieved by removing the logistics of flight preparations, airport delays, hotel stays, and all the other inconveniences of business travel. In distance education, video conferencing provides quality access to students who could not travel to or could afford to relocate to a traditional campus. Video conferences can also be recorded and made available in a variety of ways. Besides distance education, other applications include meetings, dissertation and thesis defenses, tele-medical procedures, and online conferences.

People use video conferencing when:

- a live conversation is needed.

- visual information is an important component of the conversation.

- parties of the conversation can't physically come to the, same location.

- expense or time of travel is a consideration.

- examples of how video conferencing can benefit people around campus.

- guest lecturer invited into a class from another institution.

- researcher collaborates with colleagues at other institutions on a regular basis.

- thesis defense at another institution.

- administrators from different parts of campus need to collaborate on administrator issues such as a campus strategic plan.

- researcher needs to meet with a review committee about a grant.

- student interviews with an employer in another city.

Conclusion

Every learner learns on his/her own unique way and strategy. The learning is taking place with an individual speed, depending on student's attitude and level of prerequisite knowledge. In designing the teaching process, teacher should take into consideration differences among the students in the target group. Enough of space must be provided for processing and memorizing

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the presented information. Combination of different teaching methods can produce quality in fulfilling all teaching functions.

Questions

1. Explain the teacher centered methods of teaching History.

2. How would you use source method in senior classes for increasing effective participation by the pupils?

3. Discuss the main characteristics of lecture method of teaching of history.

4. Mention some difficulties in teacher-centered methods.

5. Discuss the merits and demerits of recent trends.

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UNIT – V RESOURCES FOR TEACHING HISTORY

Objectives

At the end of the course, the student teachers will be able to:

- ➢ Know importance of print resources
- ➢ Understand audio resources
- ➢ Interest to learn objectives of history
- ➢ Analyze need and importance of teaching history
- ➢ Acquire knowledge of values of history

I. PRINT RESOURCES:

Newspapers

The daily newspapers are very effective as teaching aids in history. They give information regarding the efforts being made to bring peace and harmony in the world, e.g., the summits and non-aligned conferences, the seminars and workshops. They also inform about developments taking place around the world and other news of topical interest.

Contemporary occurrences help to clarify and exemplify the facts and concepts described in the history textbooks. Newspapers may be used to augment other instructional resources and serve as a means of sensitizing the class to the need for updating knowledge. Newspapers can be used to initiate, strengthen and reinforce a unit. Movements, trends, ideas, and changes in national and international governments and relations, addresses of statesmen, prime ministers and presidents are all very important from historical point of view.

Journals

An academic or scholarly **journal** is a periodical publication in which scholarship relating to a particular academic discipline is published. Academic **journals** serve as permanent and transparent forums for the presentation, scrutiny and discussion of research. They are usually peer-reviewed or refereed.

Magazines

Magazines keep the teacher of history more informed of the current events. These events and current problems and their discussion are found in magazines only. Without the knowledge

of the current events a teacher cannot create an effective atmosphere in the teaching of history. The teacher of history fails in his duty if every day problems or current affairs and current events are not brought to the notice of his students.

The students are to be encouraged to read standing standard magazines of the subject and think over those problems which are burning issues.

One period a week for reading of magazines should be developed and the students should be asked to keep a diary and note the main events of the week in their note-books.

Reference books

Reference materials standard or conventional reference books and non-conventional reference books. Conventional reference books include dictionaries, encyclopedias, directories, year books, atlas, maps, charts, pamphlets, hand-books, manuals, and books of knowledge. There should be some picture collections which include well-known masterpieces. These prove most valuable to teachers especially for classroom use.

The non-conventional reference materials consist of all other library books that may be used for reference service of any other kind. They include books on special subjects.

History /Humanities Encyclopedias

There are many children's encyclopedias available-inclusive, well-written, attractive and convenient to use. The teacher should demonstrate their use and cite them frequently. The pupil who acquires the habit of using the encyclopedia is likely to become well-informed. Moreover, when the pupils realize the fullness and richness of these volumes, and acquire the habit of using them, they are also likely to use those which are intended for adults. And they often succeed remarkably well in securing useful information from these relatively difficult books. The pupils should learn to use reference books and to seek out the information itself is of less importance than the discovery of how and where to find it out.

II.   AUDIO RESOURCES:

In this category we may include those aids which call upon the visual senses and thus help the learners to learn through listening to the displayed aid.

Radio talk

Radio, as an effective audio aid device, is capable of providing valuable assistance to the teacher in the classroom by presenting worthwhile information and learning experience simultaneously to a large number of students.

These broadcasts are two types, which are as follows:

I.   General broadcast providing general information about the events and happenings, assimilating knowledge about the world, culture and life.

II. Educational broadcast specifically prepared and broadcast for serving the cause of education and classroom instruction in the form of radio lessons, lectures, etc.

Use of radio in history teaching: use of radio is helpful in the teaching-learning of the subject history in the following manner:

I.   Awareness about the current events and affairs is very much emphasized through the teaching of history. The general broadcasts of the radio may help much to the teachers as well as students of history in this direction.

II. Radio broadcasting makes it possible to listen to the lectures, talks, discussions, seminars and proceedings of educational interest in which renowned authors, educationists, leading scholars and other important personalities may participate. Such contact is bound to provide immense educational and psychological value to the students of history.

III. Specific educational broadcasting on radio, through its planned and sequenced classroom lessons on various topics related to history, may provide much assistance to the teachers in realizing the instructional objectives besides being a direct self-instructional source for the students.

Audio tapes

It is an effective recording device that cells for the use of auditory senses to convey the educational message to the teachers. It mainly consists of three parts-microphone or over sound input, the amplifier, and the reproducer. It involves two main processes-recording and re-producing of the sound.

In recording, the educational message is first fed into the tape recorder through microphone and other inputs. The voice produces mechanical vibrations that are changed into electrical vibrations. The amplifier intensifies these vibrations which, in turn, active a magnet. It results in the establishment of varied sound pattern on the iron oxide coated tape.

The playing of the instrument results into the reproduction of the recording sound. Here the sound pattern contained on the tape is subjected to electrical vibrations that are amplified by the amplifier and changed into an original like voice by the speacker.

III.   VISUAL RESOURCES:

In this category we may include those aids which call upon the visual senses and thus help the learners to learn through viewing. For the sake of convenience this category may be further sub-categorized into projective and non-projective aids.

Cartoons

A cartoon does not present the reality directly ; it is a metaphorical presentation of reality. The cartoonist depends on humor, satire and mockery for the presentation of his idea. In a way the cartoon is also a picture diagram, as it presents ideas rather than real objects. Carton type presention makes a strong appeal to the emotions, thus it enhaces learning. This device should be used with pupils of higher classes as a higher level of intellectual maturity is required to appreciate the idea behind a cartoon.

Charts

Charts may be defined as combinations of graphic and pictorial media designed for the orderly and logical visualizing of relationship between key facts and ideas. The main function of the charts is always to show relationships such as comparisons, relative amounts, developments, processes classification and organization.

Types of charts: i) Genealogy charts, ii) Flow charts, iii) Relationship charts, iv) Tabulation charts, v) Chronology charts.

Comics

A comic book or comic book also called comic magazine or simply comic, is a publication that consists of comic art in the form of sequential juxtaposed panels that represent

individual scenes. Panels are often accompanied by brief descriptive prose and written narrative, usually dialog contained in word balloons emblematic of the comics art form. Although comics has some origins in 18th century Japan and 1830s Europe, comic books were first popularized in the United States during the 1930s. The first modern comic book, Famous Funnies, was released in the United States in 1933 and was a reprinting of earlier newspaper humor comic strips, which had established many of the story-telling devices used in comics. The term comic book derives from American comic books once being a compilation of comic strips of a humorous tone; however, this practice was replaced by featuring stories of all genres, usually not humorous in tone.

"Why should kids read comics?"

Emerging research shows that comics and graphic novels are motivating, support struggling readers, enrich the skills of accomplished readers and are highly effective at teaching sometimes dull or dry material in subject areas such as science and social studies.

Josh Elder, founder and president of Reading With Pictures, sums up the strengths of comics as educational tools with his "Three E's of Comics."

- **Engagement:** Comics impart meaning through the reader's active engagement with written language and juxtaposed sequential images. Readers must actively make meaning from the interplay of text and images, as well as by filling in the gaps between panels.
- **Efficiency:** The comic format conveys large amounts of information in a short time. This is especially effective for teaching content in the subject areas (math, science, social studies, etc.).
- **Effectiveness:** Processing text and images together leads to better recall and transfer of learning. Neurological experiments have shown that we process text and images in different areas of the brain: known as the Dual-Coding Theory of Cognition. These experiments also indicate that pairing an image with text leads to increased memory retention for both. With comics, students not only learn the material faster, they learn it better.

Flash cards

Flash cards are those cards which are employed to provide valuable information to the viewers through the graphical representation made on them. Usually they make use of flannel graph for their display. However, they can also be effectively displayed at their own without making use of a flannel graph. These are are in the shape of small compact cards and contain some picture, phtotograph, sketch, diagram, and reading material neatly and boldy drawn and written on them. The display of these cards at their own or on the flannel board is for a very small period just in the shape of a flash. This is why, these cards are called flash cards. These cards can also be utilized as projective material for being shown on the screen through projectors.

Graphs

Graphs are flat pictures which employ dots, lines or pictures to visualize numerical and statistical data to show statistics or relationships. They are made according to exact specifications and depict specifically quantitative data for analysis, interpretation or comparison.

Graphs are effective tools for making comparisons and contrasts. The use of visual imageries for abstract ideas helps clarifications and remembrance.

Types of graphs: i) Line graph, ii) Bar graph, iii) Circle graph, iv) Pictorial graph.

Maps

One of the most valuable documents for the students of history is the map; but could they read it. As stated earlier place and time are two most important concepts in history; every historical event occurs at a definite place and at a fixed time; devoid of the sense of place and time, history becomes fiction. Map is the universally accepted symbol for the presentation of space concept. It indicates relationships in space, distance and direction.

Types of maps: i) Relief maps, ii) Flat maps, iii) Pictorial maps.

Pictures

Children, by their very nature, are picture minded. This love of pictures can be capitalized to add zest, interest and validity to the teaching history. Pictures they say, concretise history-they help children to understand that history is concerned with real things, real places and real persons. They are representations of beautiful dreams of reality or at least beautiful dreams. "if history is to be made interesting, particularly for lower classes, the proper materials for

teaching are dramatic scenes and heroic characters." Abstract generalisations are alwys cumbersome . Pictures will simplify the abstractions and help create and maintain interest.

Types of Pictures: i) Picture post cards, ii) Pictures made on charts, iii) Textbook and reference pictures, iv) Pageant type aids, v) Picture assembly, vi) Picture diagram, and vii) cartoon.

Posters

The present age is poster age. Everywhere we can see posters pasted on the walls, advertising boards and public places and also displayed in the newspapers and magazines for commercial, social and political propaganda. Through such propaganda, directly or indirectly, we can draw valuable educational advantages. In all their forms and shapes, posters represent quite forceful and appealing graphic visual aids. They usually concentrate on a single idea or theme.

Posters carry the following significance and advantages as a visual aid in the process of teaching and learning.

Posters are very effective means of catching and holding the attention of the learners, maintaining their interest in the teaching-learning process and leaving a permenant impression on their minds.

Posters can be specially used at the time of introducing a lesson by the teacher in his class for the purpose of attracting and motivating the students for the learning.

At the presentation, practice and recapitulation stages, they can be used for focusing the attention of the learners on some specific idea, fact, event or process.

The proper selection and effective use of posters:

➢   Simplicity

➢   Brevity

➢   Appropriateness

➢   Attractiveness

➢   Design and colour

Diagrams

A diagram may be defined as a graphic visual aid in the form of some simplified but explanatory drawing to show interrelationships and explain some idea, events or processes by means of lines, geometrical forms and symbols. Their main value lies in their power to describe and explain rather than merely to represent a thing or phenonmenon. Moreover, in comparison to other visual graphic aids like pictures, charts and graphs, they provide the highest condensed visual summaries of the presented facts and ideas.

The diagram should not be used at the introductory or beginning stage of the presentation of a lesson. They are more helpful at the drill, summary and review stages. In any case it is necessary to help the students to acquire necessary bacjground in terms of the essential previous knowledge of the subject matter that is illustrated through the diagram.

Diagrams are complex and abstract representations. They rely highly on the typical symbolism that is very difficult to understand by the students. Therefore, every care is to be taken on the fact that a particular diagram should be used only when the students are capable of comprehending and interpreting such abstraction.

A diagram should have a single purpose in terms of illustrating and explaining a thing, idea or a phenonmenon. It should never be crowded with many ideas and functions to be explained through it.

Models

Original materials are quite rare in history. Even those which exist are within easy reach of all schools. Therefore, the models the three dimensional representations of real things can be used with great advantage in the teaching of history.

A model may be defined as a replica of an object as it is or in a reduced or in an enlarged form. Model can afford a substitute for most of the historic remains. They give a vivid impression of the real.

Use of models in teaching helps in visualizing the historical reality such as buildings, sculptures, etc., sometimes, models may be the shortest and easiest way of presenting certain concepts to pupils.

Models can invest history with the sense of reality. Things which were mere stories to the pupils, might appear as true if we have models to support our verbal exposition.

Models can help history teachers to teach according to the source method. Models of sources may be considered as sources for all practical purposes.

Specimens

These are also effective teaching aids in history. They become more potent when used with other teaching aids such as pictures, maps and charts.

They say "A bird in hand is worth two in the bush". This saying acquires a new meaning when it is applied to the use of objects and specimens.

Specimen may be defined as typical objects or parts of objects which have been removed from their natural setting and environment.

These teaching aids are powerful interest arousing devices which possess the capacity of bringings into play all the five senses-touch, sight, heraring, smell and taste.

IV.   **ICT RESOURCE**:

Radio

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✓ Specific educational broadcasting on radio, through its planned and sequenced classroom lessons on various topics related to history, may provide much assistance to the teachers in realizing the instructional objectives besides being a direct self-instructional source for the students.

Television

Television is a powerful medium of communication that calls for the use of auditory as well as visual senses of the learners in receiving education from a large distance, this appliance makes us able to transmit instantly every spoken or the written word, the picture, the sights and sounds, and the action of events as they take place.

Like most of the advanced developing countries of the world, india has also started to use television in education for imporving the quality of education at all levels, to expand educational facilities, particularly in rural and backward areas, for formal and non-formal systems and to make education interesting to the learners and thereby reduce wastage, i.e., dropouts in educational system.

The successful placing of the satellites into orbit has added new dimensions in the use of television for instructional purposes. One may observe now a number of programmes on his television set that carry significant educational experiences. Besides this, regular educational service for schools and college studetns in the shape of model lessons and other instructional programmes can now be seen on the television screen. The launching of edusat programmes for the schools through the organized efforts of the centre of educational technology cell of necert may be viewed as the latest development in this direction.

➢ Internet

➢ Multimedia

➢ Interactive whiteboard.

V. COMMUNITY RESOURCES:

Fieldtrips

Therefore most of history learning can take place in the immediate surroundings. Most of the social and historical phenomena can be clearly and easily understood by organizing local field trips to different places of historical interest. The students get an opportunity to come in contact with the natural environment and they get first hand experience and view of history. In fact, the field trips put school on wheel. Field trips to some of the neighboring villages may help the students to recognize vital and meaningful contrast to city life in respect of pattern of houses, occupations, various activities connected with occupations and socio-economic life of the villagers. They get to know the forts, tombs, battle fields, etc. such trips develop the habit of self-study and understanding.

Purpose of field trips

➢ Field trips help to utilize the resources of the environment to their fullest extent for teaching history.

➢ The students are able to see events, relics, objects, specimens in their natural setting.

➢ Because of direct observation, the understanding of the students becomes meaningful and they confirm the bookish knowledge.

➢ Field trips create interest in the subject of history.

➢ They help to neutralize the boredom of teaching of history and to link the school with social and political life outside it.

Museum

The word museum is derived from the greek word MOUSEION meaning thereby a temple of muses. It is place of assembly which specializes in assembling and showing specimens

and exhibits. Museum of art and natural history provides splendid educational opportunities to our school population.

Museum is the temple of the muse, as the word implies, is intended to be a place for study. For ages, the museum has been regarded as the reference file of real objects by which to verify and amplify knowledge acquired and preserved in other forms. It is described as the centre of a three dimensional documentation of the world and the history of man which no publications can replace. It provides information, education and enjoyment. Unless the hearts and minds of the people are exposed to works of art and elevated to a higher creative plane, they generally tend to remain at the animal level below the teaching of civilization.

Today, it is being considered essential that every school should have a museum with a separate section for every subject. It is essential and desirable that there should be a history museum in every school. It will invest history with a sense of reality. By seeing the relics of the past, pupils can realize that history deals with facts. The sculpture can inform the students how in the days of yore arts were patronized and encouraged by different rulers in India. We know that Indian history, particularly the ancient Indian history, is based on ancient relics to a great extent. As such, it provides ample opportunities for study through museum.

A good history museum is not merely a collection of items; it should be a collection of useful items. A museum is also not a curio shop. It must have a dynamic image and role to play in the diverse needs of the pupils of different classes.

Library

It is an important and useful aid to the teaching of history. A small history library is as essential for the teaching history as a laboratory in physics, chemistry, zoology, etc. teachers of history look upon a library as indispensable because original material, reference books, magazines, journals, etc., are stocked in it for reference. Because of a separate history library, the students begin to take interest in the subject and if they do so, the purpose of maintaining a separate history library is served. But is is surprising to know that few schools are really in a position to maintain a good library in general and subject libraries in a particular.

Need of a library

➢ The need of a good and a separate history is felt both by an intelligent teacher and intelligent students. It need is felt when a teacher is confronted with a few problems during the course of teaching of history because no single text-book on history could possibly provide information on all the topics of history. More and more emphasis in being laid on collateral reading in history these days. It is a good history library which can furnish the requisite information and comes to play an important role of enhancing the knowledge of social and historical nature.

➢ Such a subject library helps in inculcating library habits in general and subject interest in particular. The students develop the habit of using the index and develop library sense.

➢ Text-books of history do not meet all the needs of the students. They, thus consult other books on history or reference books. Besides, a history library provides an appropriate atmosphere to inspire and encourage students to consult them and whenever they feel that a text book is not meeting their needs.

Excavated archeological sites

Archaeology has contributed a lot particularly to the history of ancient India. Under the heading of archeology, historical information can obtained from i) inscriptions, ii) numismatics and iii) monuments.

Monuments

The ancient monuments, like forts, mosque, buildings, statues and pottery provide a lot of useful and reliable information about history. The excavations of the sites of the old towns like Harappa, mohanjadaro and Taxila have furnished the historian with a lot of useful and reliable information hitherto unknown and have unearthed much of the history of ancient India. The excavation of the sites of birth has added to the knowledge regarding Budhism and Ashoka.

The remains of the temples of ancient India and the mosques of medieval India are indicative of the hindu and muslim influences. The existence of various monuments through the ages provides a scientific basis for establishing chronology. They shed valuable light on the various phases of our cultural life and also provide as with a clue to the nature and extent of india's cultural contacts with the other civilizations of the world.

➢ History resource Centre

History Club

Such clubs if properly organized will be of immense help in enlivening the teaching of history, considered and thought by most of us, as dull in our schools. Such a club stimulates the interest in extra readings of historical matrial. When the students meet in a club, they get an opportunity to mix with other students.

This club should be managed by the students themselves and the teacher should be a mere guide. They meeting may be held once a month in which a few interesting topics of history may be discussed. Excursion should be organized or arranged to places of historical interest. Films if available may be exhibited off and on.

The members of the club may be asked to collect coins, old utensils, old jewellery, pottery, costumes of the past, photographs of historical personalities. Such activities will provide the students an opportunity to show their ingenuity and manual skill. It will create in them the habit of extra study of historical magazines, journals and old books and may create a desire in them to delve deep into the historical writings. Such training will help them to spend their leisure time usefully.

A historical society may help to organize extra school activity and may foster an interest in the historical remains of all kinds. The students may visit places of interest in their free time, taking notes, drawings and take photographs of the old historical monuments. The value of this lies not only in giving them a permanent interest in antiquities, but also in making their ordinary history a more living and interesting thing to them.

Activities of the Historical Club

➢ This club may organize village survey and the students may be asked to collect some socio-economic data of a village.

➢ In vacation, the club may organize hiking and trips to mountains, sea side or old monuments. The students will get first-hand knowledge of history.

➢ This club may arrange film show to enhance the historical knowledge of the students of history.

CHARACTERISTICS OF A GOOD HISTORY TEXT-BOOK

Proper history text books can help in promoting national integration. Text books should give an objective account of forces and trends which synthesized and fused various patterns of thought and modes of life resulting in the present composite Indian culture. It is essential that histories of different regions are prepared in a well-coordianted manner with an all india approach but without sacrificing historical truths in any manner. This will make the pupils aware of inter-cultural differences, help them to reconise the common humaneness which bind sub-cultures together into one single nation and accept different ways of meeting human needs and aspirations.

The text-books should highlight the memorable role of heroes of national stature who kept burning the torch of freedom at the gloomiest hour.

The text-books should not only deal with the glories of the past achievement but also make a significant mention of the future aspirations of resurgent people of India.

Researchers need to be taken up in the realistic contemporary indian culture to guide the text book writers of Indian history. Pamphlets, teaching guides, maps, models and manuals of field trips may be made available to promote national consciousness and strengthen national security.

It is fortunate that the NCERT and central board of secondary education are making special efforts to see it that history does help in promoting national consciousness.

QUALITIES OF A HISTORY TEACHER

Teacher occupies a very important place in the scheme of education. Without a well equipped teacher, the aims and objectives the school has set before it cannot be achieved. Therefore, we need teachers who have special qualifications and interests. History is a subject which involves observation of historical events and places, collection of old and new data, analysis and generalization etc. Direction and guidance of such a teacher is very necessary. History being a very vast subject, both science and art, it is not possible to teach this subject unless a teacher has special qualifications. In order to be successful and to realize the objectives of history teaching and to discharge his functions properly and adequately, he should be a person of wide reading and culture and possess certain qualifications which are mentioned as under:

✓ Academic preparation

✓ Mastery of the subject and techniques

✓ Power to excite imagination

✓ Keen power of observation and imagination

✓ Knowledge of various methods of teaching

✓ He should have a love for excursions and tours

✓ He should take interest in collection of things of historical importance

✓ Power of narration and dramatization

✓ He should possess the basic knowledge of other social science

✓ He should possess scientific bent of mind

✓ Knowledge of current affairs

✓ Knowledge of child psychology

✓ Teacher pupil relationship

✓ Personality

✓ Professional training

Questions

1. Write about meaning of print resources and describe its impact on society.

2. Describe advantages and disadvantages of ICT sources.

3. Explain qualities of a history teacher.

4. Discuss on importance of community resources in education.

5. Describe impact of ICT resources in education.

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Course Material for B.Ed. (First Year)
(2016-2017)

Course 7(a): Pedagogy of Mathematics (Part –I Methodology)

Prepared by

Unit I   **Aims and objectives of teaching Mathematics**

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Unit III   **Practising the teaching skills in Mathematics**

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Unit – I: Aims and Objectives of Teaching Mathematics

Objectives:

After the completion of the unit, the learners will be able to:

1. explain the nature of Mathematics.
2. examine the scope of Mathematics.
3. identify the aims and objectives of teaching Mathematics.
4. appreciate the values of Mathematics.
5. sensitize the needs of teaching Mathematics.

Introduction

The world of today, which learns more on science and technology, demands more mathematical knowledge on the part of more people. And the world of tomorrow will make still greater demands on a person to be "well educated" in the technological society of today, and as such they should have some degree of mathematical literacy. Though mathematics has been with us for more than 5000 years, the subject has never been made as lively as it is today. The pace of mathematical discovery and invention has accelerated amazingly during the last few decades. It has been said that mathematics is the only branch of learning in which theories of two thousand years old are still valid.

Mathematics - Meaning and Definitions

The dictionary meaning of mathematics is that 'it is either the science of number and space or the science of quantity, measurement and spatial relations. It is a systematized, organize and exact branch of science. It deals with quantitative facts, relationships as well as with problems involving space and form. It is a logical study of shape, arrangement, and quantity. Mathematics is defined in different ways by different authors. Let us examine a few of them.

Comte defined mathematics as "The science of indirect measurement"

According to *Kant* "Mathematics is the indispensable instrument of all physical researches."

Gauss stated "Mathematics is the queen of sciences and arithmetic is the queen of all mathematics".

Roger Bacon said "Mathematics is the gateway and key to all sciences".

According to ***Lindsay***, "Mathematics is the language of physical sciences and certainly no more marvelous language was created by the mind of man"

Locke stated, "Mathematics is a way to settle in the mind a habit of reasoning".

According to ***Marshal H. Stone***, "Mathematics is the study of abstract system built of abstract elements. These elements are not described in concrete fashion".

According to ***Bertrand Russell,*** "Mathematics may be defined as the subject in which we never know what we are talking about nor whether what we are saying true".

Benjamin Peirce emphasized that, "Mathematics is the science that draws necessary conclusions".

A more comprehensive definition of mathematics was given by Courant and Robin when they defined mathematics in the following way "Mathematics is an expression of the human mind which reflects the active will, the contemplative reason and the desire for aesthetic perfection. Its basic elements are logic and intuition, analysis and construction, generality and individuality".

Nature of Mathematics

The nature of mathematics is made explicit by discussing it under the following heads:

1. Mathematics: a science of discovery.
2. Mathematics: an intellectual game
3. Mathematics: the art of drawing conclusions
4. Mathematics: a tool subject.
5. Mathematics: a system of logical processes
6. Mathematics: an intuitive method.

1.***Mathematics – A Science of Discovery***

Mathematics is the discovery of relationships and the expression of those relationships in symbolic form- in words, in numbers, in letters, by diagrams or by graphs. According to *A.N. Whitehead* (1912) "Every child should experience the joy of discovery".

The children must not only have opportunities for making their own discoveries of mathematical ideas, but they must also have the practice necessary to achieve accuracy in their calculations. Today it is discovery techniques, which are making spectacular progress. They are being applied in two fields: in pure number relationships and in everyday problems involving such things as money, weights and measures.

2. Mathematics – An Intellectual Game

Mathematics can be treated as an intellectual game with its own rules and without any relation to external criteria. From this viewpoint, mathematics is mainly a matter of puzzles, paradoxes, and problem solving – a sort of healthy mental exercise.

3. Mathematics – The Art of Drawing Conclusions

One of the important functions of the school is to familiarize children with a mode of thought which helps them in drawing right conclusions and inferences. According to J. W.A. Young a subject for this purpose should have three characteristics:

- That its conclusions are certain. At first, at least, it is essential that the learner should know whether or not he has drawn the correct conclusion.
- That it permits the learner to begin with simple and very easy conclusions to pass in well graded sequence to very difficult ones, as the earlier ones are mastered.
- That the type of conclusions exemplified in the introductory subject be found in the other subjects also, and in human interactions, in general.

These characteristics are present in mathematics to a larger extent than in any other available subject.

4. Mathematics – As a Tool Subject

Mathematics is a tool subject. In earlier days it is expressed as the handmaiden to the sciences. Nowadays it is useful to other disciplines, but it is dependent upon none of them. With its new found freedom, mathematics established its own goals to pursue. Its mentors of the past – engineering, physical science and commerce – now became no more than its peers.

Mathematics has its integrity, its beauty, its structure and many other features that relate to mathematics as an end in itself. However, many conceive mathematics as a very useful means to other ends, a powerful and incisive tool of wide applicability.

5. Mathematics – A System of Logical Process

Polya suggested that Mathematics actually has two faces. One face is a 'systematic deductive science'. This has resulted in presenting mathematics as an axiomatic body of definitions, undefined terms, axioms and theorems. Mario Pieri stated "Mathematics is a hypothetico-deductive system". This statement means that mathematics is a system of logical processes whereby conclusions are deduced from certain fundamental assumptions and definitions that have been hypothesized.

Polya described the second face of mathematics by saying 'Mathematics in the making appears as an experimental, inductive science". It is based on the principle that if a relationship holds good for some particular cases, it holds good for any similar case and hence the relationship can be generalized. Such a process is called inductive reasoning. For example, the student generalizes that the 'sum of the angles in a triangle is 180^0' after having observed this property in a number of triangles.

6. Mathematics – An Intuitive Method

Intuition implies the act of grasping the meaning or significance or structure of a problem without explicit reliance on the analytic apparatus of one's craft. It is intuitive mode that yields hypothesis quickly. It is a form of mathematical activity which depends on the confidence in the applicability of the process rather than upon the importance of right answers all the time.

Intuition when applied to mathematics involves the concretization of an idea not yet stated in the form of some sort of operations for example. When Mathematics is taught in a very formal way by stating the logical rules, and algorithm, we remove his confidences in his ability to perform mathematical processes. Teachers quite often provide formal proof in place of direct intuition. For example, to check the conjecture, 8x is equivalent to 3x+ 5x, a formal rigorous statement as the following,

Scope of Mathematics

Mathematics is all pervasive. So the demarcation of it scope is a difficult task,if not impossible. It is a science of all the sciences and provides basis to all the disciplines. According to this definition, two main aspects or categories of Maths are 'Basic Mathematics' and 'Applied Mathematics.'

(i) Basic Mathematics or Pure Mathematics

The Theoretical aspect of Mathematics is termed as basic Mathematics or Pure Mathematics. It involves systematic and deductive reasoning. It treats only theories and principles without regard to this application to concrete things. It is developed on an abstract self – contained basis without any regard to possible practical applications that may follow.

The following are sub branches of Pure Mathematics.

Algebra

It includes Arithmetic, Elementary and Multivariate Algebra, Linear Multivariate Algebra, Algebraic Structure etc.

Geometry

It includes Euclidean geometry, Projection, Analytical geometry, Trigonometry, Combinatorial geometry, differential and Algebraic Geometry etc.

Modern Mathematics

It consists of following topics.

(i)   Set theory –Origin and definition, fundamental set concepts, postulates of axiomatic set theory, etc.

(ii)   Topology – General topology, Topological groups, Differential topology, Algebraic topology.

(iii)   Algebraic System- Groups, Rings, Field, Vector Spaces.

Analysis

It includes Real and Complex analysis, Functional Analysis, Differential Equation, Fourier, Theory of Probability, Vector and Tensor.

(ii) Applied Mathematics

Applied Mathematicsis the application of pure Mathematics in developing the various means to score the human and humanity. It considers those part of Mathematical theories that have certain direct or practical application to objects in the material world.

The following are sub branches of applied Mathematics

(a) Calculatory Science – It includes numeral notations, calculating aspects of algebra, calculating use of tables and graphs, geometrical aids, mathematical models, analogic, computation, digital computations etc.

(b) Statistics- Basic principles,Estimation, Hypothesis testing structure etc.

(c) Numerical analysis.

(d) Mathematical theory of optimization

(e) Automation theory

(f) Information theory

(g) Mathematical aspects of physical theories.

Aims of teaching Mathematics

Aims of teaching Mathematics are to be framed in the light of the educational values of the subject. Value is the spring-board of aim. We know that mathematics has wide applications in our daily life. It has great cultural and disciplinary values. Thus we may mention the aims of teaching mathematics as under:

1. To enable the students to solve mathematical problems of daily life. We have to select the content and methods of teaching so that the students are able to make use of their learning of mathematics in daily life.

2. To enable the students to understand the contribution of mathematics to the development of culture and civilisation.

3. To develop thinking and reasoning power of the students.

4. To prepare a sound foundation needed for various vocations. Mathematics is needed in various professions such as those of engineers, bankers, scientists, accountants, statisticians etc.

5. To prepare the child for further learning in mathematics and the related fields. School mathematics should also aim at preparing him for higher learning in mathematics.

6. To develop in the child desirable habits and attitudes like habit of hard work, self-reliance, concentration and discovery.

7. To give the child an insight into the relationship of different topics and branches of the subject.

8. To enable the child to understand popular literature. He should be so prepared that he finds no handicap in understanding mathematical terms and concepts used in various journals, magazines, newspapers etc.

9. To teach the child the art of economic and creative living.

10. To develop in the child rational and scientific attitude towards life.

Objectives of teaching Mathematics

Aims of teaching mathematics are genially scope whereas objectives of the subject are specific goals leading ultimately to the general aims of the subject. The objectives of teaching mathematics in school can be described as under:

(1) Knowledge Objectives

Through mathematics, a pupil

- learns mathematical language, for example, mathematical symbols, formulae figures, diagrams, definitions etc.

- understands and uses mathematical concepts like concept o area, volume, number, direction etc.

- learns the fundamental mathematical ideas, processes, rules and relationships.

- understands the historical background of various topics an contribution of mathematicians.

- understands the significance and use of the units of measurement]

(2) *Skill Objectives*

Mathematics develops the following skills:

- The child learns to express thoughts clearly and accurately.

- He learns to perform calculations orally.

- He develops the ability to organise and interpret the given data

- He learns to reach accurate conclusions by accurate and logic reasoning.

- He develops speed and accuracy in solving problems.

- He develops the skill to draw accurate geometrical figures,

- He develops the ability to use mathematical apparatus and tools skillfully.

(3) *Appreciation Objectives*

The child learns to appreciate:

- The contribution of mathematics to the development of various subjects and occupations.
- The role played by mathematics in modern life.
- The mathematical type of thought which serves as model for scientific thinking in other fields.
- The rigour and power of mathematical processes and accrue of results.

- The cultural value of mathematics.

- The value of mathematics as leisure time activity.

(4) *Attitude Objectives*

Mathematics helps in the development of following attitudes:

- The child develops the attitude of systematically pursuing a task to completion.

- He develops heuristic attitude.

- He tries to make independent discoveries.

- He develops the habit of logical reasoning.

- He is brief and precise in expressing statements and results,

- He develops the habit of verification.

- He develops power concentration and independent thinking.

- He develops habit of self-reliance.

Need and significance of teaching Mathematics

The need to understand and be able to use mathematics in everyday life and in the workplace has never been greater and will continue to increase.

Mathematics for Life: Knowing mathematics can be personally satisfying and empowering. The underpinnings of everyday life are increasingly mathematical and technological. For instance, making purchasing decisions, choosing insurance or health plans, and voting knowledgeably all call for quantitative sophistication.

Mathematics as a part of Cultural Heritage: Mathematics is one of the greatest cultural and Intellectual achievements of human-kind, and citizens should develop an appreciation and Understanding of that achievement, including its aesthetic and even recreational aspects.

Mathematicsfor the Workplace: Just as the level of mathematics needed for intelligent citizenship has increased dramatically, so too has the level of mathematical thinking and problem solving needed in the workplace, in professional areas ranging from health care to graphic design.

Mathematics for the Scientific and Technical Community. Although all careers require a foundation of mathematical knowledge, some are mathematics intensive. More students must pursue an educational path that will prepare them for lifelong work as mathematicians, statisticians, engineers, and scientists. In this changing world, those who understand and can do mathematics will have significantly enhanced opportunities and options for shaping their futures. Mathematical competence opens doors to productive futures. A lack of mathematical competence keeps those doors closed. Generally it is an assumption that mathematics is only for the select few. On the contrary, everyone needs to understand mathematics. All students should have the opportunity and the support necessary to learn significant mathematics with depth and understanding. There is no conflict between equity and excellence. Principles and Standards call for a common foundation of mathematics to be learned by all students. This approach, however, does not imply that all students are alike. Students exhibit different talents, abilities, achievements, needs, and interests in mathematics. A society in which only a few have the mathematical knowledge needed to fill crucial economic, political, and scientific roles is not consistent with the values of a just democratic system or its economic needs.

Values of teaching Mathematics

The main values of mathematics are Practical or utilitarian value, Disciplinary value, Cultural value. Aim will be based on the educational values of the subject. One can prepare a long list of goals of teaching mathematics. These aims pertain to the entire school stage. Apart from enabling the student to acquire essential mathematical knowledge, skills, interests and attitude, the teaching of mathematics has to help them in many ways. Aims of teaching mathematics are as follows

Utilitarian aim: Mathematics will be taught primarily for its practical values and aims. The students will be given mathematical knowledge and skills needed in his day-to-day life and enabled to make use of that knowledge and skill. This aim makes the study of mathematics functional and purposeful and establishes relation between the subject and practical life.

Disciplinary aim: The subject has also to be taught for its disciplinary and intellectual values. It has to aim at providing training to the mind of the learner and developing intellectual habits in him. Cultural aim: This aim helps the learner to understand the contribution of mathematics in the development of civilization and cultural.It has enabled him to understand the role of mathematics in fine arts and in beautifying human life.

Adjustment aim: It is help the learner to develop a healthy, purposeful, productive, exploratory and controlling adjustment with environment.

Social aim: It is to help the learner to imbibe essential social virtues. Moral aim: It enables the learners to imbibe the attribute of morality.

Aesthetic aim: It is to develop their aesthetic sensibilities, meet their varying interest and help them in the proper utilization of their leisure time. International aim: To develop in them international outlook and understanding.

Vocational aim: It is to prepare them for technical and other vocations where mathematics is applied.

Inter-disciplinary aim: To give them insight into the application of mathematics in other subjects.

Self-education aim: It is to help them to become independent in learning.

Educational preparation aim: It is to prepare them for higher education in science, engineering, technology, etc.

Development of powers aim: It pertains to the development of powers of thinking, reasoning, concentration, expression, discovery, etc.

Harmonious development aim: Overall aim of teaching all the subjects including mathematics is to ensure all-round and harmonious development of the personality of the child.

Conclusion:

Mathematics may be thought of as a highly disciplined mode of thinking. The teachers should help students to appreciate the structure and pattern which underlie mechanical and computational skills. Many situations can be broken down by analyzing them into interrelated constituent problems which can be explored by well-known mathematical techniques. Wherever there is structure, relationship, regularity, systematic variation, there is mathematics. To recognize this, one needs some knowledge of mathematical skills and formulae, but above all one needs imagination, appreciation of order, structure and pattern, combined with a flexible, roving interest to live in the changing, challenging and exciting world around us.

Questions for Discussion and Reflection

1. Explain the aims and objectives of teaching Mathematics.
2. Discuss the values of teaching Mathematics.
3. Analyse the scope of Mathematics.
4. Describe the nature of Mathematics.
5. Bring out the needs for Mathematics in our daily life.

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Unit – II: Planning for Instruction

Objectives

After the completion of the unit, the learners will be able to:

1. explain the steps involved in the lesson plan.
2. design a unit plan for Mathematics.
3. formulate instructional objectives based on the domains.
4. construct test items for formative evaluation.
5. discuss the different types of test items.

Introduction

Planning means making decisions about what information to present, how to present the information, and how to communicate realistic expectations to students. If all students in a class were at the same instructional level and if the goals and objectives of schooling were clearly prescribed and the same for all students, then instruction would consist of doing the same things with all students, in the right order, at the right time. But all students are not alike, and the goals and objectives of instruction are not the same for all students. This is why planning is such an important part of instruction.

Steps in planning a Lesson

A lesson plan is the instructor's road map of what students need to learn and how it will be done effectively during the class time. Before planning the lesson, it is needed to identify the learning objectives and then design appropriate learning activities and develop strategies to obtain feedback on student learning. The following point helps in planning a lesson.

Herbartian formal steps for lesson planning are as follows

1. Preparation
2. Presentation
3. Association and comparison,
4. Generalization
5. Application
6. Recapitulation

(i) Preparation

In this state simply a ground is prepared. Student is made ready to learn something new. Nothing new is total to the child. Child's previous knowledge is tested in such a way that interest may stimulate for learning something new in the mind of the child. This should be done by linking their previous knowledge with the new learning material.

(ii) Presentation

Before coming to the second step, aims of the lesson are made clear to the students. The methods and techniques employed are related to the subject matter. Material is presented to the students in an orderly manner with suitable examples, taking in account the understanding power of the child. Proper question answer technique is employed to develop the subject matter with mutual participation of the teacher and taught. Proper illustrations and aids are used according to the needs.

(iv) Association

In this step new ideas and knowledge is compared with the known similar facts to arrive at proper generalization, to establish principle or to derive definition. It is the most important step in the process of lesson planning.

(iv)Generalization

In this step by considering the above generalized facts, principles and definitions with the help of association and compression, students themselves draw out the conclusions in this step, if sometimes students are unable to have proper conclusion and generalization of the learning material, teacher should help to correct the result.

(v)Application

After establishing new formula or principle, practical implication of the material are given to the students, related to their everyday life, to have actual verification of the derived formula or principle. This helps to make the learnt material more clear and understandable.

(vi) Recapitulation

In this step assessment of teaching and learning material is done. By putting objective type questions to the students at the end of teaching. If need arise corrections are made. Finally home work is assigned to the students related to the subject matter taught.

Setting lesson goals

1. Subject matter in the lesson plan should be according to the time for teaching at the disposal of the teacher
2. Provision of homework related to the subject matter taught should be there.
3. It should provide maximum participation of the child in the teaching and learning process.
4. In the lesson plan there should be proper provision of the teaching aids and good illustrations.
5. In the lesson plan there should be proper provision of recapitulation to have view of evaluation of the subject matter taught to the students.
6. In the lesson plan there should be provision of summary of whole subject matter.
7. Lesson plan should be child centered.
8. Example quoted to teach and explain the subject matter should be related to the everyday life of the child
9. Method, procedure and techniques applied for teaching should be according to the age and the mental level of the students.
10. Subject matter arranged in the lesson plan should be related to the previous knowledge of the child.
11. Selection and organization of the subject matter should be to the point and systematics.
12. It should be written clearly and vividly.

Designing a Unit Plan

Different meaning has been assigned to the term unit. They are 1. The lesson of the day 2. As a Chapter in a text book etc. Syllabus contains many topics/ units such as Mensuration, Algebra, Triangles trigonometry, Statistics etc.

Definitions of Unit Plan

According to Morrison, H.C. – "A Unit is a comprehensive and significant aspect of the environment of an organized science and art".

According to Preston – "A Unit is as large a block of elated subjects' matters as can be overviewed by the learner."

According to wisely – " The unit is an organized body of information and experience designed to effect significant outcome for the learner"

Unit Planning

A unit plan involves planning a teaching a unit, teaching methods,evaluation of teaching activities, diagnosing and remedial steps all together is called unit planning.

S.NO	Sub Division of content	No. of Period required	Teaching Method	Resource Materials	Evaluation

Designing a Lesson Plan

Planning of a lesson is animportant equipment of a teacher in a school or in a college. A lesson plan is strictly individual; it is indeed the creation of the teacher who plans out lesson plan. A plan is a work or is involving much imagination and study. The plan is an unfolding of the teacher's soul; it contains the life-blood of the teacher. Lesson plan is a kind of discipline, which has to be learnt in the training college.

R.L. Stevenson sates the importance of lesson plan as, "To every teacher I would say, always plan out your lesson beforehand but do not be slave to it"

Ryburn also said, "To Teach we must use experience already gained as starting point of work". Hence the lesson plan reflects the intelligence, ability, capacity, resourcefulness

and personality of the teacher. Lesson planning provides awareness to the structure and content with which teacher is involved in the direction to achieve the objectives.

Bloom's Taxonomy of educational objectives

Benjamin bloom, has been extremely influential in clarifying and organizing educational thought regarding the classification of objectives, his original work being carried out during the 1950's. Bloom and his co-workers contended that objectives are attainable in three distinct areas, or domains, to which they assigned suitably impressive jargon names: the cognitive domain, affective domain and psychomotor domain.

The cognitive domain

This contains objectives which are related to the acquisition and application of knowledge and understanding, and probably includes the great majority of educational and training objectives. An example of such an objective might be: "The student should be able to calculate all the dimensions of a triangle given the lengths of two sides and the size of the angle between them". Bloom and his co-workers also divided the cognitive domain into six distinct levels, each level building on those below and representing a progressively higher level of cognitive activity. Their hierarchy of the cognitive domain is as follows.

Level 6: Evaluation: Making judgments/critical comparisons on the basis of agreed Criteria.

Level 5: Synthesis: Bringing elements together to form a new, coherent whole.

Level 4: Analysis: Breaking a system down into its constituent elements.

Level 3: Application: Applying procedures/systems/rules in specific situations.

Level 2: Comprehension: Understanding and interpreting information

Level 1: Knowledge : Recalling information

The affective domain

This contains objectives that are concerned with attitudes and feelings which are brought about as a result of some educational or training process. An example of such objectives might be:"The trainees' lecturer should exercise empathy when counselling students".The affective domain was also divided into a number of distinct, hierarchical levels; this work was carried out by Bloom.

Level 5: Characterization: integrating one's beliefs, ideas and attitudes into a total, all-embracing philosophy.

Level 4: Organization: Making adjustments or decisions from among several alternatives.

Level 3: Valuing: Committing oneself to taking up an attitudinal position.

Level 2: Responding: Showing active interest in something.

Level 1: Receiving: Developing an awareness of something.

The Psychomotor domain

This contains objectives that deal with the development of manipulative or physical skills-things like measuring setting up and using equipment, using tools, drawing graphs, and so on. An example of such an objective might be: "The student should be able to assemble and use the distillation apparatus provided".

Level 4: Speech behavior: sound production and projections sound/gesture coordination

Level 3: Non-Verbal Communication: Facial expressions gestures, bodily movements.

Level 2: Finely-Coordinated Movement: Movements of hand and fingers, hand and eye, eye and foot, etc.

Level 1: Gross body Movements: Movements of arms, shoulders, trunk, feet and legs

Format of an Objective-based Lesson Plan

The following format may be used to prepare an objective-based lesson plan.

Objective-based Lesson Plan format

Name of the Student-teacher :   subject :   Date :

Class /Section and Section   :   Unit   :

Name of the school   :   Topic   :

Instructional Objectives : The student -teacher
1. Acquires knowledge of
    a. Understands
2. Applies the scientific knowledge
3. Develops skills
4. Develops interest
5. Develops attitude
6. Appreciates
A. Specifications : the student
    1. Recalls
    2. Recognizes
    3. Differentiates
    4. Cites example
    5. Enjoys
B. Instructional Resources

Required   :

Previous Knowledge of Learners:

Content/Concept	Specification of Behavioural Objectives	Learning Experiences (Teacher/Learner activities)	Evaluation

Follow up Activities(if any):

Signature of the Guide   Signature of the Student-Teacher

MODEL LESSON PLAN

Name of the student teacher   : XXX   **Subject:** Mathematics

Class/section and session   : IX   **Unit**   : Mensuration

Name of the school   : XXX   **Topic** : Surface area and Volume of the cube

Instructional objectives: The pupil

1. identifies the different mathematical shapes.
2. recalls the formulae on area and volume of the cube
3. explains the relationship between the area and the volume of the cube.
4. computes the problems with speed and accuracy.
5. formulates the problems on their own.

Instructional resources:

1. Model of a cube
2. Solid objects
3. Pictures depicting cube

Previous knowledge of learners

The Teacher asks the below questions to check the previous knowledge of the students.

1. How many sides are there in a cube?

2. Name some of the cube shape objects.

3. What is the area of the square?

Concept/Content	Specification of behavioural objectives	Learning Experiences(Teacher/Learner activities)	Evaluation
Lateral Surface Area (LSA) of the cube. The Lateral Surface Area of a cube is the area of all the sides of the cube excluding area of its base and top.	Defines Discusses	The teacher defines the Lateral Surface Area of the cube. Students discuss the definition in pairs.	Define LSA of the cube.
Model of the cube.	Recognises	Students handle the model of the cube and recognize its LSA.	

Formula for LSA of the cube=4a²sq. units	Explains
	
	Writes
		The teacher explains the steps involved in the deriving the formula.
		    = 4x area of each sides
		    = 4a²square units
		Where 'a' is the side of the cube.
		Students write the formula for LSA of the cube in their notebook.
			Write the formula for LSA of the cube.

Find the LSA of the cube if the side is 5 cm? Given a=5 cm The LSA of the cube =4a² =4x5² =4x25 =100 cm²	Reads Identifies Substitutes Calculates	The teacher reads the problem. Students identify the value of 'a' in the given problem. The teacher substitutes the value of the 'a' blackboard. Students calculate the LSA of the cube in their notebook.	Identify the value of 'a' in the given problem. Calculate LSA of the cube if the side is 6 cm.
Total Surface Area (TSA) of the cube. The Total Surface Area of a cube is the area of all the sides of the cube including its base and top.	Defines Discuss	The teacher defines the Total Surface Area of the cube. Students discuss the definition in pairs and copied in their note book.	Define TSA of the cube.

Concept/Content	Specification of behavioural objectives	Learning Experiences(Teacher/Learner activities)	Evaluation
Formula for TSA of the cube= 6a^{2}sq. unit	demonstrates	The teacher demonstrates the TSA of the cube by unfolding the cube shape box The students unfold the given cube shaped box.	Count the number of sides in the given cube.
	Explains	The teacher explains the formula for TSA of the cube. = The sum of the areas of all the six equal faces of the cube. = 6 X a^2 =6a^{2}sq. units.	Write the formula for TSA of the cube.
	Writes	Students write the formula for TSA of the cube in their notebook.	
Find the TSA of the cube if the side of the cube is 7 cm? Given: a=7, The TSA of the Cube=6a^2 =6x7^2 =6x49 =294 cm ^{2}	Simplifies	Students do the simplification on the black board.	
	Summarises	The teacher summarises the steps involved in the derivation.	Simplify the given problem.

Concept/Content	Specification of behavioural objectives	Learning Experiences(Teacher/Learner activities)	Evaluation
Comparison of LSA and TSA of the cube.	Compares	The teacher compares the LSA and TSA of the cube by explaining its sides. LSA = 4 a^2 sq. units TSA = 6a^2 sq. units	Compare LSA and TSA of the cube.
Volume of the cube: The number of unit cubes required to fill the entire cube. Real cube shape objects	Defines Writes demonstrates	The teacher defines the volume of the cube. Students write the volume of the cube in their notebook. The teacher demonstrates the volume of the cube by using real cube shaped objects. Students demonstrate the volume of the cube by using real cube shaped objects.	Define the volume of the cube.
Find the volume of the cube if the side of the cube is 6 cm? The volume of the cube is a^3 = aXaXa Given a=6 =6x6x6 =216cm^3	Selects appropriate formula. Computes	Student writes the appropriate formula in the blackboard. The teacher helps the students to compute the problem.	

Home work:
1. Find the Lateral Surface Area (LSA), Total Surface Area (TSA) and volume of the Cube having their sides as 8 cm.
2. If the Total Surface Area of a cube is 1014 cm², find the length of its side

Signature of the Pre - service teacher   **Signature of the supervisor**

Types of test – Items

1. Multiple-Choice Tests
2. True-False Tests
3. Matching Tests
4. Essay Tests
5. Short-Answer Tests
6. Problem sets
7. Oral exams

Multiple-Choice Tests:

Multiple-choice items can be used to measure both simple knowledge and complex concepts. Since multiple-choice questions the students can give the answer very quickly and correct. Use of this items when the student gave the correct answer a question that student have clear idea about the question. In addition, the items can be easily and reliably scored. However, good multiple-choice questions are difficult to write.

True-false Tests

True-false tests are less reliable than other types of exams. However, these items are appropriate for occasional use. Some faculty who use true-false questions add an "explain" column in which students write one or two sentences justifying their response.

Matching Tests

The matching format is an effective way to test students' recognition of the relationships between words and definitions, events and dates, categories and examples, and so on.

Essay Tests

Essay tests or assignments enable you to judge students' abilities to recognize, interpret material, and express themselves in their own words. Research indicate that students study more efficiently for essay-type examinations than for selection tests: students preparing for essay tests focus on broad issues, general concepts, and interrelationships rather than on specifics details and this studying results in somewhat better student performance regardless of the type of exam they are given(McKeachie,1986)

Essay also given you an opportunity to comment on students' progress, the quality of their thinking, the depth of their understanding, and the difficulties they may be having. However, because essay tests pose only a few questions, their content validity may be low. In addition, the reliability of essay tests is compromised by subjectivity or inconsistencies in grading.

Short-Answer Tests:

Depending on your objectives, short-answer questions can call for one two sentences or a long paragraph. Short-answer tests are easier to write, though they take longer to score, than multiple-choice tests.They also give you some opportunity to see how well students can express their thoughts, thought they are not as useful as longer essay responses for this purpose.

Problem sets

In courses in mathematics and the sciences, your tests can include problem sets. As a rule of thumb, allow students ten minutes to solve a problem you can do in two minutes.

Oral Exams

Oral exams are sometimes used for undergraduates in foreign language classes. In other classes they are usually seen as too time- consuming, too anxiety provoking for students, and too difficult to score unless the instructor tape-records the answers.

Constructing test-items for formative evaluation in class

General steps

1. Identify and define the learning outcomes to be measured
2. Prepare test specifications
3. Construct relevant test items
4. Review and edit the items
5. Arrange the items in the test
6. Prepare directions

Step 1: Identify and define learning objectives

1. State the general objectives.
2. Develop 5 to 15 general objectives.

3. Begin each general objective with one of the six cognitive domain headings of Bloom's Taxonomy

4. State the specific objectives.

5. For each G.O., develop 3-5 specific objectives.

6. Begin each S.O with an action verb.

Step 2: Preparing Test specifications

1. Select the specific outcomes to be tested

2. Outline the subject matter by listing topic and subtopic areas in the lesson plan

3. Make a two-way table of specifications

Step 3: Construct Relevant Test Items and Consider:

1. Selecting the type of test items to use

2. Selecting type items (e.g, multiple choice, true-false, matching, interpretive exercises)

3. Supply type items(e.g, short answer, essay(restricted response), essay (extended response)

4. Matching items to Specific Objectives

5. For each S.O., write one or more related items, Parts of an Item:
    i. Stem-the question or incomplete sentence.
    ii. Alternatives-the choices
    iii. Distractors-the incorrect choices

Step 4: Review and edit the items

1. Does each test item measure an important learning-outcome included in the table of specifications?

2. Is each item type appropriate for the particular learning outcome to be measured?

3. Does each item present a clearly formulated task?

4. Is the item stated in simple, clear language?

5. Is the item free from extraneous clues?

6. Is the difficulty of the item appropriate for the students to be tested?

7. Is each test item independent and are the items, as a group, free from overlapping?

8. Do the items to be included in the test provide adequate coverage of the table of specifications?

Step 5: Arrange the items in the test

1. The items should be arranged so that all items of the same type are grouped together.

2. The items should be arranged in order of increasing difficulty.

3. For some purposes, it may be desirable to group together items which measure the same learning outcomes or the same subject-matter content.

Step 6: Prepare directions

1. Purpose of the test.
2. Time allowed to complete the test.
3. How to record the answers.
4. Whether to guess when in doubt about the answer.

Conclusion

The planning aspects of teaching is so important that it alone can determine the failure or success of teacher. It is the planning of lessons that take into account the interaction between student and teacher that determines the success of the learning experience. Teachers who spend more time in preparation will spend less time in trying to keep their students on the learning track.

Questions for Discussion and Reflection

1. Explain Bloom's Taxonomy of Educational Objectives with suitable examples.

2. Prepare a model Lesson Plan for any one of the topic in 9th standard Mathematics Text book.

3. Briefly explain the significance of Lesson Plan in teaching Mathematics.

4. Critically analyse the structure and steps involved in the four fold Lesson Plan.

5. Explain the types of test-items and construct test-items for formative evaluation in class room environment.

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Unit – III: Practicing the teaching skills in Mathematics

Objectives:

After the completion of the unit, the learners will be able to:

1. To obtain knowledge on the meaning of teaching.
2. To understand the teaching skills.
3. To analyse the major steps in teaching a mini-lesson.
4. To explore, observe and feedback on integration of teaching steps in mini-teaching

Introduction

An educational institution performs a significant function of providing learning experiences to lead their students from the   darkness of ignorance to the light of knowledge. The key personnel in the institutions who play an important role to bring about this transformation are teachers. As stated by NCTE (1998) in Quality Concerns in Secondary Teacher Education, ‒The teacher is the most important element in any educational program. It is the teacher who is mainly responsible for implementation of the educational process at any stage. This shows that it is imperative to invest in the preparation of teachers, so that the future of a nation is secure. The importance of competent teachers to the nation's school system can in no way be overemphasized.

Meaning of Teaching

Teaching includes all the activities of providing education to other. The person who provides education is called teacher. The teacher uses different method for giving best knowledge to his students. He tries his best to make understand students. His duty is to encourage students to learn the subjects. Teaching means interaction of teacher and students. They participate for their mutual benefits. Both have their own objective and target is to achieve them.

Understanding major teaching skills

Teaching skills would include providing training and practice in the different techniques, approaches and strategies that would help the teachers to plan and impart instruction, provide appropriate reinforcement and conduct effective assessment. It includes effective classroom management skills, preparation and use of instructional materials and communication skills.

1. Skill of Introducing

This is an important skill required for a teacher. Well begun is half done is a saying which indicates the importance of introducing a lesson. It is the duty of a teacher to bring the students into the classroom mentally. The skill is intended for making effectiveness in introducing of the content. This is always done at the start of a class. Here teacher gives a brief introduction about the lesson in order to pre-dispose the pupil's mind to it.

There are many ways to present an introduction. Here are a few:

1. Asking questions to get the students thinking about the topic of the lesson.

2. Showing pictures that relate to the lesson topic.

3. Telling a story to show the importance of the topic.

4. Bringing in real objects related to the lesson.

2. Skill of Explaining

Teaching is not primarily telling. It's helping other people learn. That means the focus is on the learners, not the teacher. People learn best through experiencing something themselves, so when you are striving to teach something, you are constantly trying to Get into the shoes of the learners so that you can better understand where they are and what they need

from you to learn the subject understudy. Explaining can be defined as an activity to bring about an understanding of a concept, principle etc. it is an activity to fill the gap in someone's understanding.

In classroom the teacher explains ideas and concepts. It is the most commonly used skill and is the essence of instruction. Explanation is a key skill. Generally, the skill of explanation is complex Explanation is to explain or to give understanding to another person. It leads from the known to the unknown, it bridges the gap between a person's knowledge or experience and new phenomena, and it may also aim to show the interdependence of phenomena in a general sable manner. It assists the learner to assimilate and accommodate new data or experience.

In a classroom, an explanation is a set of interrelated statements made by the teacher related to a phenomenon, an idea, etc. in order to bring about or increase understanding in the pupils about it. The teacher should practice more and more of desirable behaviours like using explaining links using beginning and concluding statements and testing pupil understands behaviours like making irrelevant statements, lacking in continuity, using inappropriate vocabulary, lacking in fluency, and using vague words and phrases as far as possible.

A class is not homogeneous group. Some pupils are intelligent some have normal intelligence, some are mature and others are immature. But the teacher has to impart knowledge to all. To present the subject matter in the simplified form before the pupils and making it acquirable is called the skill of explanation. It is necessary in all the subjects. In its absence the presentation of the subject matter is not possible. In the skill of explanation, such words are used in the statements by which the statements exhibit the clarity of their meanings.

The explanation serves two purposes: (1) to introduce the subject by giving some background about its usefulness and application; and (2) to describe the subject in a simple, complete, and tantalizing way. The explanation should create a desire to become proficient in the subject under study

The components of skill of explaining involved

1. Clarity

2. Continuity

3. Relevance to content using beginning and concluding statements

4. Covering essential points

5. Simple

6. Relevant and interesting examples appropriate media

7. Use of inducts, deductive approach, it can be functional, causal or sequential

Characteristics of effective explanation

1. *Coordination in Statements*: Coordination in the statements used during the explanation is very essential; otherwise there will be all hotch- potch.

2. *Relevant Statements*: While presenting the subject matter, the concerned statements should be relevant.

3. *Fluency in Language:* The teacher should use fluent language so that the pupils may listen and understand his thoughts.

4. *Connecting Link:* The use of words, idioms or connecting links such as 'therefore' as a result of etc. is essential to link the different thought or statements.

5. *Clear Beginning Statement*: Before starting any explanation, the teacher should make the pupils aware of what he is to teach on that day through a clear beginning statement.

6. *Use of proper Words*: The teacher should use proper words for explaining an object or an event otherwise he would be in a state of confusion

3. Skill of Questioning

Successful teaching highly dependent on questioning technique employed in the teaching sessions. Questioning is an important teaching skill that a teacher must learn. The teacher should learn to ask suitable, appropriate and meaningful questions. Questioning is definitely a skill. We can very easily answer a question but it is too difficult to ask a question.

A question is any sentence which has an interrogative form or function. In classroom settings, teacher questions are defined as instructional cues or stimuli that convey to students the content elements to be learned and directions for what they are to do and how they are to

do it. Questioning promotes involvement, initiates thinking, creates motivation and enhances learning.

Effective questioning is a real compliment to the instructional skills. It shows the ability to understand the student's real needs. It shows that for meaning that's deeper than the spoken message. Effective questioning is a powerful, learned skill.

For students, questioning strategies help to categorize and anticipate exam questions, allowing for more effective preparation. The strategies are also useful for study groups, focusing efforts and allowing members to test each other. They improve the student's ability to clarify, reorganize, and accurately explain new information. Questioning also aids in self-assessment and self-monitoring.

Basis of Questioning skill

Questioning skills refer to one's ability to formulate and respond to questions about situations, objects, concepts, and ideas. Questions may derive from oneself or from other people.

There are two levels of questions:

1. **Low-level questions refer** to questions that require one to recall information that has been registered in memory. Low-level questions operate on the level of knowledge, drawing from one's knowledge base of a subject.
2. **The High-level questions** encompass questions that require one to process information rather than simply recall it. High-level questions operate on one's ability to comprehend, apply, analyze, synthesize, and evaluate information.

Questioning techniques

Good questions are essential to effective communication between: the teacher and the student: the teacher who lack the skill to effectively question their student create disinterest and boredom on the part of the student. They also ignore a fine opportunity to open communication lines for determining the effectiveness of the lesson. Good questions expand on central thoughts, develops the subject, and not on minor, nice-to-know points. Let us look at some rules for asking questions.

• Distribute questions at random. Do not always ask the same student or those sitting in a particular area. Ask questions of the entire class to promote thinking in all students and get them involved.

•Acknowledge all answers to ensure incorrect or vague answers are clarified.

•Don't use catch or trick questions. Students will not participate and you could possibly lose them if they feel humiliated.

•Allow enough time for the student to think about and give an answer. Do not waste time waiting if the student clearly does not know the answer, but do not cut the student off before ample time is given for the complete though process or answer period.

•Begin questions with the words that require thoughtful answers, such as, "Why, When, How, What," etc. Stay away from questions that can be answered with a simple yes or no. This will help stimulate and even guide students thinking.

•Avoid frequent group or choral responses. This method provides answers that are often unintelligible and errors that are hard to pick up.

•Do not waste time "pumping" a student. If the trainee does not know the answer, either offer an explanation or ask the question of another student.

4. Skill of closure

This skill is useful for a teacher to close his teaching properly. The teacher is to summarise all the teaching during the period and provide opportunities for the students to correlate the learnt matter with the past and future knowledge. This is to be done by statements or by asking questions.

5.Skill of Reinforcement

This skill is the most important one than other teaching skills. Reinforcement, the term implies the use of the technique for influencing behaviour of individuals in desired direction. The concept of reinforcement is based on the hedonistic principles, which envisages that all individuals tend to repeat the pleasant experiences and avoid unpleasant

ones. The skill is being used to utilize good behaviours of the learners and to avoid the undesirable behaviours of the learners. The teacher would like the student's desirable behaviours and criterion responses to be retained and undesirable behaviours to be eliminated. For reinforcing student's desirable behaviours and criterion responses he uses positive verbal and non-verbal reinforcers. These reinforcers not only strengthen the student's desirable behaviours but also develop confidence in them.

Besides, they enhance their positive self-concept. Absence of positive reinforcers for student's desirable behaviours may erode their confidence and lead to poor self-image. Positive reinforcements encourage students to participate actively in classroom interactions. It stimulates them to achieve more, thereby, creating a sense of achievement. Skilled use of reinforcers helps a teacher to promote student's learning. The skill of reinforcement refers to the effective use of reinforcers. It, can therefore be defined as 'the effective use of reinforcers to modify student's behaviour in the desired direction".

6. Skill of varying the stimulus

Varying the stimulus is described as a deliberate change in the behaviours of the teacher in order to sustain the attention of the learners throughout the lesson. The variation in the stimulus helps in avoiding monotony and in generating interest among the students which in turn makes learning effective.

Learning in the classroom depends, to a large extent, on the attention of the students on the learning task. It is therefore, essential for the teacher to secure and sustain student's attention for making his teaching effective. Continuous use of the same stimulus or activity for longer period induces inattention. The inattention is caused in two ways: one is continued focus of the students on the same stimulus for a long time restricts his postural mobility which leads to fatigue. Next is the continued use of the same stimulus for longer duration introduces the element of monotony, which brings in dullness. This will be further aggravated because of the short span of student's attention. Their attention tends to shift from one stimulus to another frequently. They find it difficult to attend to one stimulus for more than a few minutes. The problem of inattention is a challenge to the teacher, unless he is in a position to secure and sustain student's attention. It is therefore, essential for the teacher to secure and sustain student's attention towards the topic of the lesson.

One of the significant ways to secure and sustain students' attention is to introduce the elements of variation in teaching. The variation can be introduced in several ways depending upon the teaching activity. Appropriate variation in different dimensions can help a teacher to secure and sustain students' attention. The set of teacher behaviours that tend to secure and sustain student's attention in teaching learning situation in the classroom constitutes the skill of varying the stimulus.

Some of the components of varying the stimulus are as follows:

1. Movement
2. Gestures
3. Change in voice
4. Focusing
5. Change in interaction pattern
6. Pausing
7. Student's physical participation
8. Aural visual switching

7. Non – verbal cues

Non-verbal communication has been defined as communication without words. They are usually made with the help of the movements of the eye, hand, head, body, and facial expressions. Facial expression will lead to encourage pupil to participate actively in learning situations. Positive non-verbal cues include smiling, nodding the head, a delighted laugh, patting on the shoulder, asking the students to clap. The students can be asked to clap their hands for correct answers given by a student.

Disapproval without suing words has the effect on negative reinforcement. Negative non-verbal cues include staring, looking angry, shaking the head, beating, caning, bruising, raising the eyebrows, tapping foot impatiently and walking around etc.

8. Fluency in communication

Communication in general is a process of sending and receiving messages that enables humans to share knowledge, attitude, and skills. Communication is a series of

experiences of hearing, seeing, smelling, tasting, and touching / feeling. Although we usually identify communication with speech, communication is composed of two dimension: verbal and non-verbal. Both verbal and non-verbal plays a significant role in teaching learning process. Verbal communication is divided into Intra verbal: intonation of word and sound and extra verbal: implication of words and phrases, semantics.

The teacher uses knowledge of effective verbal and nonverbal communication techniques as well as instructional media and technology to foster active inquiry, collaboration, and supportive interaction in the classroom.

Understanding Major Steps in teaching a Mini-Lesson

Instructional Procedures and Activities: Provide a detailed discussion of the mini lesson (15-20 min) using the following headings:

Motivation

This step is considered to be the preparatory step, wherein the teacher is trying to prepare the minds of the students ready to receive the subject matter. Hence, this step identifies the mental readiness of the students. The teacher will be able to check the students' entering behavior before he starts teaching the lesson. Thus testing students' previous knowledge develops interest in the minds of students and helps to maintain curiosity of the students.

Presentation

It is the key step and only through which the actual process of teaching is going to take place. Here the aims of the lesson should be stated clearly and the heading shold be written on the blackboard. We have to provide situation for both the teacher and the students to participate in the process of teaching and learning. Our ultimate aim of the presentation is to make the concepts understandable to the students. Therefore, use of simple language is recommended. Appropriate and specific examples and illustrations of the concepts will make the understanding better. The interest of the students on the subject matter should be maintained continuously by the way of asking questions from time to time in this stage. Use of instructional aids like charts, audiovisuals, specimen etc in an appropriate manner is strongly recommended during presentation.

Interaction

Interaction in the classroom will be done by speaking, sharing opinion, listening to others and establishing a mutual consent. Students in the learning process support when they are done by interacting directly with the object of learning and communicating in groups and also provide the ability of gaining mastery over the subject.

Reflection

Students will be given opportunity to express their ideas, experiences and opinions. Students will be cooperative, respect the opinions of others, responsible, honest on information receiving and able to give decisions.

Summing-up

This stage is meant for the teachers to know whether the students have grasped and understood the concepts taught or not. This can be achieved by reviewing the lesson and by giving assignments to the students. Only through this step achieving closure is possible.

MINI-LESSON

- It is a teaching training technique for learning teaching skills.

- It employs real teaching situation for developing skills and helps to get deeper knowledge regarding the art of teaching.

- A mini lesson is a basic precursor to a bigger or broader topic. It is a short lesson that can be taught in just a few minutes, but it can benefit the students in lessons to come.

- For instance, you may teach a basic topic like fact versus opinion by sharing a variety of statements and having students tell you if the statement is fact or opinion.

- This practice may take only 20 minutes, but teaches a valuable lesson to the students and sets the foundation for further discussion of writing styles or reading concepts.

MINI LESSON

Name of the student teacher   :   ---------------------

        Subject: MATHEMATICS

        Topic   : WORK

        Focus   : Scalar, Vector Quantity

        Date   :

        Time   : 10 - 10.20 AM

OBJECTIVES

1. Acquires knowledge of the scientific meaning of work.
2. Understands the knowledge of the use of scalar product to represent quantity of work done.
3. Develops an understanding of activities where work is done and not done.
4. Application of knowledge in day-to -day activities of life.

MATERIALS

1. Chart illustrating different activities
2. Hammer
3. Saw
4. Rubber band
5. Pinwheel
6. Attached to string
7. Magnet

CONTENT OUTLINE

1. Meaning of work
2. Scalar product to represent quantity of work
3. Description of where work is done and not done
4. Procedure to find how scalar product is used to define work
5. Identification of work in day-to-day life

TEACHING SKILLS

1. Skill of Introduction
2. Skill of Explaining
3. Skill of Questioning
4. Skill of Stimulus Variation
5. Skill of Closure

INSTRUCTIONAL PROCEDURES AND ACTIVITIES:

➢ **MOTIVATION (Skill of Introduction – use of previous knowledge)**

The teacher asks the students questions related to their knowledge of the meaning of work to their knowledge of the meaning of work, as follows:

1. What do you know about work?
2. Do you work every day?
3. Would you call every activity 'work'?
4. How would you define work?
5. In science, when we use the term 'work' what do you mean?

➢ **PRESENTATION**

The teacher announces the topic as "work done as a scalar product" and writes it on the black board. **(Skill of Explaining – Cognitive link)**

1. Work is done by a force or against the direction of a force when the point of application of the force moves in or against the direction of the loree.
2. Forces such as muscles, objects lifted, objects stretched, wind, water, laminar objects.
3. The teacher uses aids like a lifted hammer or saw, a stretched rubber band that lifts weights, a pinwheel, magnet etc,.. to demonstrate these**3** forces**. (skill of Explaining – uses of Illustrations)**
4. Could you name some of the forces man has at his disposal to overcome friction, gravity, inertia?
5. Objects, magnets, electric current *(Recalls)*
6. The teacher writes on the board scalar product.

7. Students as you all know that work involves force and distance. These both are vectors but work is a scalar. How is this possible? **(Skill of Questioning – Relevancy)**

8. The teacher expresses scalar product of **2** vectors : As the scalar quantity that we find when we multiply the magnitude of one vector by the component of a second vector along the direction of the first.

9. The scalar product gives the quantity of work alone. It is the product of the magnitude of force and the component of distance parallel with force. *(Recognizes)*

➢ **INTERACTION: (Skill of Questioning – Specificity)**

1. When will the scalar product be zero?
2. When will it be maximum?
3. What will happen if $\emptyset = 180^0$?
4. What am I doing? Is the work done here positive or negative?
   i. The teacher points out by lifting an object form floor to table. Here the produce is positive since the vectors re in same direction.
   ii. When the two factors are in opposite direction product is negative.
5. When is "no work" done?
   i. The teacher whirls a ball around to demonstrate no work.

➢ **REFLECTION: (Skill of Stimulus Variation – Audiovisual Switching)**

The teacher now shows the chart illustrating different activities and asks pupils to identify cases where positive work, negative work and no work is done.

➢ **SUMMING UP: (Skill of Closure – Consolidation of major points)**

1. Work is done when a force is exerted or overcome over a distance.
2. When we multiply the magnitude of one vector by the component of a second vector along the direction of the first.
3. When an object is lifted vectors in the same direction work positive.
4. The two factors are in opposite directions product is negative.

Observation and Feedback on the practice of Integration of teaching skills

The complex teaching act can be split into component skills, each simple, well defined and limited. These skills can be identified, practiced, evaluated, controlled and acquired through training.

The teaching skills developed through training are to be observed by the peers/ teacher educators. Immediate feedback may be given to the student-teachers individually using the feedback forms.

Distribute a copy of both Assessment formats (skills & steps) to the pre-service teachers (peers)

INTEGRATING THE STEPS IN MINI TEACHING (Assessment by Peers/Teacher Education)				
TEACHING STEPS	AVERAGE (SCORE 1)	GOOD (SCORE 2)	VERY GOOD (SCORE 3)	TOTAL
Motivation				
Presentation				
Interaction				
Reflection				
Summing Up				

Range of scores:5-15

OVERALL ASSESSMENT OF TEA CHING STEPS

AVERAGE _____   GOOD _____ VERY GOOD_____

Interpretation of scores
Average   : 5
Good   : 6-10
Very Good   :11-15
Observation and Feedback on Integration of teaching steps in Mini-Teaching

INTEGRATING SKILLS IN MINI TEACHING (Assessment by Peers/Teacher Educators)				
Teaching skills	AVERAGE (SCORE 1)	GOOD (SCORE 2)	VERY GOOD (SCORE 3)	TOTAL
Introducing				
Explaining				
Questioning				

Varying the stimulus				
Non verbal cues				
Reinforcement				
Closure				
Fluency in Communication				

Range of scores:8-24

 OVERALL ASSESSMENT OF TEACHING STEPS

AVERAGE ____   GOOD ____ VERY GOOD_____

Interpretation of scores

Average   : 8

Good   : 9-16

Very Good   :17-24

Conclusion

Today as never before, meeting our society's challenges demands educational excellence. Reinvigorating the economy, achieving energy independence with alternative technologies and green jobs, and strengthening our health care system require a skilled populace that is ready for the critical challenges we face. There is widespread consensus, however, that our education systems are failing to adequately prepare all students with the essential 21st century knowledge and skills necessary to succeed in life, career and citizenship.

Questions for Discussion and Reflection

1. Briefly explain the major steps in teaching a mini lesson.
2. Write a mini-lesson with multiple teaching skill for class IX in the Mathematics subject.
3. Explain the mini lesson format.
4. Critically analyse the skill of varying the stimulus.
5. Explain the skill of explaining with its skill components.

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Unit - IV Methods of Teaching Mathematics

Objectives:

After the completion of the unit, the learners will be able to:

1. explain the various methods of teaching Mathematics.
2. identify the different teacher centered methods of teaching.
3. analyse the recent trends in teaching and learning Mathematics.
4. adopt the small group interactive learning methods.
5. discuss the various learner centered methods .

Introduction

Different methods of teaching mathematics have been proposed by different educators. Knowledge of these methods may help in working out a teaching-learning strategy. It is not an educational sound for a teacher to commit himself to any particular method. A teacher should adopt an approach considering the nature of the children, their interests and maturity and the resources available. The merits and demerits of various method listed.

A teacher has to make uses of various kind of methods, devices and techniques in teaching. It is not appropriate for a teacher to commit to one particular method. A teacher should adopt a teaching approach after considering the nature of the children, their interests and maturity and the resources available. Every method has certain merits and few demerits and it's the work of a teacher to decide which method is best for the students.

Teacher – centered Methods:

1. Lecture Method
2. Analytic Method
3. Synthetic Method
4. Inductive Method

5. Deductive Method

6. Demonstration Method

7. Team Teaching

(1) Lecture method

The lecture method is the most widely used form of presentation. Every teacher has to know how to develop and present a lecture. They also must understand the scopes and limitations of this method.Lectures are used to introduce new topics, summarizing ideas, showing relationships between theory and practice, reemphasizing main points, etc. This method is adaptable to many different settings (small or large groups).

- It may be used to introduce a unit or a complete course.

- Finally, lectures can be effectively combined with other teaching methods to add meaning and direction. The lecture teaching is favorable for most teachers because it allows some active participation by the students. The success of the teaching lecture depends upon the teacher's ability to communicate effectively with the class. However in this method the feedback is not very obvious and thus the teacher must develop a keen perception for subtle responses from the class-facial expressions, manner of taking notes and apparent interest or disinterest in the lesson. The successful teacher will be able to interpret the meaning of these reactions and adjust the lesson accordingly.

Preparing the Teaching Lecture:

1. Planning

2. Rehearsing

3. Delivering a lecture

4. Use of notes

Planning:

The following four steps are followed in the planning phase of preparation:

- Establishing the objective and desired outcomes;

- Researching the subject;

- Organizing the material; and

- Planning productive classroom activities.

Rehearsing:

After completing the preliminary planning and writing of the lesson plan, the teacher should rehearse the lecture to build self-confidence. It helps to smooth out to use notes, visual aids, and other instructional devices.

Delivering a lecture

In the teaching lecture, simple rather than complex words should be used whenever possible. The teacher should not use substandard English. If the subject matter includes technical terms, the teacher should clearly define each one so that no student is in doubt about its meaning. Whenever possible, the teacher should use specific words rather than general words.

Another way the teacher can add life to the lecture is to vary his or her tone of voice and pace of speaking. In addition, using sentences of different length also helps. To ensure clarity and variety, the teacher should normally use sentences of short and medium length.

For a teacher notes are must because they help to keep the lecture on track. The teacher should use them modestly and should make no effort to hide them from the students. Notes may be written legibly or typed, and they should be placed where they can be consulted easily.

Advantages of the Lecture method

1. Gives chance for the teacher to expose students through all kinds of material.
2. Allows the teacher to precisely determine the aims, content, organization, pace and direction of a presentation.
3. Can be used to arouse interest in a subject.
4. Can complement and clarify text material.
5. Complements certain individual learning preferences.
6. Facilitates large-class communication.

Disadvantages of the Lecture Method

1. Places students in a passive rather than an active role, which hinders learning.
2. Encourages one-way communication; therefore, the lecturer must make a conscious effort to become aware of student problems and student understanding of content without verbal feedback.
3. Requires a considerable amount of time for unguided student outside of the classroom to enable understanding and long-term retention of content.
4. Requires the teacher to have effective speaking skills.

(2) Analytic method

The word 'analytic' is derived from the word 'analysis', which means 'breaking up' or resolving a thing into its constituent elements. This method is based on analysis and, therefore, in this method we break up the problem in hand into its constituent parts so that it

ultimately gets connected with something obvious, or already known. Therefore, it is the process of unfolding of the problem or of conducting its operations to know his hidden aspects. In this process we start with what is to be finding out (unknown) and then think of further steps and possibilities which may connect with the known and find out the desired result. Hence in this method we proceed from unknown to known, from abstract to concrete and from complex to simple. In analytic method, the argument is that "To prove that B is true if A is true, it is sufficient to prove that A is true "

The following example illustrate how analytic method can applied

Example

If prove that .To prove this using analytic method, begin from the unknown.

The unknown is

A   is true

B   is true, and C is true   But in analysis we say C is true if B is true;

B is true if A is true; But A is true therefore C is true

Merits of Analytic Method

    1.   It leaves no doubts in the minds of the students as every step is justified.

    2.   It is a psychological method.

    3.   It facilitates clear understanding of the subject matter as every step is derived by the student himself.

    4.   It helps in developing the spirit of enquiry and discovery among the students.

    5.   It develops self-confidence in the students as they tackle the problems confidently and intelligently.

    6.   It develops thinking and reasoning power among the students.

Demerits of Analytic Method

    1.   It is a lengthy, time consuming method and therefore not economical.

    2.   It is difficult to acquire efficiency and speed.

    3.   This method may not be suitable for all topics of mathematics.

    4.   Information is not presented in a well-organized manner.

(3) Synthetic method

    'Synthetic' is derived from the word 'synthesis'. Synthesis is the complement of analysis. To synthesis is to combine the constituent elements to produce something new.   In this method we start with something already known and connect it with the unknown part of

the statement. Therefore, in this method one proceeds from known to unknown. It is the process of combining known bits of information to reach the point where unknown information becomes obvious and true. In synthetic method the reasoning is as follows "Since A is true, B is true".

The following example illustrates the use of synthetic method.

Example

If prove that

In synthetic method, one has to begin with the known i.e. and reach the unknown i.e. .

Proof:

From (known) Adding on both sides we get (unknown).Thus beginning with the known, the unknown is reached. But why is added is not explained.

In synthetic method the reasoning is as follows

A is true.

B is true and

C is true.

Merits of synthetic Method

1. It is short and elegant
2. It facilitates speed and efficiency
3. It is more effective for slow learners.

Demerits of synthetic Method

1. It leaves many doubts in the minds of the learner and offers no explanation for them.
2. It does not provide full understanding.
3. It makes the student passive listeners and encourages rote memorization.

Difference between Analytic and Synthetic Method

S.No	Analytic Method	Synthetic Method
1	This method is logical	This method is psychological
2	It is short, concise and elegant	It is lengthy, laborious and time consuming
3	It is a method for the presentation of discovered facts	It is a method for discovery and demands thought. The analytics approach in exploratory procedure.
4	It is a method for the learner	It is a method for the discoverer /

		teacher how to attack an original exercise
5	Once forgotten it is not easy to recall	It can be rediscover
6	The teacher is not in touch with class	The teacher carries the class with them
7	This method is moves from unknown to known	This method moves from known to unknown

(4) Inductive method

Making of Mathematics is experimental and inductive. Induction is that form of reasoning in which a general law is derived from a study of particular objects or specific processes. The child can use measurement, manipulator or constructive activities, patterns etc. To discover a relationship which he shell himself, later, formulate in symbolic form as a law or rule. The law, the rule or definition formulated by the child is the summation of all the particular or individual instances. In all inductions, the generalization that is evolved is regarded as a tentative conclusion.

Example 1: Ask pupils to draw a number of triangles. Ask them to measure the three angles of each triangle and find their sum. They will find that the sum of the three angles of all triangles is 180.

Example 2: Ask pupils to find the sum of two odd numbers like 3+5=8, 5+7=12, 9+11=20, etc. They will find that the sum of two odd numbers is an even number.

Merits of Inductive method

1) This method is psychological. The student feels interested in experiments, experiences and discoveries.

2) This method fosters independence and self-confidence among the pupil which proves very useful in later life.

3) In this method, children discover the solution themselves. Hence it develops and encourages initiative and creative thinking.

4) All that is learnt using inductive method is remembered easily as it is self-acquired.

5) In this method, the pupils observe and analysis particular objects of similar and different nature and try to arrive at general truth.

6) Inductive method takes into consideration all the maximums of good teaching. The process of induction calls for perception, reasoning, judgment and generalization.

(5) Deductive method

1) Like the inductive method, the first step is the clear understanding of the problem.

2) It may involve the study of a particular thing and phenomenon.

3) Principles and generalizations are reviewed to find the one which may be applicable to find a solution.

4) In this step the rule, principle or generalization is applied to a problem and inference is formulated that the problem fallsunder such rule, principle or generalization.

5) Verification of the inference is done by applying it to a case. If it solves the problemthen it is accepted otherwise the procedure is repeated to find the correct one.

Merits of deductive method

1) Deductive method is short and time-saving. It takes little time to solve the problem by predetermined formulae.

2) In the deductive method, the teacher's work is very much simplified. Teacher gives a rule and asks the pupils to verify it by application to several concrete examples. For example, students are told that the area of rectangle = Length x Breadth. Then a few sums are solved before the students. The students apply these formulae to solve these problems and they memorize it for future use.

3) This method is very useful for small children because with small children we generally use story or telling method.

4) This method glorifies memory, as the students have to memorize a considerable number of formulae and definitions.

5) This method is adequate and advantageous during practice and revision stage.

Difference between Inductive Method and Deductive Method

S.No	Inductive Method	Deductive Method
1	Proceeds from particular to general, concrete to abstract.	Proceeds from the general to the particular, the abstract to the concrete.
2	It takes care of the needs and interests of children. It is a developmental process.	Facts are thrust upon the child. The principle of growth is not considered.
3	It encourages 'discovery' and stimulates Thinking	The authority decides or gives the formula and encourages memorization

4	The generalization or rule is formulated by the child therefore they remembers it with ease.	The rule is given to the child. He does not appreciate its nature and it is to forget it easily.
5	How and why of the process is made clear through reasoning.	The process is taken from granted and accepted without Reasoning
6	It starts from observation and direct Experience and ends in developing a Rule in abstract form.	Does not encourage learning by doing; it starts with a rule and provides for practice and applications.
7	It encourages child participation and group work	It demands individual learning and treats the child as a passive recipient.

(6) Demonstration Method

Defining demonstration of learning is complicated by the fact that educators use many different terms when referring to the general concept, and the terms may or may not be used synonymously from place to place. For example, the terms capstone exhibition, culminating exhibition, learning exhibition, exhibition of learning, performance exhibition, senior exhibition, or student exhibition may be used, in addition to capstone, capstone experience, capstone project, learning demonstration, performance demonstration, and many others. Educators may also create any number of homegrown terms for demonstrations of learning— far too many to catalog here.

Teachers not only use demonstrate specific learning concepts within the classroom, they can also participate in demonstration classrooms to help improve their own teaching strategies, which may or may not be demonstrative in nature. Although the literature is limited, studies show that the effects of demonstration classroom teachers includes a change of perspective in relating to students, more reflection in the teachers' own classroom strategies, and more personal responsibility for student learning.

Advantages of demonstration method

1. It helps in involving various sense to make learning permanent.
2. Through teacher behaviour is autocratic, he invites the cooperation of pupils in teaching learning process.
3. It develops interest in the learners and motivates them for their active participation
4. Any simple or complex sill becomes easy to understand.

Disadvantages of demonstration method

1. It can be used only for skill subject.

2. Only attention of the learners is invited towards the activity demonstrated. They are free to discuss about it.

3. Due to poor economic conditions of the government schools there is scarcity of audio Visual aids and equipment and the teacher are not so creative to produce handmade modes for demonstration.

4. There is a general lack of sincerity and diligence among teachers who which to

5. Complete the syllabus or syllabi at the earliest without putting sincere efforts.

(7) Team teaching

Team teaching involves a group of instructors working purposefully, regularly, and cooperatively to help a group of students of any age learn. Teachers together set goals for a course, design a syllabus, prepare individual lesson plans, teach students, and evaluate the results. They share insights, argue with one another, and perhaps even challenge students to decide which approach is better.

Teams can be single-discipline, inter disciplinary, or school-within-a-school teams that meet with a common set of students over an extended period of time. New teachers may be paired with veteran teachers. Innovations are encouraged, and modifications in class size, location, and time are permitted. Different personalities, voices, values, and approaches spark interest, keep attention, and prevent boredom.

The team-teaching approach allows for more interaction between teachers and students. Faculty evaluate students on their achievement of the learning goals; students evaluate faculty members on their teaching proficiency. Emphasis is on student and faculty growth, balancing initiative and shared responsibility, specialization and broadening horizons, the clear and interesting presentation of content and student development, democratic participation and common expectations, and cognitive, affective, and behavioural outcomes. This combination of analysis, synthesis, critical thinking, and practical applications can be done on all levels of education, from kindergarten through graduate school.

Working as a team, teachers model respect for differences, inter dependence, and conflict-resolution skills. Team members together set the course goals and content, select common materials such as texts and films, and develop tests and final examinations for all

students. They set the sequence of topics and supplemental materials. They also give their own interpretations of the materials and use their own teaching styles. The greater the agreement on common objectives and interests, the more likely that teaching will be interdependent and coordinated.

Teaching periods can be scheduled side by side or consecutively. For example, teachers of two similar classes may team up during the same or adjacent periods so that each teacher may focus on that phase of the course that he or she can best handle. Students can sometimes meet all together, sometimes in small groups supervised by individual teachers or teaching assistants, or they can work singly or together on projects in the library, laboratory, or fieldwork. Teachers can be at different sites, linked by video-conferencing, satellites, or the Internet.

Breaking out of the taken-for-granted single-subject, single-course, single-teacher pattern encourages other innovations and experiments. For example, students can be split along or across lines of sex, age, culture, or other interests, then recombined to stimulate reflection. Remedial programs and honours sections provide other attractive opportunities to make available appropriate and effective curricula for students with special needs or interests. They can address different study skills and learning techniques. Team teaching can also offset the danger of imposing ideas, values, and mindsets on minorities or less powerful ethnic groups. Teachers of different backgrounds can culturally enrich one another and students.

Advantages of Team Teaching

All the Students do not learn at the same rate. Periods of equal length are not appropriate for all learning situations. Educators are no longer dealing primarily with top-down transmission of the tried and true by the mature and experienced teacher to the young, immature, and inexperienced pupil in the single-subject classroom. Schools are moving toward the inclusion of another whole dimension of learning. The lateral transmission to every sentient member of society of what has just been discovered, invented, created, manufactured, or marketed. For this, team members with different areas of expertise are invaluable.

Of course, team teaching is not the only answer to all problems plaguing teachers, students, and administrators. It requires planning, skilled management, willingness to risk change and even failure, humility, open-mindedness, imagination, and creativity. But the

results are worth it.

Teamwork improves the quality of teaching as various experts approach the same topic from different angles: theory and practice, past and present, different genders or ethnic backgrounds. Teacher strengths are combined and weaknesses are remedied. Poor teachers can be observed, critiqued, and improved by the other team members in a nonthreatening, supportive context. The evaluation done by a team of teachers will be more insightful and balanced than the introspection and self-evaluation of an individual teacher.

Disadvantages of Team teaching

Team teaching is not always successful. Some teachers are rigid personality types or may be wedded to a single method. Some simply dislike the other teachers on the team. Some do not want to risk humiliation and discouragement at possible failures. Some fear they will be expected to do more work for the same salary. Others are unwilling to share the spotlight or their pet ideas or to lose total control.

Team teaching makes more demands on time and energy. Members must arrange mutually agreeable times for planning and evaluation. Discussions can be draining and group decisions take longer. Rethinking the courses to accommodate the team-teaching method is often inconvenient.

Opposition may also come from students, parents, and administrators who may resist change of any sort. Some students flourish in a highly structured environment that favours repetition. Some are confused by conflicting opinions. Too much variety may hinder habit formation.

Salaries may have to reflect the additional responsibilities undertaken by team members. Team leaders may need some form of bonus. Such costs could be met by enlarging some class sizes. Non-professional staff members could take over some responsibilities.

Learner Centered Methods

Learner-centered methods are those methods are those methods where the focus of attraction is learners than teachers. It is through the involvement of learners the method develops. The recent psychological approaches in the classrooms give more importance to learner centered methods than teach centered methods.

(i) Project Method

Project method owes its origin to the pragmatic school of philosophy. It was propounded by W H. Kilpatrick and was perfected by J. A.Stevenson. The method consists

of building a comprehensive unit around an activity which may be carried out in the school or outside. The essence of this method is to carry out a useful task in a group in which all the students work co-operatively. Learning by doing and learning by living are the two basic principles involved and children learn through association, co-operation and activity.

Definition

- "A project is a unit of whole-hearted purposeful activity carried on preferably in its natural setting". Kilpatrick
- "A project is a problematic and carried to completion in its natural setting" - Stevenson.
- "A project is a bit of real life that has been imparted in to the school" - Ballard.

Principles of the Project Method

1. The principle of freedom.
2. The principle of reality.
3. The principle of activity.
4. The principle of experience.
5. The principle of utility.
6. The principle of interest.
7. The principle of sociability

Major steps of the Project Method

1. Providing a situation
2. Choosing and purposing
3. Planning
4. Carrying out the project (executing)
5. Evaluating
6. Recording

Kinds of Project

1. Producer type: Here the emphasis is directed towards the actual construction of a material object or article.
2. Consumer type: Here the objective is to obtain either direct or vicarious experience such as reading and learning stories or listening to music etc.
3. Problems Type: Here the purpose is to solve a problem involving the intellectual process such as determining the e/m ratio of an election.
4. Drill type: Here the purpose is to attain efficiency in some activity. E.g. swimming,

driving etc.

Merits of Project method

1. The method is in accordance with psychological laws of learning

    i. Law of readiness - pupil are ready to learn creating interest, purpose and life like situation.

    ii. Law of exercise - by practice we learn things, self-activity on the part of students create experience in later life.

    iii. Law of effect - child should be satisfied and feel happy in what he is learning.

2. It promotes co-operation and group interaction.

3. It gives training in a democratic way of learning and living.

4. There is no place for rote memorization.

5. Provides dignity of labor and develop respect and taste for all types of work.

Demerits of Project Method

1. Project absorbs large amount of time and can be used as a part of science work only.

2. Many aspect of curriculum will not yield to project work.

3. Larger projects in the hands of an inexperienced and unskillful teacher lead to boredom.

4. Text book written on this lines are not available.

5. The method is highly expensive as pupil has to purchase lot of item, travel and do outdoor work.

(2) Peer Tutoring

• Peer tutoring is a flexible, peer-mediated strategy that involves students serving as academic tutors and tutees. Typically, a higher performing student is paired with a lower performing student to review critical academic or behavioral concepts.

• It is a widely-researched practice across ages, grade levels, and subject areas

• The intervention allows students to receive one-to-one assistance

• Students have increased opportunities to respond in smaller groups

• It promotes academic and social development for both the tutor and tutee

• Student engagement and time on task increases

• Peer tutoring increases self-confidence and self-efficacy

• The strategy is supported by a strong research base

Types of Peer Tutoring

Classwide Peer Tutoring (CWPT) –Class wide peer tutoring involves dividing the entire class into groups of two to five students with differing ability levels. Students then act as tutors, tutees, or both tutors and tutees. In CWPT, student pairings are fluid and may be based on achievement levels or student compatibility.

Cross-age Peer Tutoring (CPT) - Older students are paired with younger students to teach or review a skill. The positions of tutor and tutee do not change. The older student serves as the tutor and the younger student is the tutee. The older student and younger student can have similar or differing skill levels, with the relationship being one of a cooperative or expert interaction. Tutors serve to model appropriate behavior, ask questions, and encourage better study habits. This arrangement is also beneficial for students with disabilities as they may serve as tutors for younger students.

Peer Assisted Learning Strategies (PALS)- It involves a teacher pairing students who need additional instruction or help with a peer who can assist. Groups are flexible and change often across a variety of subject areas or skills. Cue cards, small pieces of cardstock upon which are printed a list of tutoring steps, may be provided to help students remember PALS steps. All students have the opportunity to function as a tutor or tutee at differing times. Students are typically paired with other students who are at the same skill level, without a large discrepancy between abilities.

Reciprocal Peer Tutoring (RPT): Two or more students alternate between acting as the tutor and tutee during each session, with equitable time in each role. Often, higher performing students are paired with lower performing students. RPT utilizes a structured format that encourages teaching material, monitoring answers, and evaluating and encouraging peers. Both group and individual rewards may be earned to motivate and maximize learning.

Same-age Peer Tutoring: Peers who are within one or two years of age are paired to review key concepts. Students may have similar ability levels or a more advanced student can be paired with a less advanced student. Students who have similar abilities should have an equal understanding of the content material and concepts. When pairing students with differing levels, the roles of tutor and tutee may be alternated, allowing the lower performing student to quiz the higher performing student. Answers should be provided to the student who is lower achieving when acting as a tutor in order to assist with any deficits in content knowledge.

(3) Individual activities

The social aspect of activities is just as important as the creative, leisure and learning aspects. Mentors make great efforts to help people join small friendly groups to share experience and skills and support each other in maintaining the group in the long-term. Some participants are housebound. In these circumstances, mentors encourage activities that people can pursue individually at home. Sometimes, arrangements may be made for an external artist or 'provider' to visit the person for a while. Wherever possible, the participant is introduced to others who might share their interests, by phone or letter or visiting. Some people prefer to pursue interests on their own.

(4) Experiential learning

The word experiential essentially means that learning and development are achieved through personally determined experience and involvement, rather than on received teaching or training, typically in group, by observation, listening, study of theory or hypothesis, or some other transfer of skills or knowledge. The expression 'hands-on' is commonly used to describe types of learning and teaching which are to a lesser or greater extent forms of experiential learning.

The expression 'chalk-and-talk' (the teacher writes on a board and speaks while learners listen and look and try to absorb facts) refers to a style of teaching or training which contains no experiential learning aspect whatsoever.

Experiential learning, especially used at the beginning of a person's new phase of learning, can help to provide a positive emotional platform which will respond positively and confidently to future learning, even for areas of learning which initially would have been considered uncomfortable or unnecessary.

Experiential learning also brings into play the concept of multiple intelligences - the fact that people should not be limited by the 'three Rs' and a method of teaching based primarily on reading and writing.

Experiential learning is a way to break out of the received conditioned training and teaching practices which so constrain people's development in schools and work.

(5) Problem Solving method

The method is defined as a planned attack upon a difficulty for the purpose of finding a solution. It is also defined as the process of raising a problem in the minds of the pupils in such a way as to stimulate purposeful reflective thinking for arriving at a rational solution. In

this method the person uses his ability to analyze a problem which confronts him in order to arrive a solution.

Steps in problem solving method

1. Sensing the problem

2. Interpreting, defining and delimiting the problem.

3. Collecting relevant data

4. Organizing and evaluating the data

5. Formulating tentative solution

6. Drawing conclusion and making generalization

7. Application of generalization to new situation

Small group/ whole class interactive learning

Small group teaching has become more popular as a means of encouraging student learning. While beneficial the tutor needs a different set of skills for those used in lecturing, and more pertinently, small group work is an often luxury many lecturers cannot afford. A further consideration with small group teaching is the subjective perspective of what constitutes a small group. A lecturer used to taking 400 students in a lecture would define 50 students as a small group, while a lecturer used to a group of 50 students would define 5-10 students as a small group. In a discussion, where participation is assessed some students may not speak up in a group that begins to be get bigger than 10 participants and in addition tutors would find it hard to assess participation by individual students in groups with numbers greater than this.

(1) Student Seminar

A seminar is a form of academic instruction, either at an academic institution or offered by a commercial or professional organization. It has the function of bringing together small groups for recurring meetings, focusing each time on some particular subject, in which everyone resent is requested to actively participate. This is often accomplished through an ongoing Socratic dialogue with a seminar leader or instructor, or through a more formal presentation of research. It is essentially a place where assigned readings are discussed, questions can be raised and debates can be conducted. Student seminars are the open presentations done by the students before their peers and teachers. The word seminar is derived from the Latin word seminarian, meaning "seed plot".

Some Tips for Seminar Preparation

1. Choose a topic: Choose a topic which will sustain your interest and will allow you

to exhibit enthusiasm during your presentation.

2. Keep your Audience in Mind: The primary objective in giving a talk should be to communicate an interesting idea to students who attend the seminar. This means that the talk should be delivered in a way that students in attendance understand what you are saying, so be mindful of their background.

3. Tell a story/ anecdote: Begin with solid motivation for your problem and plenty of illuminating examples. Only after your audience understands what your topic is and why they should care about it should you spend time working carefully through the relevant science.

4. Keep timing in mind: Choose a topic that you can motivate and explicate comfortably in this window of time.

Scoring Indicators for Evaluation of seminar

1. Ability to Collect Data: Sufficient, Relevant, Accuracy of facts.
2. Ability to Prepare seminar Paper: Introduction, Content Organization, Conclusion.
3. Presentation: Communication, Competence, Fluency, Spontaneity.
4. Understanding the Subject: Involvement in the Discussion, Responding suitably.

(2) Group discussions

Active learning can be implemented by organizing the class into small groups of students who can work together, foster their own learning strategy and create an atmosphere in which information sharing can takes place. Instructional techniques involving group controlled learning experiences provide room for the learners self-development and active participation in the teaching learning process. A discussion is a teaching technique that involves exchange of ideas with active learning and participation by all concerned. Discussion is an active process of teacher-pupil involvement in the classroom environment. This allows a student present its own perspective about something freely. Four basic concepts are to be considered for initiating small group discussion

• Process - the interactions that takes place within the group
• Roles - each group member's specific responsibilities within the group
• Leadership - the capacity to guide and direct others in a group setting.
• Cohesion - group members support for one another

Different Types of Small Group Discussions

(3) Mixed ability grouping

It refers to grouping together students of different abilities. Usually this kind of

grouping occurs when the group consists of students with different ages with one or two years span. The term "mixed aged grouping" or "heterogeneous grouping" is used for this case but we prefer to use the more general term of "mixed ability grouping" since the basic criterion for grouping is ability and not necessarily age. In mixed ability groups there are some students that are more mature and experienced than other ones and thus they have more advanced ability to acquire knowledge. The main aim of setting up mixed ability groups is not to produce homogeneity of ability in a group as this is the case in ability grouping, but to increase interaction across students with different abilities.

In other words the purpose of mixed ability grouping is for children to benefit by their intellectual and social interaction with other students of their group that have different social behavior and ability to learn. The former reveals the main difference of mixed ability grouping with ability grouping. While grouping children with same ability the goal is to achieve homogeneity of the group and homogenize instruction for students of the group on basis different of grades or ages but based on ability.

(4) Maths through games and puzzles

Mathematical games are 'activities' which:

- involve a challenge, usually against one or more opponents; a
- are governed by a set of rules and have a clear underlying structure;
- normally have a distinct finishing point;
- have specific mathematical cognitive objectives.

Benefits of Using Games

The advantages of using games in a mathematical programme have been summarised in an article by Davies (1995) who researched the literature available at the time.

- Meaningful situations - for the application of mathematical skills are created by games
- Motivation - children freely choose to participate and enjoy playing
- Positive attitude - Games provide opportunities for building self-concept and developing positive attitudes towards mathematics, through reducing the fear of failure and error;
- Increased learning - in comparison to more formal activities, greater learning can occur through games due to the increased interaction between children, opportunities to test intuitive ideas and problem solving strategies
- Different levels - Games can allow children to operate at different levels of thinking

and to learn from each other. In a group of children playing a game, one child might be encountering a concept for the first time, another may be developing his/her understanding of the concept, a third consolidating previously learned concepts

- Assessment - children's thinking often becomes apparent through the actions and decisions they make during a game, so the teacher has the opportunity to carry out diagnosis and assessment of learning in a non-threatening situation
- Home and school - Games provide 'hands-on' interactive tasks for both school and home
- Independence - Children can work independently of the teacher. The rules of the game and the children's motivation usually keep them on task.

Recent trends in Teaching and Learning Mathematics

1. Constructivist learning
2. Problem based learning
3. Brain based learning
4. Collaborative learning
5. Flipped learning
6. Blended learning
7. e-learning trends
8. Video conferencing

(1)Constructivist learning

Constructivism is a learning theory that has its foundation in philosophy and anthropology as well as psychology. The constructivist approach to education attempts to shift education from a teacher-dominated focus to a student-centered one. The role of the teacher focuses on assisting students in developing new insights. Students are taught to assimilate experience, knowledge and insights with what they already know and from this they need to construct new meanings. Constructivist learning is based on students' active participation in problem solving and critical thinking regarding a learning activity which they find relevant and engaging. They are "constructing" their own knowledge by testing ideas and approaches base on their prior knowledge and experience, applying these to new situations and integrating the new knowledge gained with pre-existing intellectual constructs.

In the constructivist theory the emphasis is placed on the learner or the student rather than the teacher of the instructor. It is the learner who interacts with objects and events and thereby gains an understanding of the features held by such objects or events. The learner

constructs her own conceptualizations and solutions to problems. Learner autonomy and initiative is accepted and encouraged. Exploring or experiencing the physical surroundings, experiential education is a key method of constructivism. To the constructivists, the act of teaching is the process of helping learners creates knowledge. In constructivist thinking learning is also affected by the context, beliefs and attitude of the learner.

There are many different schools of thought within this theory, all of which fall within the same basic assumption about learning. The main two are: Cognitive constructivism (e.g., Theory of Piaget) and Social constructivism (e.g., Theory of L.S. Vygotsky).

Cognitive Constructivism

Cognitive constructivism is generally attributed to Jean Piaget, who articulated mechanisms by which knowledge is internalized by learners. The process of accumulating the knowledge are through accommodation and assimilation, individuals construct new knowledge from their experiences.

It is important to note that constructivism is not a particular pedagogy. In fact, constructivism is a theory describing how learning happens, regardless of whether learners are using their experiences to understand a lecture of following the instructions for building a model airplane. In both cases, the theory of constructivism suggests that learners constructknowledge out of their experiences. However, constructivism is often associated with pedagogic approaches that promote active learning, or learning by doing. Today constructivist teaching is based on recent research about the human brain.

The major views of constructivism can be summarized as follows:

- Emphasis learning and not teaching
- Encourage and accepts learner autonomy and initiative
- Sees learners as creatures of will and purpose
- Thanks of learning as a process
- Encourages learner inquiry
- Acknowledges the critical role of experience in learning
- Nurtures learners natural curiosity
- Takes the learner's mental model into account etc..

Social Constructivism

Social constructivism maintains that human development is socially situated and

knowledge is constructed through interaction with others. It is a sociological theory of knowledge that applies the general philosophical constructivism into the social assumptions of Social Constructivism. Social constructivism is based on specific assumptions about reality, knowledge, and learning. To understand and apply models of instruction that are rooted in the perspectives of social constructivists, it is important to know the premises that underlie them. The most important assumptions of the theory of social constructivism is

1. The assumption that human beings rationalize their experience by creating a model of the social world and the way that it functions

2. The belief in language as the most essential system through which humans construct reality

(2)Problem Based Learning (PBL)

Problem-based learning (PBL) is a student-centered pedagogy in which students learn about a subject through the experience of solving an open -ended problem. Students learn both thinking strategies and domain knowledge. Problem - based learning (PBL) is an approach that challenges students to learn through engagement in a real problem. It is a format that simultaneously develops both problem solving strategies and disciplinary knowledge bases and skills by placing students in the active role of problem-solvers confronted with an ill-structured situation that simulates the kind of problems they are likely to face as future managers in complex organizations. Problem-based learning makes a fundamental shift from a focus on teaching to a focus on learning. The process is aimed at using the power of authentic problem solving to engage students and enhance their learning and motivation. There are several unique aspects that define the PBL approach:

• Learning takes place within the contexts of authentic tasks, issues, and problems that are aligned with real world concerns.

• In a PBL course, students and the instructor become co-learners, co-planners, co-producers, and co-evaluators as they design, implement, and continually refine their curricula.

• The PBL approach is grounded in solid academic research on learning and on the best practices that promote it. This approach stimulates students to take responsibility for their own learning, since there are few lectures, no structured sequence of assigned readings, and so on.

• PBL is unique in that it fosters collaboration among students, stresses the development of problem solving skills within the context of professional practice,

promotes effective reasoning and self-directed learning, and is aimed at increasing motivation for life-long learning.

Problem-based learning begins with the introduction of an ill-structured problem on which all learning is centered. Most of the learning occurs in small groups rather than in lectures. Teacher's role is more like that of a facilitator and coach of student learning, acting at times as a resource person, rather than as knowledge-holder and disseminator. Similarly, your role, as a student, is more active, as you are engaged as a problem-solver, decision-maker, and meaning-maker, rather than being merely a passive listener and note-taker.

Characteristics of Problem-Based Learning (PBL)

Problem-Based Learning (PBL) is a pedagogical approach and curriculum design methodology often used in higher education and K-12 standard settings.

The following are some of the defining characteristics of PBL:

1. Learning is driven by challenging, open-ended problems with no one "right" answer

2. Problems/cases are context specific

3. Students work as self-directed, active investigators and   problem-solvers in small collaborative groups (typically of about five students)

4. A key problem is identified and a solution is agreed upon and implemented

5. Teachers adopt the role as facilitators of learning, guiding the learning process and promoting an environment of inquiry

Learning outcomes of Problem Based Learning

A well designed Problem based learning task provides students with the opportunity to develop skills related to:

• Managing tasks and holding leadership roles

• Oral and written communication

• Self-awareness and evaluation of group processes

• Working independently

• Critical thinking and analysis

Basic Steps in designing a Problem Based Learning Task

There are some important aspects which we want to take care before going for a problem based learning task

1. Articulate the learning outcomes of the task. What do you want students to know or be able to do as a result of participating in the assignment?

2. Create the problem. Ideally, this will be a real-world situation that resembles

something students may encounter in their future class or lives. Cases are often the basis of PBL activities.

3. Establish ground rules at the beginning to prepare students to work effectively in groups.

4. Introduce students to group processes and do some warm up exercises to allow them to practice assessing both their own work and that of their peers.

(3)Brain Based Learning (BBL)

Brain - based learning refers to teaching methods, lesson designs, and school programs that are based on the latest scientific research about how the brain learns, including such factors as cognitive development-how students learn differently as they age, grow, and mature socially, emotionally, and cognitively. It is totally based on the structure and function of the brain. As long as the brain is not prohibited from fulfilling its normal processes, learning will occur. Brain-based learning is motivated by the general belief that learning can be accelerated and improved if educators base how and what they teach on the science of learning, rather than on past educational practices, established conventions, or assumptions about the learning process. For example, it was commonly believed that intelligence is a fixed characteristic that remains largely unchanged throughout a person's life. However, recent discoveries in cognitive science have revealed that the human brain physically changes when it learns, and that after practicing certain skills it becomes increasingly easier to continue learning and improving those skills.

Instructional techniques emerges from Brain Based Learning

The three instructional techniques associated with brain-based learning:

1. Orchestrated immersion: Creating learning environments that fully immerse students in an educational experience.

2. Relaxed alertness: Trying to eliminate fear in learners, while maintaining a highly challenging environment.

3. Active processing: Allowing the learner to consolidate and internalize information by actively processing it.

(4)Collaborative Learning

Effective communication and Collaboration are essential for becoming a successful learner. It is primarily through dialogue and examining different perspectives that students become knowledgeable, strategic and self-determined and empathetic. Moreover, involving students in real world tasks and linking new information to prior knowledge requires

effective communication and collaboration among teachers, students and others. Indeed it is through dialogue and interaction that curriculum objectives come alive. Collaborative learning affords students enormous advantages which is not available in traditional instruction.

"Collaborative learning" is an umbrella term for a variety of educational approaches involving joint intellectual effort by students, or students and teachers together. Usually, students are working in groups of two or more, mutually searching for understanding, solutions, or meanings, or creating a product. Collaborative learning activities vary widely, but most center on students' exploration or application of the course material, not simply the teacher's presentation or explication of it.

Collaborative learning represents a significant shift away from the typical teacher centered or lecture-centered milieu in college classrooms. In collaborative classrooms, the lecturing/ listening/note-taking process may not disappear entirely, but it lives alongside other processes that are based in students' discussion and active work with the course material. Teachers who use collaborative learning approaches tend to think of themselves less as expert transmitters of knowledge to students, and more as expert designers of intellectual experiences for students-as coaches or mid-wives of a more emergent learning process.

Essential features of Collaborative Learning

1. A group learning task is designed based on shared learning goals and outcomes
2. Students work in teams to master academic materials
3. Reward systems are group oriented than individual oriented
4. Co-operative behavior involves trust building activities, joint planning and understanding of team support.
5. Students involvement in learning activities are more
6. Encourages students to acquire an active-voice in shaping their ideas

Advantages of Collaborative Learning

1. Promotes social and intellectual involvement
2. Cultivation of teamwork, community building, and leadership skills
3. Enhanced student satisfaction and promoting positive attitudes
4. Open expression of ideas in groups
5. Patience in hearing others
6. Team building
7. Shared responsibility

(5) Flipped Learning

Flipped Learning is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter.

Flipped Learning Short video lectures are viewed by students at home before the class session, while in-class time is devoted to exercises, projects, or discussions. The flipped classroom describes a reversal of traditional teaching where students gain first

exposure to new material outside of class, usually via reading or lecture videos, and then class time is used to do the harder work of assimilating that knowledge through strategies such as problem solving discussion or debates.

Flipped Classroom and Implications for Teaching

The flipped classroom constitutes a role change for instructors, who give up their front-of-the-class position in favor of a more collaborative and cooperative contribution to the teaching process. There is a concomitant change in the role of students, many of whom are used to being cast as passive participants in the education process, where instruction is served to them. The flipped model puts more of the responsibility for learning on the shoulders of students while giving them greater impetus to experiment. Activities can be student-led, and communication among students can become the determining dynamic of a session devoted to learning through hands-on work.

(6) Blended learning

Blended learning is a planned combination of online learning and face-to-face instruction using variety of learning resources. It is a flexible learning strategy that integrates innovative and technological advances of online learning with interaction and participation of traditional face-to-face classroom learning.

Blended learning strategies vary according to the discipline, the year level, student characteristics and learning outcomes, and have a student-centered approach to the learning design. Blended learning can promote learner's access and flexibility, increase the level of active learning, and achieve better student experiences and outcomes. For teachers, blended learning can improve teaching and class management practices. A blend might include:

1. Face-to-face and online learning activities and formats
2. Traditional classes with different modalities, such as regular, weekend, evening, part time, semester

3. Use of technology interfaces like social media, wikis and various web sources

4. Group work, Simulation, debate, Online Assignments, Practicals etc.

5. Both usual classroom human factors and digital learning resources of the web

6. Psychological concerns are addressed in the face to face interaction and technological concerns are addressed in the online learning

Blended learning should be viewed as a pedagogical approach that combines the effectiveness and socialization opportunities of the classroom with the technologically enhanced active learning possibilities of the online environment, rather than a ratio of delivery modalities.

Teachers in the Blended learning modality can

- Foster a class culture of hard work and persistence
- Monitor students throughout the period for motivation and learning
- Intervene to personalize instruction when data shows that students are struggling
- Build personal relationships of trust and caring

(7) e-learning

e-learning is the use of electronic media and information and communication technologies (ICT) in education. E-learning is broadly inclusive of all

forms of educational technology in learning and teaching. Technology-Enhanced Learning (TEL), Computer-Based Instruction(CBI). Computer-Based Training (CBT), Computer-Assisted Instruction or Computer - Aided Instruction (CAI),Internet-Based Training (IBT), Web-Based Training (WBT), Online education, Virtual education, Virtual Learning Environments (VIE). e-learning can occur in or out of the classroom.

Synchronous and asynchronous

e -learning may either be synchronous or asynchronous. Synchronous learning occurs in real-time, with all participants interacting at the same time, while asynchronous learning is self-paced and allows participants to engage in the exchange of ideas or information without the dependency of other participants involvement at the same time.

Synchronous learning involves the exchange of ideas and information with one or more participants during the same period of time. A face-to-face discussion is an example of synchronous communications. In e-learning environments, examples of synchronous communications include online real-time live teacher instruction and feedback, Skype conversations, or chat rooms or virtual classrooms where everyone is online and working

collaboratively at the same time.

Asynchronous learning may use technologies such as email, blogs, wikis, and discussion boards, as well as web-supported textbooks, hypertext documents, audio video courses, and social networking. Asynchronous learning is particularly beneficial for students who have health problems or have child care responsibilities and regularly leaving the home to attend lectures is difficult.

e-Learning trends

1. Automation
2. Augmented Learning
3. Big Data
4. Going for Cloud Computing
5. Gamification
6. M - Learning
7. Personalization

(8) Video conferencing

Video conferencing is two-way interactive communication delivered using telephone or Internet technologies that allows people at different location to come together for a meeting. The video conference can be as simple as a conversation between two people in private offices involve several sites with more than one person in large rooms at different sites. A basic video conference setup has a camera and a microphone. Video from the camera and audio from the microphone is converted into a digital format and transmitted to a receiving location using a coding and decoding device, often referred to as a "codec". At that receiving location is another codec device that decodes the receiving digital stream into a form that can be seen and heard on monitors or televisions. At the same time, video and audio from cameras and microphones at the received location is sent back to the original location.

Benefits of Video Conferencing

Video conferencing saves travel time and money. Participants can see and hear all other participants and communicate both verbally and visually, creating a face- to- face

experience. PowerPoint and other on screen graphic, as well as other cameras are also available presentation options. People downtime is reduced and productivity gains are achieved by removing the logistics of flight preparations, airport delays, hotel stays, and all the other inconveniences of business travel. In distance education, video conferencing provides quality access to students who could not travel to or could afford to relocate to a traditional campus. Video conferences can also be recorded and made available in a variety of ways. Besides distance education, other applications include meetings, dissertation and thesis defenses, tele-medical procedures, and online conferences.

People use video conferencing when:

- a live conversation is needed.
- visual information is an important component of the conversation.
- parties of the conversation can't physically come to the, same location.
- expense or time of travel is a consideration.
- examples of how video conferencing can benefit people around campus.
- guest lecturer invited into a class from another institution.
- researcher collaborates with colleagues at other institutions on a regular basis.
- thesis defense at another institution.
- administrators from different parts of campus need to collaborate on administrator issues such as a campus strategic plan.
- researcher needs to meet with a review committee about a grant.
- student interviews with an employer in another city.

Conclusion

Every learner learns on his/her own unique way and strategy. The learning is taking place with an individual speed, depending on student's attitude and level of prerequisite knowledge. In designing the teaching process, teacher should take into consideration differences among the students in the target group. Enough of space must be provided for processing and memorizing the presented information. Combination of different teaching methods can produce quality in fulfilling all teaching functions.

Questions for Discussion and Reflection

1. Explain the teacher centered methods of teaching Mathematics.
2. Critically analyse the recent trends in teaching Mathematics.
3. Explain briefly the learner centered methods of teaching Mathematics.
4. Discuss the interactive methods of teaching mathematics.

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Unit - V Resources for Teaching Mathematics

Objectives:

After the completion of the unit, the learners will be able to:

1. explain the various types of resources for teaching Mathematics.
2. adopt the community resources in the instructional process.
3. utilize the information and communication technology resources in teaching
4. identify the needs of resources in teaching Mathematics.

Introduction

Teachers use a wide range of stimulating and exciting materials to teach the concepts outlined in the curriculum to ensure that students are actively involved in their learning. In time, students and parents witness a shift from textbook based to standards based instruction, bringing educational practices in line with the best school systems around the world. The power of the learning environment to influence and promote learning is significant and the learning spaces and learning resources provide important opportunities for students to explore ideas and knowledge, collaborate, solve problems and develop knowledge and skills. Carefully selected digital technology resources are used to enable children to access global connections and resources while also encouraging new ways of thinking. The introduction of technology rich environments and multi-sensory resources can also be useful in reaching each student strengths and engaging students to become life-long learners.

Print Resources

Print resource refers to paper publications circulated in the form of physical editions of books, magazines, journals and newsletters**.** Print resource improves the students reading skills and vocabulary development. It is an good source of additional information for teachers. It helps the teacher for both lecture and Linguistic.Lecture approach - source of information for the teacher's lessons .Linguistic Approach - help to develop ones vocabulary and reading skills.

(i) News papers

Teachers are always looking for new ways to create student interest in current events. One of the best ways to do so is to utilize newspapers in the classroom. In the past teachers would deem newspaper reading as boring, and leave it to a once a month lesson. Using newspapers in the classroom is an effective classroom teaching tools for several reasons:

1. It makes learning fun.
2. It's an inexpensive way to educate.
3. It's adaptable for all grades and curriculum.
4. Provides good reading habits.
5. Has a section of interest for everyone like comics and sports.
6. Reinforce math conceptsby challenging students to find and circle as many numbers as they can in the newspaper in two minutes. Then challenge them to find and circle as many math words as they can.
7. Make the students to solve the Sudokku and Puzzles.

Tips for Using the Newspaper in Class

1. Allow students time to read the paper.
2. Focus on one section at a time.
3. Introduce new vocabulary words first.
4. Explain the functions of a newspaper and how it works before you start a lesson.
5. Use the sports section to reinforce math concepts.

(ii)Journals

An academic or scholarly journal is a periodical publication in which scholarship relating to a particular academic discipline is published. Academic journals serve as permanent and transparent forums for the presentation, scrutiny and discussion of research. They are usually peer-reviewed or refereed. It is a daily record of news and events of a personal nature. Newspaper or magazine that deals with a particular subject or professional activity. Some of the Mathematics journals are:

a) Teaching Children Mathematics (TCM)

It is an official journal of the National Council of Teachers of Mathematics and is intended as a resource for elementary school students, teachers, and teacher educators. The focus of the journal is on intuitive, exploratory investigations that use informal reasoning to help students develop a strong conceptual basis that leads to greater mathematical abstraction.

b) Mathematics Teaching in the Middle School (MTMS)

Itis an official peer-reviewed journal of the National Council of Teachers of Mathematics and is intended as a resource for middle school students, teachers, and teacher educators. The focus of the journal is on intuitive, exploratory investigations that use informal reasoning to help students develop a strong conceptual basis that leads to greater mathematical abstraction.

(iii) Encyclopedia

An encyclopedia is a type of reference work holding a comprehensive summary of information from either all branches of knowledge or a particular branch of knowledge.Encyclopedias are divided into articles or entries, which are usually accessed alphabetically by article name.Encyclopedia entries are longer and more detailed than those in most dictionaries Generally speaking, unlike dictionary entries, which focus on linguistic information about words encyclopedia articles focus on factual information concerning the subject.Some of the Mathematics encyclopedia are the Encyclopedia of Mathematics (also EOM and formerly Encyclopedia of Mathematics) is a large reference work in mathematics and Britannica encyclopedia for the history of Mathematics

Audio Visual Resources

Audio visual aids are important tools for teaching learning process. It helps the teacher to present the lesson effectively and students learn and retain the concepts better and for longer duration. Use of audio visual aids improves students' critical and analytical thinking. It helps to remove abstract concepts through visual presentation. However, improper and unplanned use of these aids can have negative effect on the learning outcome. It develops the students listening skills as well as make learning more effective. In this approach students think deeply with these learning materials.

Audio resources:

(i) Radio talk

It is a radio format containing discussion about topical issues. Most shows are regularly hosted by a single individual, and often feature interviews with a number of

different guests. Talk radio typically includes an element of listener participation, usually by broadcasting live conversations between the host and listeners who "call in" (usually via telephone) to the show. Listener contributions are usually screened by a show's producer(s) in order to maximize audience interest and, in the case of commercial talk radio, attract advertisers. Generally, the shows are organized into segments, each separated by a pause for advertisements; however, in public or non-commercial radio, music is sometimes played in place of commercials to separate the program segments. Variations of talk radio include conservative talk, hot talk, liberal talk (increasingly known as Progressive talk) and sports talk.

(ii) Audio tapes

Audio tapes support students learning in the following ways. It

1. provides diverse teaching techniques for learning
2. gives the teacher a voice– this can reduce the feeling of isolation for cloud based students, but also helps located students feel connected
3. can be used to simplify and explain complex problems
4. can allow students to access the learning materials as often as required
5. allows students to learn at their own pace, with instant playback, rewind and pause
6. reduces frequently asked questions from students
7. can be re-used

(iii) DVDs and CDs

The introduction of educational CDs and DVDs for school children has made studies very interesting for students as well as parents. These tools provide children with real life examples helping them to easily understand what is being conveyed to them. These CDs and DVDs help the children in their overall development by familiarizing them with technology and their uses.

Today there is a wide range of educational CDs and DVDs for school children of all ages, available in various stores as well as online. They help in transforming our passive system of learning into an interactive one with the help of high quality graphics and videos along with text that help children retain things in their memory for a long time.

The benefits of learning through educational CDs and DVDs are:

1. They provide a good overall experience for children.
2. Preschooler can easily learn reading skill with the help of these digital tool.

3. School giving children can easily understand the concepts through various graphical representation and illustrations.

4. Practice session using the tools can enhance their knowledge considerably on various topics.

Visual Resources:

(i) Pictures

Pictures make concepts memorable and employable. When someone views the image, they rapidly associate it with the principle. This enables imagery to play a primary role in creating culture in an organization because every culture speaks a language. A set of images can quite literally represent an entire value system. There is significant impact on the learner when a visual aid is connected to a verbal explanation. It actually speeds up the learning process.

(ii) Charts

The primary advantage of using a chart in a presentation is that they help the audience to visualize the point of the presentation. It emphasize the main point, make the data more convincing, provide a compact way of presenting information and help audiences stay engaged. Disadvantages of using chart includes being time consuming to construct and costly to produce. They also require technology that some may lack.

(iii)Posters

Poster is the process of showing the content and the findings of a topic to an audience or a group of audiences at different times. It is often used to assess student learning in group research projects. Peer and tutor assessment can be used as part of the grading process.Poster assessment encourages creativity.Poster assessment is short and succinct. This would require the students to think distinctively and select the important factors that need to be shown. The ability to summarize is important.Poster assessment can be assessed by peers at different times even without the presence of the creator.

(iv)Photographs

A Photograph is worth a thousand words through which a complex idea can be conveyed with just a single still image. Pictures make it possible to absorb large amounts of data quickly. Using photographs for explaining complex phenomena is one of the teaching aids of modern education system all over the world. As the world is changing day by day so are the methods of instructions as the modern curriculum requires conceptual elaborations.

Visual aids have the tendency to materialize the thoughts of students in the form of graphics to give thoughts a concrete frame of reference. Use of photographs is important for students because they are more likely to believe findings when the findings are paired with colored images describing complex situations during learning as opposed to other representational data such as complex book text.

(v) Flash cards

There are many ways to help children learn math facts. Flash cards can be effective if it is used at right time. It is important to help children build a conceptual understanding of math facts so that one can transfer knowledge across contexts. After conceptually understanding math facts, flash cards can helps to improve math fact fluency by isolating individual concepts, encouraging to focus attention and effort on specific components of complex mathematics problems.

A flashcard or flash card is a set of cards bearing information, as words or numbers, on either or both sides, used in classroom drills or in private study. One writes a question on a card and an answer overleaf. Flashcards can bear vocabulary, historical dates, formulas or any subject matter that can be learned via a question-and-answer format. Flashcards are widely used as a learning drill to aid memorization by way of spaced repetition.

ICT Resources

(i)Radio

Radio has been used in different formats for educational purposes the world round. Radio technology was first developed during the late nineteenth century and came into popularity as an educational medium during the early twentieth century. Although often overshadowed as educational medium vis-à-vis other technologies such as television, radio remains a viable medium that has proven educational worth in terms of both pedagogical importance and geographical reach. Radio is capable of delivering high quality educational programming to highly diversified audiences located across broad geographical expanses – all at a low per unit production cost. Three main advantages of radio: (1) improved educational quality and relevance; (2) lowered per student educational costs; and (3) improved access to education, particularly for disadvantaged groups.

(ii) TV

When teachers use educational television programs during class, the relationship between them and their students changes. Usually the status quo of the classroom is the teacher imparts knowledge while students absorb the information. Educational programs

change the status quo by, in a way, making the educator and children peers who can share and discuss the viewing experience. Teachers can take advantage of this shift in roles by encouraging small group discussions after watching the show. Educators can set specific goals or activities for students in these small groups, which allows them to explore their own questions and share their ideas on the given topic with their classmates. The instructor can then ask one member of the small group to share their team's insights with the rest of the class, strengthening the absorption of knowledge.

(iii)Internet

The internet has a lot to offer the teacher. There are authentic resources and materials, places where you can find prepared lesson plans, ideas and worksheets. The advantages of the internet to teachers include

- The incredible expanse of the internet means the teacher has the ability to tailor lessons very specifically to students' needs and interests. Learners tend to respond better when they feel involved and engaged in the subject and the extent of the web means that if you can find out what the students are interested in, you can find it on the web.

- Much material is modern and up to date, which helps motivate students. Good web sites continually update their material.

- Students enjoy using the net in their free time, and will appreciate its use in class

- It's a dynamic medium involving movement from site to site, promoting decision-making and learner independence.

The internet contains a lot of resources that teachers can access and use to prepare teaching materials. These range from sites specifically designed for teachers and learners to sites from national and international newspapers, museums, galleries and so on. Teachers can use these materials much the same way as they would other print-based resources, to create worksheets. But if teachers are fortunate enough to have access to a computer room in their

school then it is possible to use the internet with students during a class, exploiting the net as a dynamic medium.

Using the internet brings the 'real world' into the classroom and gives the students an opportunity to explore learning in a different way. However, having students facing a computer rather than the teacher, means teachers of internet lessons do need to be vigilant.

(iv) Multimedia

One of the techniques to improving the students' meets the academic needs and helps them developing mathematical skills is providing multimedia during the process of teaching and learning in the classroom. *It* means the use of electronic media to store and experience *multimedia* content. *Multimedia* means that computer info can be represented through audio, graphics, image, video and animation in addition to traditional media. Multimedia classroom provide the students chances for interacting with diverse texts. The writing aims to find out some advantages of the use of multimedia in the classroom. Through the media the teacher could give more opportunity to students to express their opinions and enjoy during the course. The highly presence and motivation also bring positive aspects to students so that they can improve their skills.

(v)Interactive white board

We connect the white board to a computer and share documents, websites and even play games. With a large touch screen, students will be excited to come up to the white board to help complete notes, do examples or take part in one of the many interactive games and demonstrations that can be used.

Community Resources

Community experiences can enrich social studies in instructions in ways more than one. To achieve the purposes of social studies, the child must, become a real part of the community in which he lives, interact with it and contribute to it. To become an effective citizen, the child must become a responsible member of community with civic attitudes and ideals compatible with the spirit of democracy. There is no more effective way of becoming this kind of person than through practicing what such a person will do.

A variety of community experiences offer the child the laboratory in which he may experiment with life in the community and begin to find his place in it. It is good to note that

it is impossible to separate the school from the community. They are glued together the aspirations of the community are the manifestations of the school system. The idea of making the community the best of the school and the school the best of the community represents a fruitful and essential extension of accepted educational thinking and practice. In order to nourish and invigorate democracy, community study and service through school education must be made essential. This movement is the most significant single development of its kind in our generation, and it seem destined to grow greatly with continuing sound experimentation at all school levels, in all teaching field, with all types of students, and in all community areas – local, regional, national and international.The most important community resources for teaching Mathematics are Field trips, Mathematics Exhibition, Mathematics Lab, Mathematics Resource Centre and Mathematics Club.

(i) Field Trips

Field trips is undertaken for securing information, changing attitudes, awakening interest, developing appreciation, promoting ideals, enjoying new experiences. They can initiate a unit of study, they can be a part of the core of it or they can give it the finishing touch. They are a very good means of getting knowledge first hand of confirming and supplementing second hand knowledge. They are a means for sharpening observation, testing principles and doing everything.

Field trips are useful for educational purposes in many ways:

1. They stimulate imagination and learning by providing sensory perceptions
2. They integrate classroom instruction by exposing the artificially of traditional subject matter divisions and enable the pupils to view facts and forces as they exist in their everyday relationship in living communities.
3. Through the filled trips, the students may come to realize community in ways which bookish learning cannot by its very nature allow.
4. They enable the pupils to learn the art of living with others such as travelling in the same conveyances, sharing rooms, sitting at the same table.
5. They expand emotional and intellectual horizons by making them acquainted with people whose manner, customs, living standards, outlook and interests may be quite different from their own.

(ii) Math lab

A mathematics laboratory is a place where we find a collection of games, puzzles, teaching aids and other materials for carrying out activities. These are meant to be used both by the students by their own and together with their teacher to explore the world of mathematics, to discover, to learn and to develop an interest in mathematics. Although mathematics is not an experimental science in the way in which physics, chemistry and biology are, a mathematics laboratory can contribute greatly to the learning of mathematical concepts and skills.

The objectives of a mathematics laboratory

1. Remove the weaknesses of present day mathematics education which the mathematics laboratory and the mathematics laboratory alone can do it.
2. To develop the much needed confidence in students.
3. To generate interest in the subject.
4. To make the students divergent thinkers.

Here are some ways we think a mathematics laboratory could contribute to learning mathematics: A mathematics laboratory provides an opportunity for the students to discover through doing. In many of the activities, students learn to deal with problems while doing concrete activity, which lays down a base for more abstract thinking. It gives more scope for individual participation. It encourages students to become autonomous learners and allows a student to learn at his or her own space. It widens the experiential base, and prepares the ground for later learning of new areas in mathematics and of making appropriate connections.

It is a place where:

1. Students do experiments with numbers and geometrical shapes and try to generalize these patterns.
2. Students do most of their calculations with the help of scientific calculators.
3. Students draw graphs of large number of functions with the help of scientific or graphic calculators and try to become familiar with graphs of all the functions they usually deal with.
4. Students solve real life problems with real data because complex calculations are no longer a major consideration.

5. Students express their answers to mathematics problems in decimal numbers and not in symbols and have a good idea about their magnitudes.

6. Students get practice in estimating orders of magnitudes and obtaining approximate answers when exact answers are difficult to find.

7. Students make charts and models to illustrate mathematical ideas.

8. Students do almost all the work themselves, of course under the guidance of teachers, but the students are active all the time and are involved with what they are doing.

9. The creativity of students is allowed free play.

10. Students solve graphically equations involving all types of functions.

11. Students are free to discuss among themselves and with the teachers; in fact students and teachers form joint investigating teams.

12. Students find areas and volumes of both regular and irregular solids.

13. Students undertake projects both in mathematics and its applications.

14. The concepts and theorems are not given to the students; these arise naturally from their investigations.

(iii) Maths exhibition

It is important for the faculties to **support the kids** in presenting something that they have learned in the most beautiful manner. There are certain benefits of organizing such exhibitions in schools. Students get a platform to show what they have learned and what they are good at, as well.

There are many students who always try to implement the things that they learn and they find these **platforms of exhibitions** a great way to showcase what and all that they have tried. It is always good to give the students a chance for implementing the things that they have learned and also to a*pply their ideas and present things differently* in their own unique way.

It makes the students really creative and they have practical knowledge to learn what they read. It increases their thirst for knowledge and drives away their boredom and monotony. It has become a tradition in our educational field that students need not see, learn and practice the things they deal with practically. Arranging regular mathematics fair can contribute a great deal to sensitize their desire and interest for science and mathematics.

Students of this age want to create something. It is quite natural. When they get chance for creation, definitely it exercises a profound impact on their overall learning. It also helps develop the social skills of learns as it increase interaction and relations with local community which is a big part of learning.

(iv)Mathematics club

The Mathematics club plays an important role in creating interest in mathematics in schools. This helps the students in having an idea of the practical utility of mathematics in addition to creating their interest in Mathematics.

Importance of the club:

1. Mathematics Club is useful in arousing and maintaining interest in Mathematics.
2. Gifted students get an opportunity to satisfy their needs and interests by actively participating in the activities of mathematics clubs.
3. It is helpful in making proper utilization of leisure time.
4. The students get an opportunity of mathematical hobbies, recreational mathematics, mathematical projects, mathematical games, mathematical discussions and debates, and mathematical innovations.
5. It provides an opportunity to read mathematical literature.
6. It provides an opportunity of leadership, cooperation and joint responsibility

Organisation of Mathematics Club

Mathematics Club will be a great help in teaching of Mathematics. Such a club should be run by the students under the guidance of the teacher. Mathematics Club is an organization of the students, by the students, for the students. For proper running of a club the most important thing is the preparation of a draft constitution of the club. This draft be prepared by the Mathematics teacher in consultation with the head of the institution. This draft constitution should provide all important details about the name of the club, aims and objectives of the club, details regarding membership and the fee etc. For efficient and successful working of Mathematics club an expert body has suggested the organization i.e 1) Patron 2) In-charge 3) Staff Advisor 4) Associate Staff Advisors. The club may have an

elected/ nominated executive committee amongst the students i.e. 1) President 2) Vice-president 3) Secretary 4) Treasurer .

Activities of the Club:

1. Arranging lecturers by renowned Mathematics Teachers or Scholars.

2. Celebrating days and events pertaining to the history of Mathematics or men of Mathematics.

3. Organizing Mathematical competitions.

4. Organizing recreational activities in Mathematics.

5. Preparing Mathematical aids and illustrations.

6. Organizing Mathematical exhibitions or fairs.

7. Mathematical articles for the school magazine.

8. Organizing seminars and career courses relating to Mathematics.

(v) Mathematics textbook

The mathematics textbook is an important source for learning mathematics and it plays a key role in effective teaching and learning. A textbook should stimulate reflective thinking and develop problem-solving ability among students. The textbooks should present real learning situations, which are challenging and interesting for the students and should not render itself as a means of rote learning.

Text books and teachers' guides occupy a unique place in the teaching learning process. Text book are an indispensable part of primary and secondary education. The text book is a teaching instrument. It is not only a source of information, but a course of study, a set of unit plans and learning guide. It helps to revise and reinforce the language material already taught. In the absence of any other instructional material, the text book becomes a potent tool in the hand of a teacher to teach the skill of a language and the more so of a foreign language.

Qualities of a Mathematics Textbook

The qualities of a good textbook in mathematics can be broadly classified under Physical features, Author, Content, Organization and presentations, Language, Exercise and illustration.

(i) Physical features:

1. Paper: the paper used in the textbook should be of superior quality

2. Binding: it should have quality strong and durable binding

3. Printing: it should have quality printing, bold font and easily readable font.

4. Size: bulky and thick. It should be handy

5. Cover: it should have an appealing and attractive cover page.

(ii) Author

1. Qualified author should write it

2. Experienced teacher should write it

3. Competent teachers should write it

4. It should be written by committee of experts constituted by the state government

5. For the authors, certain minimum academic and professional qualifications may be prescribed.

(iii)Content

1. It should be child centered

2. The subject matter should be arranged from simple to complex and concrete to abstracts.

3. The subject matter should create interest in the pupil.

4. It should be objective oriented

5. It should be written according to prescribed syllabus

6. It should satisfy the demands of examination

7. The answers given at the end of each section should be correct

8. It should include the recent developments in the mathematics relating to the content dealt with.

9. Oral mathematics should fine its due place in the textbook.

(iv) Organization and presentation

1. It should provide for individual differences.

2. There should be sufficient provision for revision, practice and review.

3. It should stimulate the initiative and originality of the students

4. It should offer suggestion to improve study habits.

5. It should facilitate the use of analytic, synthetic, inductive, deductive, problem solving and heuristic approaches to teaching.

6. Content should be organize in a psychological consideration.

7. Content should be organize in a logical way.

8. It should suggesting project work, fieldwork and laboratory work.

(v)Language

1. The language used in the textbook should be simple and easily understandable and within the grasp of the pupils

2. The style and vocabulary used should be suitable to the age group of student for whom the book is written.

3. The term and symbols used must be those, which are popular and internationally accepted

4. It should be written in lucid, simple, precise and scientific language.

(vi)Exercise and Illustrations:

1. The illustrations should be accurate

2. The illustrations should be clear and appropriate

3. It should contain some difficult problems

4. It should contain exercises to challenge the mathematically gifted students.

5. There should be well-graded exercises given at the end of every topic.

6. The exercise should develop thinking and reasoning power of the pupils.

Qualities of Mathematics Teacher

A Mathematics teacher should

1. motivate and engage the students.

2. convey the beauty of the subject.

3. encourage their students to go beyond the classroom with their learning.

4. help them feel confident in their mathematical abilities.

5. have sound subject knowledge.

6. make the subject easier by adopting suitable strategy.

7. provide guidance and support to the students while solving the problem.

8. provide alternate strategies to help struggling students grasp difficult concepts.

9. have good attitude and actions.

Conclusion

Imagination and creativity in using community resources can help students connect school science and mathematics with applications in the community, as well as helping students better learn basic concepts. Children learn science and mathematics from many sources, in a range of different ways, and for a variety of purposes. Taking students out onto the school grounds, exposing them to innovative materials, or inviting guests who can give unique insights are a few ways to increase their learning experiences. Teachers should be well trained through in-service training to maximize the benefits of using these aids. The curriculum should be designed such that there are options to activity based learning through audio-visual aids. In addition, government should fund resources to purchase audio-visual aids in schools.

Questions for Discussion and Reflection

1. Discuss the effect of ICT resources for teaching Mathematics.
2. What are print resources? Explain the need of print resources for teaching Mathematics.
3. Analyse the various types of resources in teaching Mathematics.
4. Bring out the need for community resources in the Mathematical instructional process.
5. Explain the different types of audio and video resources with examples.

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தமிழ்நாடு ஆசிரியர் கல்வியியல் பல்கலைக்கழகம்

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Course Material for B.Ed. (First Year)
(2016-2017)

Course: 7(a) PEDAGOGY OF PHYSICAL SCIENCE

(Part- I Methodology)

Prepared by

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UNIT – I-AIMS AND OBJECTIVES OF TEACHING PHYSICAL SCIENCE

Objectives:

After the completion of the unit, the learners will be able to:

1. Describethe nature and scope of physical science.
2. Explain the aims and objectives of teaching physical science.
3. Identify the need and significance of teaching physical science.
4. Discuss the values of teaching physical science.

Introduction

Physical Science is the concerted human effort to understand, or to understand better, the history of the natural world and how the natural world works with observable physical evidence as the basis of that understanding. It is done through observation of natural phenomena, and or through experimentation that tries to stimulate natural processes under controlled conditions.

MEANING OF PHYSICAL SCIENCE

A branch of science (a systematic enterprise that builds and organizes knowledge in the form of testable explanations and predictions about the universe.)

Physical science is the study of matter and energy. That covers a lot of territory because matter refers to all the stuff that exists in the universe. It includes everything you can see and many things that you cannot see, including the air around you. Energy is also universal. It's what gives matter the ability to move and change. Electricity, heat and light are some of the forms that energy can take.

NATURE OF PHYSICAL SCIENCE

The nature and scope of physical science can very well be explained with the help of the following attributes. In other words, they constitute science and contribute greatly to its existence and new inventions. They are:

1. Systematic and understandable
2. Accuracy
3. Validity
4. Subject to change
5. Durability
6. Unable to provide complete answers to all the questions
7. Mixture of logic and imagination

SCOPE OF PHYSICAL SCIENCE

1. Anything that is outside the boundaries of senses of human beings is outside the limits of science. In other words, the scope of physical science includes everything within the realm of the senses of human beings.
2. Physical science deals with the natural world, the realm of nature, matter and energy.
3. Physical science is not limited to only what is observable.

AIMS AND OBJECTIVES OF TEACHING PHYSICAL SCIENCE IN SCHOOLS

AIMS OF TEACHING PHYSICAL SCIENCE IN SCHOOLS

➢ To know about the facts and principles of science and its applications, consistent with the stage of cognitive development.

➢ To acquire the skills and understand the methods of processes that lead to generation and validation of scientific knowledge.

➢ To develop a historical and developmental perspective of science.

➢ To relate science education to environment, local as well as global and appreciate the issues at the interface of science, technology and society.

➢ To acquire the requisite theoretical knowledge and practical technological skills to enter the world of work.

➢ To nurture the natural curiosity, aesthetic sense and creativity in science and technology.

➢ To imbibe the values of honesty, integrity, cooperation, concern for life and preservation of environment.

➢ To cultivate scientific temper, objectivity and critical thinking.

OBJECTIVES OF TEACHING PHYSICAL SCIENCE IN SCHOOLS

To develop the power of observation.

Pupil at this stage are curious to know about all things, they come into contact with. It is therefore necessary to develop and train their power of observation.

To make them know the relationship between physical and social environment.

Students at this age group come into contact with the natural and social environment. They should be therefore trained to know about the relationship and the various benefits that are derived from nature.

To develop good character

It is necessary to develop certain qualities of character in the pupils of this age group and also to bring about the changes in their behavior.

To develop a habit of personal, family and society cleanliness

To help them know the utility of science in life

To develop scientific outlook

To develop practical outlook

To develop the skill of manipulation

NEED AND SIGNIFICANCE OF TEACHING PHYSICAL SCIENCE

Science is one of the human activities that man has created to gratify certain human needs and desires. The search of truth became the dominant motive in the prosecution of science. The teaching of science imparts training in the scientific method and develops scientific attitude which are very valuable and at the same time are transferable to other situations in life. The rapid advancement of science and technology and increasing need for scientist and technologies have made it all the more important to provide for science based education in the schools.Science has now become a compulsory subject in the school curriculum because of its multifarious value to the individuals as well as the society.

Physics as a Science

Physics, in everyday terms, is the science of matter and its motion; the science that deals with concepts such as force, energy, mass, and charge for example. More accurately, it is the general analysis of nature, conducted in order to understand how the world around us behaves.

In one form or another, physics is one of the oldest academic disciplines, and possibly the oldest through its modern subfield of astronomy. Sometimes synonymous with philosophy, chemistry and even certain branches of mathematics and biology during the last two millennia, physics emerged as a modern science in the 16th century and is now generally distinct from these other disciplines; although the boundaries between physics and all these other subjects still remain difficult to define.

Generally seen as an important subject, advances in physics often translate to the technological sector, and sometimes resonate with the other sciences, and even mathematics and philosophy. For example, advances in the understanding of electromagnetism lead to the widespread use of electrically driven devices (televisions, computers, home appliances etc.); advances in thermodynamics led to the development of motorized transport; and advances in mechanics led to the development of the calculus, quantum chemistry, and the use of instruments like the electron microscope in microbiology.

Today, physics is a broad and highly developed subject that is, for practical reasons, split into several general subfields. In addition to this, it can also be divided into two conceptually different branches: theoretical and experimental physics; the former dealing with the development of new theories, and the latter dealing with the experimental testing of these new, or existing, theories. Despite many important discoveries during the last four centuries, many significant questions about nature still remain unanswered, and many areas of the subject are still highly active.

Physics is the discipline devoted to understanding nature in a very general sense: the fundamental characteristic of physics is that it aims to gain knowledge, and hopefully understanding, of the general properties of world around us. As an example, we can consider asking the following question on the nature of the Universe itself: how many dimensions do we need? Given that we know the Universe to consist of four dimensions (three spacedimensions, and one timedimension),

we can also ask why the universe picked those particular numbers: why not have four space dimensions? The fact that a choice was made out of a possibility of many means that questions like these fall under the scope of physics. Other general properties of nature include the existence of mass (as in Newton's laws of motion), charge (as in Maxwell's equations), and spin (in Quantum mechanics), amongst others.

Chemistry as a Science

Chemistry is the science concerned with the composition, structure, and properties of matter, as well as the changes it undergoes during chemical reactions. Chemistry is the study of interactions of chemical substances with one another and energy. Chemistryis the science concerned with the composition, structure, and properties of matter, as well as the changes it undergoes during chemical reactions. Historically, modern chemistry evolved out of alchemy following the chemical revolution. Chemistry is a physical science related to studies of various atoms, molecules, crystals and other aggregates of matter whether in isolation or combination, which incorporates the concepts of energy and entropy in relation to the spontaneity of chemical processes.

Disciplines within chemistry are traditionally grouped by the type of matter being studied or the kind of study. These include inorganic chemistry, the study of inorganic matter; organic chemistry, the study of organic matter; biochemistry, the study of substances found in biological organisms; physical chemistry, the energy related studies of chemical systems at macro, molecular and submolecular scales; analytical chemistry, the analysis of material samples to gain an understanding of their chemical composition and structure. Many more specialized disciplines have emerged in recent years, e.g. neurochemistry the chemical study of the nervous system.

Chemistry is the scientific study of interaction of chemical substances that are constituted of atoms or the subatomic particles: protons, electrons and neutrons.Atoms combine to produce molecules or crystals. Chemistry is often called "the central science" because it connects the other natural sciences, such as astronomy, physics, material science, biology, and geology.The genesis of chemistry can be traced to certain practices, known as alchemy, which had been practiced for several millennia in various parts of the world, particularly the Middle East.

The structure of objects we commonly use and the properties of the matter we commonly interact with, are a consequence of the properties of chemical substances and their interactions. For example, steel is harder than iron because its atoms are bound together in a more rigid crystalline lattice; wood burns or undergoes rapid oxidation because it can react spontaneously with oxygen in a chemical reaction above a certain temperature; sugar and salt dissolve in water because their molecular/ionic properties are such that dissolution is preferred under the ambient conditions.The transformations that are studied in chemistry are a result of interaction either between different chemical substances or between matter and energy. Traditional chemistry involves study of interactions between substances in a chemistry laboratory using various forms of laboratory glassware.

VALUES OF TEACHING PHYSICAL SCIENCE

Intellectual Value

Physical Science helps pupils to think of problem, and follow the method of inquiry. During the process they think at every stage. Science sharpens our intellect and lead us to critical observation and reasoning.

Utilitarian Value

We are living in an age of science and technology. Physical Science has entered in our life and daily activities. All our activities are controlled and fashioned by it. There is a vast storehouse of natural power such as wind, waterfall, heat of the sun, etc. which science shows how it is useful for us. Science has revealed from nature almost all the hidden treasures. It restores eyes to the blind, hearing to the deaf, legs to the lame, even life to the dead. So it is very essential to have some elementary knowledge of science for becoming a full member in the society.

Vocational Value

Knowledge of science forms the basis for many vocational studies like medicine, engineering, agriculture or any other profession. Further the study of science forms the basis for many hobbies like bee keeping, radio servicing, photography, etc.

Cultural Value

Science has aided the growth of consciousness by making us more aware of the universe we live in. Through the practical application of scientific discovery our civilization is undergoing constant change which in turn brings about situations that threatens the well-being of the future generations. Scientists take an active part in the vital issues of the country so as to bring about consideration and integration of scientific development and our cultural heritage.

Moral Value

Science has more moral value. It is the search for truth in a faithful manner. When a scientific theory has religious and philosophic or any other kind of human interest, it no longer remains disintegrated passion for the truth. It teaches the pupil to be intellectually honest and truthful.

Aesthetic Value

Aesthetic sense is the most important consideration with all scientific men for it meets one of the deepest needs of human nature which manifests itself as the desire for beauty. To a man of science, practical application is just a by-product of his autonomous activity. The search for universal laws and comprehensive theories undoubtedly the manifestation of the aesthetic motive is very apparent and the satisfaction they get from it seems to be indistinguishable from those of an artist.

Conclusion

There are as many preconceptions and misconceptions about science. Science is not a finished enterprise and many things in science are still need to discover. Science offers solution to the problems. The application of science can offer solution to some of the problems where as it can also cause some problems.

Questions for Discussion and Reflection:

1. Describe the nature and scope of physical science.

2. Explain the aims and objectives of teaching physical science.

3. Examine the need and significance of teaching physical science.

4. Critically evaluate the values of teaching physical science.

UNIT-2: PLANNING FOR INSTRUCTION

Objectives

After completing the unit, the student teacher is able to

1. define unit plan
2. understand taxonomy of educational objectives
3. plan to design a unit plan
4. construct lesson plan
5. write a model lesson plan
6. describe the guidelines of effective test
7. develop skill on constructing test items
8. develop interest in writing a lesson plan
9. develop an attitude on constructing different test items

INTRODUCTION

A lesson is defined as a subdivision of the unit wherein a concept is at the centre. A lesson plan is a plan showing the teaching points, specification to be achieved, organization of learning activities in detail and the actual test items to which students are to be exposed. It is confined only to one period , and the content, is presented in the form of teaching points and is realized in a psychological and logical sequence. The word objective is an end view of the possible achievement in terms of what a student is to be able to do when the whole educational system is directed towards educational aims. Formulation of objectives in any subject is an educational necessity. Evaluation is an important step in almost any writing process, since we are constantly making value judgments as we write. When we write an "academic evaluation," however, this type of value judgment is the *focus* of our writing. In the words of Kothari commission [1966] Evaluation is a continuous process, it forms an integral part of the total system of education and is intimately related to educational objectives. We judge or decide that something is good or bad, satisfactory or unsatisfactory, average or above average on the basis of information we have and the values we use in making the decisions.

SETTING LESSON GOALS

A lesson is defined as a sub-division of the unit wherein a concept is at the centre. A lesson-plan is a plan showing the teaching points, specification to be achieved, organization of learning activities in detail and the actual test items to which students are to be exposed. It is confined only to one period, and the content, is presented in the form of teaching points and is realized in a psychological and logical sequence.

Lesson-plan forces consideration of goals and objectives of the selection of subject matter, the selection of procedures, the plan of activities and the preparation and tests of progress. Lesson-plan involves looking ahead and planning a series of activities, all of which progress definitely towards the modification of pupil's attitudes, habits, information and abilities in desirable directions. Without this kind of planning, accepts by a miracle there can be no steady progress and no definite outcome of teaching and learning procedures.

Planning is an essential activity for the effective teacher. The form of the plan may change according to the educational purpose of the planner. It helps the teacher to be systematic and orderly. It encourages good organization of subject matter and activities. Good planning helps the teacher to delimit the field in which he is teaching. It encourages a proper consideration of the learning process and definite choice of appropriate learning procedures. It also encourages continuity in the teaching process.

DESIGNING A UNIT PLAN

A unit should be viewed as a whole. You should be thoroughly familiar with the content before you make any attempt to write out the successive steps.

- **Objectives with Specifications:** The second step is to find out the objectives with specifications that can be realized through the content analysis.

- **Content Analysis:** In unit planning emphasis is placed on analyzing its content into terms, contents, facts, situations, processes, generalizations, conclusions, principles, laws, relationships, etc. In the language units, it should be analyzed into new words, new phrases, idioms, facts, figures of speech, central idea, concepts, proverbs, word-building, etc.

  This analysis helps the teacher to have a thorough knowledge of the subject matter. It would help him to teach with a full awareness of the depth of the subject matter. The teacher, again, enters the class with full confidence since he has mastery over the subject matter. Again, because of the content analysis the teacher will not be likely to miss any point while teaching the subject.

- **Learning Activities:** The third step is to organize those activities that will best achieve the specifications. Keeping individual differences and the psychology of the pupils in view, the content, specifications, and the learning activities should be planned in the unit plan.

- **Testing Procedures:** This is the fourth and the last step in the unit plan. Here, the types of evaluation tools and techniques are mentioned through which the teacher would get evidence of the achievements of objectives on the part of the pupils.

The planning for a unit is known as the Unit Plan. When should the teacher prepare the unit plan before the year plan has been prepared or after it? Unless he has a thorough knowledge of each

of the units of a subject, he cannot prepare the year plan. So, in a way, the unit plan should be prepared first. But, again, while preparing the unit plan, the availability of the period cannot be lost sight of. This is possible only if the year plan is ready. The year plan should therefore be ready before one starts preparing the unit plan. A teacher, who is experienced and competent enough in the subject matter, should prepare the year plan, keeping in mind the in's and out's of the units of the subject.

DESIGNING ALESSON – PLAN

There are certain essentials which must be observed before drawing up lesson-plans. The teacher must have mastery of and adequate training in the subject matter and activities from which the master has been selected for a certain lesson.

The teacher ought to possess knowledge of children from direct contact with them and from a study of child psychology. He must have a deep understanding of the principles of learning so that he can plan the learning activities on these principles.

Awareness of the various principles and techniques of teaching is essential for successful lesson plan. Awareness of individual differences in the class is another useful pre-requisite. It is essential inplanning to know as accurately as possible that knowledge of the topic, the pupils already possess.

Steps Involved in Lesson – Planning

Herbart , J.F (1776-1841) suggested six formal steps for the development of a lesson plan.

- Preparation or introduction
- Presentation
- Comparison or Association
- Generalisation
- Application
- Recaptulation

Preparation:
The teacher must prepare the minds of students to receive new knowledge. This knowledge is to be liked with the previous knowledge of the students. Preparation means the exploration of the pupil's knowledge which leads to the aim of the lesson. Teacher's skill lies in creating the interest, the children seem to have in the particular subject. Many teachers are faced with the difficulty of introducing the topic in a class. This can be done:

- By testing the previous knowledge of pupils, The teacher may introduce the lesson with an explanation.

- By asking questions that may reveal their ignorance, arouse interest and curiosity to learn the new matter.
- By presenting a demonstration, the teacher can lead the students to a discussion.

Teaching will be effective and pleasant when there is a desire to learn. The teacher should be in a position to create the proper atmosphere in the class room. This is an essential step in the teaching process. But it should be noted that this step should be brief and to the point and should not in any case absorb more than five minutes.

Presentation:
Before the presentation of the subject matter, the objectives of the lesson should be clearly stated. In the presentation step, the pupil must get some new ideas and knowledge. Both the teacher and the pupil should be the active participants in the teaching learning process. The teacher should try to elicit everything from the students by suitable questioning. There should not be monologue but there should be a dialogue. Questioning should be from an important device of this step. Other aids should also be used to make the lesson more interesting and comprehensive. Blackboard summary should be developed along with as the lesson proceeds ahead.

Comparison or association:
Some examples are given to the students and they are asked to observe carefully and compare them with other set of examples and facts. Sometimes the facts learned in the present lesson may be associated with facts learned in previous classes. Comparison helps the pupils to fix the new facts in mind.

Generalization:
This step involves reflective thinking because the whole knowledge learnt in presentation is to be systematized which leads to generalization, formulae, laws etc, through comparison.

Application:
At this stage, the students make use of the acquired knowledge in familiar and unfamiliar situations. At the same time, it tests the validity of the generalizations arrived at by the pupils. In this way, the new knowledge gained by pupils will become permanent in the minds of the students.

Review and assignments:
A lesson without review is an incomplete one. The principle purpose of this step is to make the presentation more effective. It helps the pupils to come to some conclusion with reference to the wider significance of the problem.
 An attempt is made to ask students to tell back or reproduce what he has learnt. The students learn how to express themselves and how to reproduce the material learnt.

Assignment of some work is essential for the consolidation of knowledge. This is the last step in the teaching act. The understanding and comprehension of the subject matter taught by the teacher can be tested by putting some suitable questions on the topic to the students. This will also help the teacher to find out whether the method of teaching has been effective and successful.

These are the essential steps in teaching all types of lessons. This type of lesson plan will depend upon the nature of topic to be taught and the method of teaching.

BLOOM'STAXONOMY OF EDUCATIONAL OBJECTIVES

Bloom's Taxonomy is a classification of learning objectives within education proposed in 1956 by a committee of educators chaired by Benjamin Bloom who also edited the first volume of the standard text, Taxonomy of educational objectives: the classification of educational goals. It is a matter of fact that the meanings of terms like "to understand", "to analyze", "to respond" as understood by the framers of a curriculum may differ when they are interpreted by an evaluator. Again, two evaluations or two teachers may interpret the various terms in their own way if the precise meaning of these terms is not communicated to them in the same way.

The most important purposes of taxonomy are:

a. To establish the accuracy of a communication regarding the objectives of education.
b. To reduce the vagueness arising out of such loosely defined terms and concepts as "to know", "to reason", "understanding", "interest", etc., and to understand the relationship among them.
c. To become a means of more precise communication system in the field of education.
d. To establish a common understanding about a hierarchical classification of objectives.
e. To become a means of understanding the sequence and organization of human development and
f. To be a great help in clearly defining and meaningfully evaluating the educational standards of school taxonomies have been divided into three domains – cognitive, affective and psychomotor. A student's development is always studied under these three categories.

COGNITIVE DOMAIN

The **cognitive domain**(Bloom, 1956) includes those objectives whichdeal with thinking, knowing and problem solving.It includes those objectives which deal with recall or recognition of knowledge and the development of intellectual abilities and skills.
Example: To understand the steps under this domain, let us take an example of " how to open a jam bottle?". A jam bottle can be opened by just warming the metallic lid part, keeping it inverted into a dish of warm water and unscrewing it. How did we get this idea?Knowledge about the expansion of materials due to heat forms the basic step. Then we should understand that metals expand to a greater extent than glass. We apply this knowledge to open it, we can analyze similar situations like open a pen and synthesize our ideas and come to a general conclusion as to how a lid can be opened. Finally we have to judge whether our conclusion is correct or not. So we evaluate the merits of this procedure. Evaluation, thus, is the highest step in this domain.**Knowledge :**Knowledge is defined as

the recalling, remembering of previously learned material. It represents the lowest level of learning outcomes in the cognitive domain.

Comprehension : Comprehensionis the objectives, behaviors or responses which represent an understanding of theliteral message contained in a communication. The communication may be in oral or written form, in verbal or symbolic form.It is the largest general class of intellectual abilities and skills emphasized in schools and colleges.

Application : Application is the ability to use the previously learned material in new situation and the learning outcomes in this area requires a higher level of understanding.

Analysis : Analysis emphasizes the breakdown of the material into its constituent parts and of the way they are organized. Learning outcomes represent a higher intellectual level.

Synthesis : Synthesis refers to the ability to put together elements and parts of material so as to form a new whole.

Evaluation : Evaluation is defined as the making of judgements about the value, for some purpose of ideas, works, solutions, methods, material etc.

It involves the use of criteria as well as standards for appraising the extent to which particulars are accurate, effective, economical or satisfying. The judgements may be either quantitative or qualitative and the criteria may be either those determined by the student or those which are given to him. Judgment in terms of internal evidence means the evaluation of a communication from such evidence as logical accuracy, consistency and other internal criteria.Judgment in terms of external criteria means the evaluation of material with reference to the selected or remembered criteria. Example:The faculty member evaluates the students' knowledge by giving theproject.

AFFECTIVE DOMAIN

The **affective domain** (Krathwohl, Bloom, Masia, 1973) describes learning objectives that emphasize a feeling tone, an emotion, or a degree of acceptance or rejection. Affective objectives vary from simple attention to selected phenomena to complex but internally consistent, values, and emotional sets or biases.
Example: To understand the steps under this category let us consider a situation where children get addicted to see TV always. The first step is that they have seen a qualities of character and conscience. We found a large number of such objectives in the literature expressed as interests, attitudes, appreciations program and received pleasure out of it. In other words they have received a sensation. The second step is that they try to repeat it as they get some response from the parents encouraging them to see some educational programs. Now, they are conditioned and would like to

see T.V. always without doing their homework. Parents will set up a value and the children are to value the best one. So values are organized and this will become his habit or characterized activity.

Receiving: Receivingis the awareness of a situation giving opportunity to the learner to be conscious of something, willingness to receive the stimulus, without avoiding the situation, controlled and selected attention to the situation.

Responding: Active participation on the part of the learners. Attends and reacts to a particular phenomenon. Learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding (motivation).

Valuing: Values are accepted only when we realize the worthiness. The individual should pursue by giving first preference for a particular activity of value. Children should commit themselves and work for that particular value.

Organization: Organizationis the building up of organized system of values. Conflicts between different values are resolved and inter-relationships are established.

Characterization: Characterization is the highest level of affective domain. Through the training given in other steps, the child organizes values internally, sets up a structure or pattern and follows it. Thus it becomes his characterization.

PSYCHOMOTOR DOMAIN :

Psychomotor domain deals with manual and motor skills.A boy perceives his friend going on a bi-cycle. He buys a bi-cycle and tries to imitate the movements to learn the skill of cycling. At the first instant his movements may not be precise. He may do unwanted movements. Slowly his movements become perfect and précised. Now he will try to combine or articulate this action with other actions, namely, applying brake, turning, giving signals etc. Finally his actions will be conditioned and it becomes his naturalized habit.

Perceiving : Perceiving is the skill of keen observation, skill of sensing a problem and skill of developing self motivation.

Imitating : Imitatingis the skill of repeating the actions and skill of reflective thinking.

Manipulation of act: Manipulation of act includes differentiating among various movements and selecting the proper one..

Precision : Precision in reproducing a given act includes accuracy, proportion and exactness in performance.

Articulation : Articulation among different acts includes co-ordination sequence and harmony among acts.

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Naturalization :   Naturalizationis the pupil skill that he attains its higher level of proficiency in performing and act with the least expenditure of psychic energy. The act becomes so automatic that it is attended to unconscious**ly**.

STRUCTURE OF A FOUR FOLD LESSON PLAN

Content

The teacher elicit the content to be taught to the students in the classroom . The students develop skills in terms of cognitive, affective and psychomotor domain after attending the teaching session of this content.

Specification of Behavioural Outcomes

Specification of behavioural outcomes helps us to state the instructional objectives of various school subjects. These objectives, however, are too vague for the teacher. They should be specific and must be expressed in behaviors terms. Vague, general objectives often do not offer an adequate enough direction to the teacher. As a result, he cannot prepare and organize appropriate learning activities for his pupils. Hence the need for specifications. We have also discussed that the term specifications mean specific objectives or behavioural objectives. The statement of a specification contains an action verb. The statement of specification should be in the form of the students achievement and not in the form of the teachers intentions.

Learning Experiences

Learning Experiences results from the active participation of students in the stimulus situation which the teacher provides in the classroom. It is the interaction of the learner and the situation provided by the teacher. It should be purposeful, continuous, interactive based on facts, concepts, principles, generalization for making learning experience more functional and effective in teaching learning process.

Evaluation

The teachers can adopt internal and external methods of evaluation to assess whether their transaction is proper according to the pedagogy of teaching in science classrooms. So the objectives, learning experience and evaluation are the three interrelated and interdependent aspects in the teaching learning process.

MODEL LESSON PLAN – PHYSICAL SCIENCE

Name of the School :
Student Teacher Name :
Standard : **IX**
Guide Teacher Name :
Unit : **Measurement of Length**
Date :
Topic : **Measurements and measuring instruments**
Duration : **45 minutes**

INSTRUCTIONAL OBJECTIVES : THE STUDENT
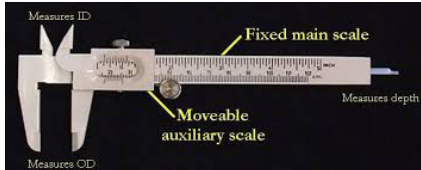
1. Defines the fundamental quantities and S.I. units.

2. Describes about meter scale.

3. Gives explanation of vernier caliper.

4. Draws a diagram of a vernier caliper.

5. Find out the Least Count of a vernier caliper.

6. Calculates accurately the length of an object for the given values.

7. Finds out error of a vernier caliper.

INSTRUCTIONAL RESOURCES REQUIRED

1. Vernier calipers.

2. Charts containing of the diagram of a vernier caliper and the diagram of the types of zero error.

PREVIOUS KNOWLEDGE OF LEARNERS

1. Identify and name of the objects shown to you.
   Meter Scale and Measuring tape

2. What is the use of meter scale?
   To measure the length

Content	Specification of behavioural outcomes	Learning Experiences	Evaluation
Fundamental quantities and SI units.	Defines Writes	The teacher defines some fundamental quantities and SI units. Students write SI units and fundamental quantities in their notebook.	Define S.I units.
Uses of meter scale.	Describes Measures	The teacher describes about the uses of meter scale. Students measure the length of a cloth by using meter scale.	Describe the uses of meter scale
Vernier caliper	Draws	The teacher draws a diagram of vernier caliper. Students draw a diagram of vernier caliper in their notebook.	Draw a diagram of a vernier caliper
Parts of a vernier caliper. M-main scale, V-vernier scale, P-ratchet.	Explains Discuss	The teacher explains about the parts of a vernier caliper. Students discuss among themselves about the parts of the vernier caliper.	Explain the parts of a vernier caliper
Least Count = 1 M.S.D- 1V.S.D. = 1mm-0.9mm = 0.1mm = 0.01cm	Explains Calculates	The teacher explains the least count of a vernier caliper by giving an example. Students calculate the least count in their notebook.	Define Least count.
Function of a vernier caliper	Demonstrates	The teacher demonstrates the experiment to find out the length of a cylinder by using vernier caliper. Students observe the experiment and they do it themselves.	Give the formula used for calculating the length of an object
Zero error and its two types.	Explains Measures	The teacher explains about zero error and its two types i.e, positive error and negative error. By using vernier caliper, the students measure zero error, positive error and negative error	Define Zero error

		for a cylinder.	

FOLLOW UP ACTIVITIES

     1. Draw a diagram of vernier caliper.

     2. Find out diameter of a cylinder by using vernier caliper.

Signature of the Guide   **Signature of the Student Teacher**

TYPES OF TEST ITEMS

Every teacher wants to find out the progress made by his pupil in the subject he teaches. Achievement in a subject at a particular stage has to be assessed in terms of his mastery in the curricular provisions anticipated for that stage as well as the realization of the objectives expected. A test designed to assess the achievement in any subject with regard to a set of predetermined objectives is called achievement test.

ESSAY TEST

The Essay test refers to any written test that requires an examinee to write a sentence, a paragraph or longer passages and that demands a subjective judgment about its quality and completeness when it is scored. The essay should have a structure which has three main parts: an introduction, a main body and a conclusion

       After they have read an essay item, students should have a clear idea of how they should tailor their responses. Below are specific guidelines that can help to improve existing essay questions and create new ones.

- Clearly define the intended learning outcome to be assessed by the item:
- Avoid using essay questions for intended learning outcomes that are better assessed   with other kinds of assessment:

- Clearly define and situate the task within a problem situation:
- Present a reasonable task to students:
- The task can be written as a statement or question:
- Specify the relative point value and the approximate time limit in clear directions:
- State the criteria for grading:
- Use several relatively short essay questions rather than one long one:
- Avoid the use of optional questions:
- Improve the essay question through preview and review:

Advantages:

1. Assess higher-order or critical thinking skills.
2. Evaluate student thinking and reasoning.
3. Provide authentic experience
4. Minimum chances of copying/cheating.
5. Economic
   i. The traditional form of examination is less expensive in terms of time, money, manpower and material.

Limitations:

1. Assess a limited sample of the range of content
2. Are difficult and time consuming to grade.
3. Lack of content validity
4. Provide practice in poor or unpolished writing.

SHORT-ANSWER QUESTION

Short-answer questions are "constructed-responses", or open ended questions that require students to create an answer. Short-answer items require. responses of one word to a few sentences. Short-answer items are an effective measure of a student's ability to accurately recall specific target information. Short-answer items require students to either complete a statement or answer a direct question using a single word or brief phrase.

OBJECTIVE TYPE QUESTION

Objective tests are usually those which come with a defined set of answers. There is a question and there is a define answer to the question.

Recall Type: The pupil must answer the correct response from his past experience.

Recognition Type: The pupil indicates the truth or falsity of statements given, selects the correct responses from the several possibilities listed, pairs related ideas arranged irregularly in two parallel columns.

Recall and recognition type includes.

1. Multiple choice questions
2. True or false question
3. Matching question

MATCHING QUESTION

Matching questions involve paired lists that require students to correctly identify, or "matching," the relationship between the items.

Construction:

- Matching test items, along with true –false and multiple choice, are selection items. They are specialized for use when measuring the student's ability to identify the relationships between a set of similar items. Each of which has two components, such as words and their definitions, symbols and their meanings, dates and events people and their accomplishments, etc.
- Responses should be listed in logical order if there is one. If there is no apparent order, the responses should be listed alphabetically.
- Another way to decrease the possibility of guessing is to allow responses to be used more than once. Directions to the students should be very clear about the use of responses.
- A difficulty sometimes arises in finding sufficient material.

Advantages:
Matching items can assess a large amount of information in a confined space on the exam page, relative to multiple-choice questions; if developed carefully, the probability of guessing is low. To increase that probability further, avoid equal-sized lists by including a few "distracter" items in the second column.

Disadvantage:
Matching assess recognition rather than recall of information.

TRUE– FALSE QUESTION

True- false questions are those in which a statement is presented and the students indicate in some manner whether the statement is true or false.

True- false - Offering a series of statements each of which is to be judged as true or false; "a true- false test"

Developing true- false questions:

A good use of True- false questions is for the student to demonstrate understanding or simple logic. These questions can be used effectively in stating cause and effect relationships

Guidelines for writing true- false items:

Statements should be relatively short and simple

- True statements should be about the same length as false statements. (There is a tendency to add details in true details in true statements to make more precise).

- The answers should not be obvious to students who don't know the material

- Sweeping broad general statements or absolutes (all, always, never, none, only), tend to be false, since the student need think of only a single incident in which it is untrue to mark it false.

- Students who make as always have above average IQ scores.

- A similar situation occurs with the use of "can" in a True- false statement. If the student knows of a single case in which something could be done, it would be true.

- Ambiguous or vague statements and terms, such as "large", "long time", "regularly", "some", and "usually" are best avoided in the interest of clarity. Some terms have more than one meaning and may be interpreted differently by individuals.

MULTIPLE CHOICE QUESTIONS

Introduction:

Multiple-choice exams are commonly used to assess student learning. Although E.L.THORNDIKE developed an early multiple choice test, Frederick J. Kelly was the first to use such items as part of large scale assessment, multiple choice testing is particularly popular in the United States.

Definition:

Multiple Choices is a form of assessment in which respondents are asked to select the best possible answer out of the choices from a list.

Parts of multiple choice questions:

- A STEM - the text of the question or incomplete statement.
- OPTIONS – the choices provide after the stem
- KEY – the correct answer in the list of options
- DISTRATERS – the incorrect answers in the list of options

PLANNING:

The primary objective in planning a test is to outline the actual course content that the test will cover. A convenient way of accomplishing this is taken 10 minutes following each class to list on an index card the important concepts covered in class and in assigned reading for that day.

In developing good multiple-choice items, three tasks need to be considered: writing stems, writing options, and ongoing item development.

COMPLETE THE STATEMENT

In this type of question, you are given an incomplete statement. You must select the choice that will make the complete statement.

Example: 1. one byte equals _____ number of bits.

a.6   b.8   c.16   d.32

WHICH OF THE FOLLOWING

You will probably notice that multiple choice questions use word order that is different from what you are used to see in ordinary things you read, like newspapers or books. One of the reasons for the unusual word order of multiple choice questions is that many contain the phrase "which of the following".

Example:

1. Which of the following computer can compute device that works on continuous range of values?
   a. Digital computer b. Hybrid computer   c. Analog computer d. Super computer

USE OF "NOT", EXCEPT AND "LEAST" (negative choices)

Use of "not", expert", and "least" often make comprehension of test question more difficult. This type of question is used for situations, in which there are several good solutions or ways to approach something, but there is also a clearly wrong way to do it. You are being asked to select 'not' the choice that does or fit. You must be very careful with this question type, because it is easy to forget that you are selecting a negative.

Procedural rules

➢ Use either the best answer or the correct answer format.
   • Best answer format refers to a list of option that can all correct in the sense that each has an advantage, but one of them is the best.
   • Correct answer format refers to one and only one right answer.
➢ Format the items vertically, not horizontally (ie, list the choice vertically)
➢ Allow time for editing and other type of item revisions.
➢ Use good grammar, punctuation and spelling consistently

- Minimize the time required to read each item.
- Avoid strike items.
- Use active voice.
- The ideal question will be answered by 60-65% of the tested population.
- Have your questions peer-reviewed.
- Avoid giving unintended clues such as making the correct answer longer in length than distracters.

Guidelines for writing stem:

1: Present a single, definite statement to be completed
or answered by one of the several given choices.
2: Minimize use of negatives and highlight negatives
when they are used.
3: Ensure that there is consistency between the stem
of the question and all of the response option.
4: Ensure that test questions are grammatically
consistent between the question stream and
response options.
5: Avoid using ALWAYS and NEVER in the stem as
test wise students likely to rule such universal
statement out of consideration.

Writing Response:

7: Guidelines for avoiding unintended clues to the correct answer sometimes it is possible to correctly guess the answer to a test question even when you don't know the answer. This happens when the question contains unintended clues to the correct answer. Review the following example to see if you can guess the correct answer. Identify the unintended clue, and apply the guideline that will help you avoid this type of unintended clue when you write test question.

Writing Distractor:

8: Ensure that all test question response options are
similar in length and complexity.
9: Avoid double negatives.
10: Avoid repletion of words of phrases in the
response option by rewording the stem of the question.
11: If possible avoid the choices 'All of the above"
and" None of the above" if you do include them
make sure that they appear as correct answer
some of the time.

12: Use only plausible and attractive alternative as distracters.

13: Alternatives should not overlap.

CONSTRUCTING TEST ITEMS FOR FORMATIVE EVALUATION IN CLASS

Every trainee must have to evaluate their students, subject knowledge what they taught at the time of training period. This has to be done by applying different kinds of tests. Among the various type of tests, achievement test is more relevant for evaluating student's performances. For considering this view, this section, has been brought out giving a brief account about the planning and construction of achievement test.

Achievement tests serve variety of purposes such as

➢ Judging the pupils mastery of certain essential skills and knowledge

➢ Measuring growth over time.

➢ Ranking pupils in items of their achievements of particular instructional objectives.

➢ Diagnosing pupil difficulties.

➢ Evaluating the teacher's instructional method.

➢ Ascertaining the effectiveness of the curriculum and

➢ Motivating students.

The achievement test has to make an effective instrument of evaluation. It has to be structured and designed according to a systematic pattern in advance by lag down the following dimensions

▪ Weightage to objectives:

Here, the relative importance of each objective is to be considered. The main task here the Weight age to be given to the different objectives in the unit plan. This weightage should be decided by a committee of experts, including the classroom teacher: but, for an achievement test, the teacher can decide this type of question.

▪ Weightage to sub units(content):

Here, the Weight age is to be divided for the different areas of the content which may include a unit. (There are different methods of weight to sub-units)

• Weightage to each sub-unit according to the number of page allotted to it in text book.

- Weightage to each sub-unit according to the number of periods devoted to it.
- Weightage to each sub-unit according to the number of specifications that can be achieved through it.
- Weightage to each sub-unit according to the opinion of the committee of experts in the subject.

- Weightage of different forms of question (item format):

    For testing different abilities and sub-units, different forms of questions may be suitably used, instead of using the traditional form, the essay type question. In teaching various learning outcomes, the essay type, the short-answer type and objective type question may be judiciously used.

- Weightage to difficulty level:

    Generally, in a class there are three categories of pupils above average and below average. Accordingly, the test should not be too difficult or too easy. A test should provide a suitable opportunity to the bright, the mediocre and the weak students in the class. Hence, all the test items in a test should not be very difficult or very easy. The teacher is expected to classify test items into three levels-difficult, average and easy. This is quite enough for the achievement test.

- **Scheme of options**

Scheme of option means the option or choices given to the students to select certain questions. There may be external option as well as internal options. External option means the choice is given to the students for selecting a given number of questions only from among the total number of questions provided. For example the students are asked to attend any eight questions out of the given ten. But in case of internal options the choice is given within a question for example write an essay on one of the following.

<div align="center">

CHEMISTRY (Theory)   -   2009-2010

Class XII - Code: 083

</div>

TIME: 3Hrs   **MM: 70**

Weightage of marks over different dimensions of the question paper shall be as follows:

1.Weightage to Curricular Objectives

No.	Objectives	Marks	%
1.	Knowledge	4	16
2	Understanding	6	24
3	Application	8	32
4	Skill	7	28
	Total	25	100

2. Weightage to different topics/content units

S.No	Topic	Marks
1.	Environmental Chemistry.	12
2.	Atomic Structure	12
3.	Chemical Bonding	14
4.	Chemical Kinetics – I	06
5.	Basic Concepts of Organic	08
6.	Hydrocarbons	08
7.	Organic Halogen Compounds.	10
	Total	70

3. Difficulty level of questions

S.No	Estimated difficulty level	Percentage of marks
1.	Easy	15%

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2.	Average	70%
3.	Difficult	15%

4. Weightage to different forms of questions

S.No	Forms of Questions	Marks for each question	No. of question	Total marks
1.	Objective	01	09	09
2.	Very short Answer	02	13	26
3.	Short answer	03	05	15
4.	Essay	04	05	20
		Total	32	70

D. Scheme of Options

There will be no overall choice. All questions are compulsory.

Questions for Discussion and Reflection

1. Explain the steps in lesson plan with illustration

2. Discuss about Taxonomy of Educational Objectives

3. Write a short note on Essay question, Objective question and Short answer question

UNIT– III: PRACTICING THE TEACHING SKILLS IN PHYSICAL SCIENCE

Objectives:

After the completion of the unit, the learners will be able to:

1. To obtain knowledge on the meaning of teaching.

2. To understand the teaching skills.

3. To analyse the major steps in teaching a mini-lesson.

4. To explore, observe and feedback on integration of teaching steps in mini-teaching

Introduction

An educational institution performs a significant function of providing learning experiences to lead their students from the   darkness of ignorance to the light of knowledge. The key personnel in the institutions who play an important role to bring about this transformation are teachers. As stated by NCTE (1998) in Quality Concerns in Secondary Teacher Education, ‒The teacher is the most important element in any educational program. It is the teacher who is mainly responsible for implementation of the educational process at any stage. This shows that it is imperative to invest in the preparation of teachers, so that the future of a nation is secure. The importance of competent teachers to the nation's school system can in no way be overemphasized.

MEANING OF TEACHING

In the complex act of teaching, one complex organism (teacher) directs towards more complex organism (students) in the complex situation (classroom) to cause one of the most important activity called "teaching" .Ban(1961) has exactly remarked that "teaching means many different things, that the teaching act varies from person to person and from situation to situation".

Gage tentatively defines , " teaching" as an act of interpersonal influence aimed at changing the ways in which other persons can or will behave (Mitra, 1972). According to Ryans(1965) " the behavior or activities of persons as they go about doing whatever is required of teachers, particularly those activities which are concerned with the guidance or direction of the learning of others. According to Skinner(1968) "teaching is the arrangement of contingencies of reinforcement under which students learn. They learn without teaching in their natural environments, but teachers arrange special contingencies which expedite learning, hastening the appearance of behavior which would otherwise be acquired slowly or making scene of the appearance of behavior which might otherwise never occur. From these definitions it can be concluded that teaching is an activity like a. imparting knowledge or skill, b. it is a social act of influence, and c. it is doing anything and everything that may lead to learning.

SKILL OF INTRODUCTION

The main purpose of the introducing skills is to establish cognitive report between students and teacher to obtain immediate involvement in the lesson.

A specific techniques of introducing a lesson is the use of analogies that have characteristics similar to the concept , principle or central theme of the lesson.

While beginning the lesson the preservice teacher should

Gain student attention Build motivation Explain why the lesson is important. Introduction of the lesson is usually short. Some simple techniques of introducing a lesson are

- Telling a story connected with the lesson.
- Referring to something related to the experience of students in their area of activity interest or knowledge.
- Linking the present lesson to the previous lesson or to future learning.

SKILL OF EXPLAINING:

A teacher organizes a number of learning experiences in the classroom towards this end. He uses a number of interrelated statements related to the concepts, facts etc. in order to develop understanding among the pupils. The set of interrelated statements that the teacher makes is known as explanation. Therefore explanation is the use of interrelated facts, concepts with a view to develop understanding among the pupils towards the content under study. For example how ice is manufactured? The answer gives different steps and their manual relationship in the explanation. While giving explanation to pupils, the explainer should keep in mind the age level, their previous knowledge, experiences, their family background, geographical situations etc. These factors significantly influence effectiveness of explanation.

Explanation is defined as an activity to bring about an understanding in some one about a concept, principles or phenomenon. While giving explanation, causes for the phenomenon, reasons behind the action and various logical steps involved in arriving at inferences are given. A good explanation is one which is understood by the pupils. Therefore a teacher must try to explain the concepts, thoughts, ideas etc in such a way that is understandable by the pupils for whom it is concerned .

SKILL OF QUESTIONING

The teacher initiates his lesson by putting relevant questions in the class. He then manages to get correct response from the students. Questioning can achieve its purposes if they are of high quality. Quality, rather than quantity of questions make the teaching effective. A question which can stimulate the student for relevant thinking is a good question. Formulation of good questions is a difficult task which can be mastered through conscious and repeated efforts. Skill of questioning

refers to the formulation of relevant, precise and conscise, clear, specific and grammatically correct questions.

When a question is put in the classroom, there are a number of possible pupil response situation such as no response, wrong response, partially correct response, incomplete response or correct response. The skill of questioning is going deep into pupil responses through step by step questioning with a view to eliciting the criterion response.

SKILL OF VARYING THE STIMULUS

Learning in the classroom depends, to a large extent, on the attention of the pupils on the learning task. It is, therefore, essential for the teacher to secure and sustain pupil attention for making his teaching effective. Continued use of the same stimulus or activity for longer period induces inattention. The inattention is caused in two ways. Firstly, continued focus of the pupils on the same stimulus for a long time restricts his postural mobility. As a result, they feel fatigued. Secondly, the continued use of the same stimulus for longer duration introduces the element of monotony; which brings in dullness. The problem of inattention is further aggravated because of the short span of pupil attention. Their attention tends to shift from one stimulus to another frequently.

One of the significant ways to secure and sustain pupil attention is to introduce the element of variation in teaching. The variation can be introduced in several ways depending upon the teaching activity. For example, there can be variation of teacher's position in the classroom while he is teaching. Variation in voice represents another dimension. Use of media provides yet another area of variation. There can also be variation in the classroom interaction pattern. Appropriate variations in these dimensions can help a teacher to secure and sustain pupil attention. The set of teacher behaviours that tend to secure and sustain pupils' attention in teaching learning situation in the classroom constitutes the skill of stimulus variation.

NON VERBAL CUES

Good communication is the foundation of successful relationships, both personal and professional. But we communicate with much more than words. Most of the messages we send other people are nonverbal. Nonverbal communication includes our facial expressions, gestures, eye contact, posture, and tone of voice. The ability to understand and use nonverbal communication, or body language, is a powerful tool that can help you connect with others, express what you really mean, navigate challenging situations, and build better relationships.

Nonverbal communication, or body language, is a vital form of communication—a natural, unconscious language that broadcasts our true feelings and intentions in any given moment, and clues us in to the feelings and intentions of those around us.

Nonverbal communication cues can play five roles:
- Repetition: they can repeat the message the person is making verbally
- Contradiction: they can contradict a message the individual is trying to convey

- Substitution: they can substitute for a verbal message. For example, a person's eyes can often convey a far more vivid message than words and often do
- Complementing: they may add to or complement a verbal message. A boss who pats a person on the back in addition to giving praise can increase the impact of the message
- Accenting: they may accent or underline a verbal message. Pounding the table, for example, can underline a message.

Types of nonverbal communication and body language:

There are many different types of nonverbal communication. Together, the following nonverbal signals and cues communicate your interest and investment in others.

Facial expressions: The human face is extremely expressive, able to express countless emotions without saying a word. And unlike some forms of nonverbal communication, facial expressions are universal. The facial expressions for happiness, sadness, anger, surprise, fear, and disgust are the same across cultures.

Body movements and posture: Consider how your perceptions of people are affected by the way they sit, walk, stand up, or hold their head. The way you move and carry yourself communicates a wealth of information to the world. This type of nonverbal communication includes your posture, bearing, stance, and subtle movements.

Gestures: Gestures are woven into the fabric of our daily lives. We wave, point, beckon, and use our hands when we're arguing or speaking animatedly—expressing ourselves with gestures often without thinking. However, the meaning of gestures can be very different across cultures and regions, so it's important to be careful to avoid misinterpretation.

Eye contact: Since the visual sense is dominant for most people, eye contact is an especially important type of nonverbal communication. The way you look at someone can communicate many things, including interest, affection, hostility, or attraction. Eye contact is also important in maintaining the flow of conversation and for gauging the other person's response.

Touch: We communicate a great deal through touch. Think about the messages given by the following: a firm handshake, a timid tap on the shoulder, a warm bear hug, a reassuring pat on the back, a patronizing pat on the head, or a controlling grip on your arm.

Space: Have you ever felt uncomfortable during a conversation because the other person was standing too close and invading your space? We all have a need for physical space, although that need differs depending on the culture, the situation, and the closeness of the relationship. You can

use physical space to communicate many different nonverbal messages, including signals of intimacy, aggression, dominance, or affection.

Voice: It's not just what you say; it's *how* you say it. When we speak, other people "read" our voices in addition to listening to our words. Things they pay attention to include your timing and pace, how loud you speak, your tone and inflection, and sound that convey understanding, such as "ahh" and "uh-huh." Think about how tone of voice, for example, can indicate sarcasm, anger, affection, or confidence.

Reinforcement is a term taken from the psychology of learning. The term implies the use of the technique for influencing behavior of individuals in the desired direction. The concept of reinforcement is based on the hedonistic principle which envisages that an individual tends to repeat the pleasant experiences and avoid the unpleasant ones. Reinforcement, therefore, constitutes one of the essential conditions of learning.

SKILL OF REINFORCEMENT

While teaching, a teacher encounters a variety of pupil behaviors. Obviously, he would like the pupil's desirable behaviors and criterion responses to be retained and undesirable behaviors to be eliminated. For reinforcing pupils' desirable behaviors and criterion responses, he uses positive verbal and non-verbal reinforces.

These reinforces not only strengthen the pupils' desirable behaviors, but also develop confidence in them. Besides, they enhance their positive self-concept. Absence of a positive, reinforce for pupils' desirable behaviors may erode their confidence andlead to poor self image. Positive reinforcement encourages pupils to participate actively in classroom transactions. It stimulates them to achieve more, thereby, creating a sense of achievement. Skillful management of reinforces help a teacher to promote pupils' learning. The skill of reinforcement refers to the effective use of reinforces. It can, therefore, be defined as "the effective use of reinforces to modify pupils' behavior in the desired direction.

SKILL OF CLOSURE

This skill is useful for a teacher to close his teaching properly. The teacher is to summarize all the teaching during the period and provide opportunities for the students to correlate the learnt matter with the past and future knowledge. This is to be done by statements or by asking questions.

SKILL OF FLUENCY IN COMMUNICATION:

Verbal communication is another important element for teaching. An excellent beginning for effective verbal communication is the ability of the student to be a good listener. **Active listening** is a technique that helps the student be more effective in the communication process (Reynolds, 2008). The teacher begins by being open and approachable and listens carefully to what the student is saying and doing.

- Effectiveverbal communication is a skill that a person uses throughout her life, and the development of it begins in early childhood. This is the ideal time for parents to begin modelling and actively teaching verbal communication skills. Good verbal communication should go both ways and allow people to speak as well as listen. When children reach school age, they will begin learning more from their teachers and peers, but good verbal communication begins in the home.

Nonverbal communication cues can play five roles:

- Repetition: they can repeat the message the person is making verbally
- Contradiction: they can contradict a message the individual is trying to convey
- Substitution: they can substitute for a verbal message. For example, a person's eyes can often convey a far more vivid message than words and often do
- Complementing: they may add to or complement a verbal message. A boss who pats a person on the back in addition to giving praise can increase the impact of the message
- Accenting: they may accent or underline a verbal message. Pounding the table, for example, can underline a message.

Types of nonverbal communication and body language:

There are many different types of nonverbal communication. Together, the following nonverbal signals and cues communicate your interest and investment in others.

Facial expressions: The human face is extremely expressive, able to express countless emotions without saying a word. And unlike some forms of nonverbal communication, facial expressions are universal. The facial expressions for happiness, sadness, anger, surprise, fear, and disgust are the same across cultures.

Body movements and posture: Consider how your perceptions of people are affected by the way they sit, walk, stand up, or hold their head. The way you move and carry yourself communicates a

wealth of information to the world. This type of nonverbal communication includes your posture, bearing, stance, and subtle movements.

Gestures: Gestures are woven into the fabric of our daily lives. We wave, point, beckon, and use our hands when we're arguing or speaking animatedly—expressing ourselves with gestures often without thinking. However, the meaning of gestures can be very different across cultures and regions, so it's important to be careful to avoid misinterpretation.

Eye contact: Since the visual sense is dominant for most people, eye contact is an especially important type of nonverbal communication. The way you look at someone can communicate many things, including interest, affection, hostility, or attraction. Eye contact is also important in maintaining the flow of conversation and for gauging the other person's response.

Touch: We communicate a great deal through touch. Think about the messages given by the following: a firm handshake, a timid tap on the shoulder, a warm bear hug, a reassuring pat on the back, a patronizing pat on the head, or a controlling grip on your arm.

Space: Have you ever felt uncomfortable during a conversation because the other person was standing too close and invading your space? We all have a need for physical space, although that need differs depending on the culture, the situation, and the closeness of the relationship. You can use physical space to communicate many different nonverbal messages, including signals of intimacy, aggression, dominance, or affection.

Voice: It's not just what you say; it's *how* you say it. When we speak, other people "read" our voices in addition to listening to our words. Things they pay attention to include your timing and pace, how loud you speak, your tone and inflection, and sound that convey understanding, such as "ahh" and "uh-huh." Think about how tone of voice, for example, can indicate sarcasm, anger, affection, or confidence.

UNDERSTAND MAJOR STEPS IN TEACHING MINI-LESSON

Teaching is a planned and structured interactive process that –case student learning teaching is usually done in sequence

Teaching a Mini –lesson consist of a specific steps they are.

Motivation:

Motivation is a warm-up activity to get student activity engaged in a new lesson.To get the student in really involved in the new lesson.The pre service teacher should use all the techniques of introducing a lesson.

Presentation:

Presentation refers to delivery of the content in the class in a organized way. The presentation should have a beginning middle and end .preservice teacher should focuses on three areas.

    i)   Verbal and nonverbal communication
    ii) Effective use of Black board and visual aids
    iii) Meaningful organization of content.

Interaction:

Interaction refers to the communication between the teacher and student during the delivery of the lesson in the class

Integration helps the preservice teacher to reduce their talking time and enable the student to increase their talking time.

Preservice teachers should encourage pair and group interaction in the class pre service teacher can present the content of the lesson in three way.

    i)   Teacher – whole group interaction
    ii)   Teacher – Student interaction
    iii)   Student- Student interaction

It has been found that peer interaction about the content of the lesson in a powerful way to reinforce what the student have learned.

    Reflection:

Reflection refers to involving or encouraging students to think about their thinking .in other words the teacher ask student to reflect on their learning. During reflection the students ask themselves what have I learned from doing this activity.

The preservice teacher can guide the peer (student) to reflect about his learning in three ways**.**

i) **Discussion**: The teacher can ask students to discus their learning experience or classmates can discus their learning experience among themselves in the class.

ii) **Interview** : the teacher can interview a student or students can interview classmates about their learning

iii) **Questioning** : the teacher can ask a student can question classmates about their insight, understanding, and application of their learning.

Summing up:

Summing up refers to ending a lesson with a summary. The pre service teacher can use the all the teaching techniques related to ending a lesson during their practice teaching in front of peer.

What is mini- teaching

Mini-teaching is an actual classroom teaching. Mini teaching is much smaller than usual teaching.

The curriculum frame work. Two-year B.Ed programmed of NCTE(2014)consists that "teaching should not be practiced through the reductionist approach of micro teaching of isolated skills and simulated lesson. The practice of lesson plans must be meaningful and holistic event and not an isolated and disintegrated one.

There is a difference between micro teaching and mini teaching .Micro teaching breaks teaching into a set of decrease and isolated skills. Whereas mini teaching emphasizes the mastery and integration of teaching skills in a short lesson in a smaller class than the used one.

In mini teaching a student practices a mini lesson teach to a minimum at co peers for15-20 minutes .Mini teaching can be practiced with real students. If students available from model schools attached to the college of education.

A student-teacher must practice at least 5mini lessons with peers or with real students before he/she goes to actual teaching in schools. Mini lesson practice must take place only in the college of education.

Steps in Mini Teaching:

The preservice teacher:

1. Chooses a mini- lesson (a short lesson)for 15-20 minutes.

2. Identifies a few appropriate teaching skills required for teaching mini lesson .

3. Teaching a mini-lesson with gradual integration of the teaching skills identified.

4. As soon as a pre service teacher finishes teaching his mini lesson, The peers and the teacher-educator provide a feedback to the pre service teacher his teaching.

5. Then the next pre service teacher in the peer group takes up his mini lesson and practice teaching.(Note: There is no reteach session in mini-teaching just like in micro teaching.

MINI LESSON

Name   :

Subject   : Physics   Date   :

Topic   : Laws of Motion   Time   : 15-20 mts

Focus   : To understand the Newton's third law of motion and its applications

1.Objectives

i)states the third law of motion

ii) give the examples of the third law of motion

iii)   application of the third law of motion in day-to-day life

2. Materials

Chart, Toy gun, Bow and Arrow

3. Content outline or lesson description

Newton's third law of motion and its application

4. Teaching skills

Introducing, Explaining, Varying the stimulus and Closure.

5. Instructional procedures and activities

I) Introductory activities (Motivation)

Teacher : Do you travel in a bus?

Student : yes sir.

Teacher : Do you travel in a car?

Student: Yes sir. We travel in a car.

Teacher: Very Good. What happens if a bus driver applies sudden break?

Student: We move upwards.

Teacher: Exactly, Very good.

Student: Somebody fall down.

Teacher: yes. It is because of Newton's third law of motion.

II) Development activities(Presentation, Interaction and Reflection)

Teacher : " For every action there is an equal and opposite reaction". This is Newton's third law of motion. Do you understand?

Student: yes sir

Teacher: I will give an example. What happens when a gun is fired?

Student: The bullet will come out.

Teacher: Very Good. What is the principle behind it?

Student: Third law of motion.

Teacher: Yes. How is it function?

Student: Please explain it sir.

Teacher: O.K. I will explain. When a gun is fired, it exerts a forward force on the bullet. The bullet exerts an equal and opposite force on the gun. So the gun is fired. This is because of Newton's third law of motion. What is the action takes place in firing a gun?

Student: Pulling the trigger sir.

Teacher: Very Good. What is the reaction?

Student: Pushing out the bullet is equal and opposite reaction.

Teacher: Very Good.

III) **Concluding activities (Summing up/ Closure)**

Newton's third law is applicable in every activities of our life. For example a fish moves through water by using its fins to push back water and the water pushes the fish forward with a force i.e. equal to the backward force.

VI Evaluation and assessment

Distribute a copy of both assessment format (skill and steps) to the pre-service teacher (peer) for evaluation and assessment.

Distribute a copy of both assessment format (skill and steps) to the preservice teacher (peer) for evaluation and assessment.

Observation and Feedback on the practice of Integration of teaching skills

The complex teaching act can be split into component skills, each simple, well defined and limited. These skills can be identified, practiced, evaluated, controlled and acquired through training.

The teaching skills developed through training are to be observed by the peers/ teacher educators. Immediate feedback may be given to the student-teachers individually using the feedback forms.

Distribute a copy of both Assessment formats (skills & steps) to the pre-service teachers (peers)

Observation and Feedback on Integration of teaching skills in Mini-Teaching

INTEGRATING SKILLS IN MINI TEACHING (Assessment by Peers/Teacher Educators)				
Teaching skills	AVERAGE (SCORE 1)	GOOD (SCORE 2)	VERY GOOD (SCORE 3)	TOTAL
Introducing				
Explaining				
Questioning				
Varying the stimulus				
Non verbal cues				
Reinforcement				
Closure				
Fluency in Communication				

Range of scores: 8-24

OVERALL ASSESSMENT OF TEACHING STEPS

AVERAGE _____   GOOD _____ VERY GOOD_____

Interpretation of scores

Average   : 8

Good   : 9-16

Very Good   :17-24

Observation and Feedback on Integration of teaching steps in Mini-Teaching

INTEGRATING THE STEPS IN MINI TEACHING (Assessment by Peers/Teacher Education)				
TEACHING STEPS	AVERAGE (SCORE 1)	GOOD (SCORE 2)	VERY GOOD (SCORE 3)	TOTAL
Motivation				
Presentation				
Interaction				
Reflection				
Summing Up				

Range of scores:5-15

OVERALL ASSESSMENT OF TEACHING STEPS

AVERAGE _____   GOOD _____ VERY GOOD_____

Interpretation of scores

Average   : 5

Good   : 6-10

Very Good   :11-15

Conclusion

Today as never before, meeting our society's challenges demands educational excellence. Reinvigorating the economy, achieving energy independence with alternative technologies and green jobs, and strengthening our health care system require a skilled populace that is ready for the critical challenges we face. There is widespread consensus, however, that our education systems are failing to adequately prepare all students with the essential 21st century knowledge and skills necessary to succeed in life, career and citizenship.

Questions for Discussion and Reflection

1. Briefly explain the major steps in teaching a mini lesson.

2. Write a mini-lesson with multiple teaching skill for class IX std science.

3. Explain the mini lesson format.

4. Critically analyse the skill of varying the stimulus.

5. Explain the skill of explaining with its skill components.

UNIT-IV: **Methods of Teaching Physical Science**

Objectives:

After the completion of the unit, the learners will be able to:

1. Know the meaning of Lecture and Demonstration method.
2. Explain about Individual activities.
3. Understand the concept of small group learning.
4. Discuss about the recent trends of teaching Physical Science**.**

Introduction

A teaching method comprises the principles and methods used for instruction to be implemented by teachers to achieve the desired learning or memorization by students. These strategies are determined partly on subject matter to be taught and partly by the nature of the learner. For a particular teaching method to be appropriate and efficient it has to be in relation with the characteristic of the learner and the type of learning it is supposed to bring about. The approaches for teaching can be broadly classified into teacher centered and student centered. In Teacher-Centered Approach to Learning, Teachers are the main authority figure. Students are viewed as "empty vessels" whose primary role is to passively receive information (via lectures and direct instruction) with an end goal of testing and assessment. It is the primary role of teachers to pass knowledge and information onto their students. Teaching and assessment are viewed as two separate entities. Student learning is measured through objectively scored tests and assessments. In Student-Centered Approach to Learning, while teachers are an authority figure, teachers and students play an equally active role in the learning process. The teacher's primary role is to coach and facilitate student learning and overall comprehension of material. Student learning is measured through both formal and informal forms of assessment, including group projects, student portfolios, and class participation. Teaching and assessments are connected; student learning is continuously measured during teacher instruction. Commonly used teaching methods may include class participation, demonstration, recitation, memorization, or combinations of these.

'Science is not only knowledge about universe; it is also a way of obtaining knowledge.' Each teacher may find ways in which he could get the best results. Etymologically method is derived from Greek word 'Methodos' which means pursuit of knowledge. Method refers to the way of delivering

knowledge and transmitting scientific skills by a teacher to his pupils. Methods of teaching science can be classified into two types

    i.   Teacher-centered

    ii. Pupil Centered

TEACHER CENTERED METHODS

The teacher-centered method is mainly expository in type in which the focus is on telling, memorization and recalling information. The students are passive recipients of knowledge. The teaching environment is very much formalized and the teacher occupies a central position in the classroom.

LECTURE METHOD

The lecture is one of the most basic pedagogic tool which is generally followed in schools and colleges, here the teacher talks and the pupil listens. Despite the fact that this method does not cater for realizing the aims of teaching science and is not in accordance with the principles of teaching, it is the most dominating method today and is liked by majority of teachers. The lecture is an exposition of knowledge, facts, principles or other information which a teacher wishes to present to her students. In short a lecture means one person addressing many students.

Phases of a Lecture

There are three phases of a lecture. They are preparatory phase, development phase and consolidation phase

I.   Preparatory Phase (Warm up Phase)

In this phase students are to be prepared to receive the contents of a lecture. Variety of formal and informal techniques can be used to prepare the students or to arouse their level of motivation or curiosity. In the classrooms normally teacher relates the contents of the lecture to the previous knowledge of the students.

II. Development Phase

This is the most important phase of the lecture. The entire body of the lecture isdelivered in this phase only. Some activities of this phase are using analogies, giving suitable examples, proper illustration, comparison and differentiation, use of proper aids and in recent time's proper use of audio visual technology in classrooms.

III. Consolidation Phase

This is the end part of the lecture. Here the lectures pin point the important aspects of the lecture once again by summarizing. Now proper reviewing can be done to check the level of understanding by asking questions. Provide assignments, feedback and can relate the topic to the future learning content.

Skills associated with good lecture

1. Use of body language
2. Use of communication boosters
3. Varying the stimulus
4. Voice modulation
5. Use of proper language

Area of application of Lecture method

- • To introduce new and difficult topic
- • To revise the topics already covered
- • To give some background of a certain topic
- . To present the life histories of great scientist and their struggles and achievement in life
- • To explain about certain n procedures
- • To impart factual knowledge
- • To explain too deep theoretical factors

DEMONSTRATION METHOD

In demonstration method the teacher really teaches the content through proper demonstration of what all things which are important. The teacher performs experiments and goes on asking pupil to observe certain things. The students are compelled to observe and note the important things as

they have to infer some theoretical factors from their recorded observations. Question answer sessions will be the highlighted part of this program. Students are actively involved in the classroom discussions and this develops powers of observation, reasoning and drawing inferences. The method is based on the fact that, things which are seen are believable and is true and this method follows the maxim of teaching from concrete to abstract.

Criteria for Good Demonstration

- Demonstration should be planned and rehearsed well in advance
- The aim and purpose of demonstration must be clear to the teacher
- The demonstration should be arranged in such a way as everything is clearly visible to all
- Throughout the demonstration active participation from all parts should be there
- Pupil should be made familiar with each and every items used in demonstration. Apparatus should be arranged in a sequence on the table. It is better to keep apparatus to be used on the left hand side and used on the right hand side
- Demonstration should be simple and speedy
- Difficult points in the demonstration should be explained before hand
- Teacher should impress upon the students to write what they observe

Merits

- It is economical
- As the teacher alone performs the experiment
- Saves time, when number of experiments are performed in short time
- The method is psychological because the students are shown concrete facts verified practically

Demerits

- There is no scope of learning by doing or develop practical skills as teacher alone performs the experiment
- The method does not show the difference between bright and dull
- No scientific skills are inculcated and possess lack of training in scientific method
- No scope of improving practical skills as teacher alone performs the experiment

TEAM TEACHING

Team teaching involves a group of instructors working purposefully, regularly, and cooperatively to help a group of students of any age learn. Teachers together set goals for a course, design a syllabus, prepare individual lesson plans, teach students, and evaluate the results. They share insights, argue with one another, and perhaps even challenge students to decide which approach is better.Teams can be single-discipline, interdisciplinary, or school-within-a-school teams that meet with a common set of students over an extended period of time. New teachers may be paired with veteran teachers. Innovations are encouraged, and modifications in class size, location, and time are permitted.

The team-teaching approach allows for more interaction between teachers and students. Faculty evaluates students on their achievement of the learning goals; students evaluate faculty members on their teaching proficiency. Emphasis is on student and faculty growth, balancing initiative and shared responsibility, specialization and broadening horizons, the clear and interesting presentation of content and student development, democratic participation and common expectations, and cognitive, affective, and behavioral outcomes. This combination of analysis, synthesis, critical thinking, and practical applications can be done on all levels of education, from kindergarten through graduate school.

Working as a team, teachers model respect for differences, interdependence, and conflict-resolution skills. Team members together set the course goals and content, select common materials such as texts and films, and develop tests and final examinations for all students. They set the sequence of topics and supplemental materials. They also give their own interpretations of the materials and use their own teaching styles. The greater the agreement on common objectives and interests, the more likely that teaching will be interdependent and coordinated.

Teaching periods can be scheduled side by side or consecutively. For example, teachers of two similar classes may team up during the same or adjacent periods so that each teacher may focus on that phase of the course that he or she can best handle. Students can sometimes meet all together, sometimes in small groups supervised by individual teachers or teaching assistants, or they can work singly or together on projects in the library, laboratory, or fieldwork. Teachers can be at different sites, linked by video-conferencing, satellites, or the Internet.

Breaking out of the taken-for-granted single-subject, single-course, single-teacher pattern encourages other innovations and experiments. For example, students can be split along or across lines of sex, age, culture, or other interests, recombined to stimulate reflection. Remedial programs and honors sections provide other attractive opportunities to make available appropriate and effective curricula for students with special needs or interests. They can address different study skills and learning techniques. Team teaching can also offset the danger of imposing ideas, values, and mindsets on minorities or less powerful ethnic groups. Teachers of different backgrounds can culturally enrich one another and students.

Advantages

Students do not all learnat the same rate. Periods of equal length are not appropriate for all learning situations. Educators are no longer dealing primarily with top-down transmission of the tried and true by the mature and experienced teacher to the young, immature, and inexperienced pupil in the single-subject classroom. Schools are moving toward the inclusion of another whole dimension of learning: the lateral transmission to every sentient member of society of what has just been discovered, invented, created, manufactured, or marketed. For this, team members with different areas of expertise are invaluable.

Of course, team teaching is not the only answer to all problems plaguing teachers, students, and administrators. It requires planning, skilled management, willingness to risk change and even failure, humility, open-mindedness, imagination, and creativity. But the results are worth it.

Teamwork improves the quality of teaching as various experts approach the same topic from different angles: theory and practice, past and present, different genders or ethnic backgrounds. Teacher strengths are combined and weaknesses are remedied. Poor teachers can be observed,

critiqued, and improved by the other team members in a non-threatening, supportive context. The evaluation done by a team of teachers will be more insightful and balanced than the introspection and self-evaluation of an individual teacher.

Working in teams spreads responsibility, encourages creativity, deepens friendships, and builds community among teachers. Teachers complement one another. They share insights, propose new approaches, and challenge assumptions. They learn new perspectives and insights, techniques and values from watching one another. Students enter into conversations between them as they debate, disagree with premises or conclusions, raise new questions, and point out consequences. Contrasting viewpoints encourage more active class participation and independent thinking from students, especially if there is team balance for gender, race, culture, and age. Team teaching is particularly effective with older and underprepared students when it moves beyond communicating facts to tap into their life experience.

The team cuts teaching burdens and boosts morale. The presence of another teacher reduces student-teacher personality problems. In an emergency one team member can attend to the problem while the class goes on. Sharing in decision-making bolsters self-confidence. As teachers see the quality of teaching and learning improve, their self-esteem and happiness grow. This aids in recruiting and keeping faculty.

Disadvantages

Team teaching makes more demands on time and energy. Members must arrange mutually agreeable times for planning and evaluation. Discussions can be draining and group decisions take longer. Rethinking the courses to accommodate the team-teaching method is often inconvenient.

Opposition may also come from students, parents, and administrators who may resist change of any sort. Some students flourish in a highly structured environment that favors repetition. Some are confused by conflicting opinions. Too much variety may hinder habit formation.

Salaries may have to reflect the additional responsibilities undertaken by team members. Team leaders may need some form of bonus. Such costs could be met by enlarging some class sizes. Nonprofessional staff members could take over some responsibilities.

LEARNER CENTRED METHODS

Learner-centered methods are those methods are those methods where the focus of attraction is learners than teachers. It is through the involvement of learners the method develops. The recent psychological approaches in the classrooms give more importance to learner centered methods than teacher centered methods.

LABORATORY METHOD

The method provides opportunities for each student to conduct experiments at his own in science laboratories. Every student is provided with a laboratory manual containing the instructions and teacher merely guides and supervises. The laboratory becomes a place where the teacher and the taught solve their problems together.

The teacher divides the experiment in two groups. One set of experiment which needs to be carried out with delicate and costly apparatus are performed by him and other set are conducted by the students in the laboratory. Some of the important aspects considered in the laboratory method are

1. Preparation for laboratory work
2. Supervision
3. Division of experiments among pupils
4. Recording of experiments

PROJECT METHOD

Project method owes its origin to the pragmatic school of philosophy. It was propounded by W. H. Kilpatrick and was perfected by J. A. Stevenson. The method consists of building a comprehensive unit around an activity which may be carried out in the school or outside. The essence of this method is to carry out a useful task in a group in which all the students work co-operatively. Learning by doing and learning by living are the two basic principles involved and children learn through association, co-operation and activity.

Principles of the Project Method

1. The principle of freedom.

2. The principle of reality.

3. The principle of activity.

4. The principle of experience.

5. The principle of utility.

6. The principle of interest.

7. The principle of sociability

Major steps of the Project Method

1. Providing a situation

2. Choosing and purposing

3. Planning

4. Carrying out the project (executing)

5. Evaluating

6. Recording

Merits

1. The method is in accordance with psychological laws of learning

a) Law of readiness - pupil are ready to learn creating interest, purpose and life like situation.

b) Law of exercise - by practice we learn things, self-activity on the part of students create experience in later life.

c) Law of effect - child should be satisfied and feel happy in what he is learning.

2. It promotes co-operation and group interaction.

3. It gives training in a democratic way of learning and living.

4. There is no place for rote memorization.

5. Provides dignity of labour and develop respect and taste for all types of work.

6. Develops initiativeness and self activity.

7. Makes learning natural, spontaneous and interesting.

8. Provide opportunities to participate actively and meaningfully in a purposive venture.

Demerits

1. Project absorbs large amount of time and can be used a part of science work only.

2. Many aspect of curriculum will not yield to project work.

3. Larger projects in the hands of an inexperienced and unskillful teacher lead to boredom.

4. Text book written on this lines are not available.

5. The method is highly expensive aspupil has to purchase lot of item, travel and do outdoor work.

6. Mastery over the content is not achieved.

7. Teaching is not organized, regularized or systematic.

PEER TUTORING/TEACHING BY STUDENTS

Peer tutoring is a flexible, peer-mediated strategy that involves students serving as academic tutors and tutees. Typically, a higher performing student is paired with a lower performing student to review critical academic or behavioral concepts."Peer tutoring is the system of instruction in which learners help each other and learn by teaching. Tutoring schemes have been used in a variety of context, with students teaching students, students teaching school pupils, non-professional adults teaching adults and children, and pupils teaching pupils."

There are many benefits for both the peer tutor and tutee in this relationship, one aspect of this is that the tutor can establish a rapport with the tutee in a way that a teacher cannot. A peer tutor may have taken the same class recently, or have taken similar classes.Because the peer tutor is seen

by the tutee as being more at their own level, advice given by the tutor may be accepted more readily than advice from a teacher. Another key reason for this is that a peer tutor does not give any grade on the paper, whereas a teacher serving in a tutor role may still be perceived as someone who grades papers.

Peer tutors can be trained through on-the-job training, as well as through formal [workshops](). New tutors can be paired with more experienced tutors for their first few tutorials, and after the tutors are satisfied that the new tutors can operate alone they can give one-on-one tutoring. A key aspect of tutor training is the reflection on tutorials with other tutors. This reflection looks at what could have gone better as well as the tutor's progress in giving tutorials.In higher education tutorial settings, the benefits of peer tutoring programs also extend to class tutors. Using grounded theory techniques, it was found that the following five themes underlie their experiences: role exploration, sharing responsibility, regulation of the peer tutored groups, harnessing the peer tutors' role, and community.

Purpose

There are several reasons to become active in peer tutoring - reasons for both the tutor and the student. Here are a few of the most helpful aspects peer tutoring can offer:

- Peer tutoring allows both the tutor and the student to better understand information. As the tutor and student work through assignments and practice the concepts, both individuals gain a broader and deeper understanding of the material.

- The tutor learns not only how to ask useful questions, but also develops social listening skills that are a sought-after ability in the professional world.

 Goals and Objectives

The main goal of this tutorial is to introduce learners to essential peer tutoring techniques. Upon completion of this tutorial, you will be able to:

- Identify good environments for holding peer tutoring sessions.
- Identify elements necessary to build a good rapport with a student.
- Identify important elements of the role of a tutor.

- Demonstrate understanding of basic listening skills a tutor should use in any peer tutoring situation.
- Demonstrate understanding of basic questioning skills a tutor should use in any peer tutoring situation.
- Demonstrate understanding of basic feedback techniques a tutor should use in any peer tutoring situation.

INDIVIDUAL ACTIVITIES

If the student can pursue the activities individually at class room or home then it is called individual activities. This individual activitycreates interest of the students. This activity is also useful to understand the particular concept easily.

For example, why is CO_2 increasing in the atmosphere? Who is doing it? Many people think that CO_2 is "pollution," so that clean burning should be a way to eliminate greenhouse gas emissions. In this demonstration, we review basic chemistry (see illustration) to realize that producing CO_2 is an inevitable product of burning any fossil fuel.

Materials

- At least three large-size plastic foam balls colored white, representing oxygen

- At least one medium-size plastic foam ball colored red, representing carbon

- At least four small-size plastic foam balls colored blue, representing hydrogen

- Pipe cleaners

- Safety scissors

Procedure

1. Prepare plastic foam balls of various sizes and colors (see above). Use safety scissors to cut several pipe cleaners into 1 inch lengths.

Discuss: *What is in a hydrocarbon?* A hydrocarbon is made up of hydrogen and carbon. For example, one carbon molecule attached to four hydrogen molecules is methane, the simplest of the hydrocarbons.

2. Make a model of a hydrocarbon molecule by linking the appropriate hydrogen and carbon balls with short pieces of pipe cleaner.

Discuss: *How do we get energy from hydrocarbon?* A hydrocarbon produces energy when it burns, which means adding oxygen to the fuel in the presence of threshold heat.

3. Use pipe cleaners to add oxygen balls, and pull hydrogen balls off the methane. (You can say "pop" or "bang" as you do so, to symbolize the release of energy.) Add two hydrogen balls to each oxygen ball, and add two oxygen balls to each carbon ball to complete modeling these chemical reactions.

Discuss: *What are the products of the combustion of fossil fuel?* Consider that CO_2 is carbon dioxide and H_2O is water. Gently toss the model molecules in the air to emphasize what happens to them under "business as usual."

Discuss: *What do we usually see coming out of the tailpipes of cars or from smokestacks on a cool morning?* This white "smoke" is water vapor condensing. People often are surprised that combustion releases water. We cannot see the CO_2, but there is at least half as much CO_2 produced as water from most kinds of combustion.

EXPERIENTIAL METHOD

Experiential learning is a method of educating through first-hand experience. Skills, knowledge, and experience are acquired outside of the traditional academic classroom setting, and may include internships, studies abroad, field trips, field research, and service-learning projects. Experiential of learning through experience, and is more specifically defined as "learning through reflection on doing". Hands-on learning is a form of experiential learning but does not necessarily involve students reflecting on their product. Experiential learning is distinct from rote or didactic learning, in which the learner plays a comparatively passive role. It is related to but not synonymous with other forms of active learning such as action learning, adventure learning, free choice learning, cooperative learning, and service-learning.

Experiential learning is often used synonymously with the term learning is the process

"experiential education", but while experiential education is a broader philosophy of education, experiential learning considers the individual learning process. As such, compared to experiential education, experiential learning is concerned with more concrete issues related to the learner and the learning context.Experiential learning has significant teaching advantages. Peter Senge, author of The Fifth Discipline (1990), states that teaching is of utmost importance to motivate people. Learning only has good effects when learners have the desire to absorb the knowledge. Therefore, experiential learning requires the showing of directions for learners.

TEACHER GUIDED LEARNING

Guided Learning is a way of interacting with others that is based on individual and group reflection, self-direction, and the fundamental belief that good leadership requires the ability to first is a good community participant. With the inquiry method of instruction, students arrive at an understanding of concepts by themselves and the responsibility for learning rests with them. This method encourages students to build research skills that can be used throughout their educational experiences. Inquiry Based Learning is one approach to help student sunderstand course foundations through a discovery process that supports continuous learning. It also provides a path to a deeper understanding of key concepts and their application. The sites below will help you with ideas to implement inquiry-guided learning in your classes.

Objective of Guided Learning Approach

The guided self-learning approach is set out to help staff from different organizations to better support the delivery of sustainable water supply, sanitation and landscape services. It aims at building on and expanding their capacity in a very practical way of learning in teams in their place of work.

Methodology

The Guided Learning Approach has several impacts on capacity building due to its practical methodological approach:

- Local staffs have a more interactive role in the local community, because the aim is to help them become more systematic with assessments and action plans;

- Doing this training at a community level, an immediate rate of return of the assessments and action plans can be obtained, because one can communicate with the community and ask what can be done without having to wait for government actions;

- Many Water and Sanitation, and Landscape activities can be organized and actively done directly with the community, which creates effective development.

Through Guided Learning Approach training, communities will be capable to carry out many activities and directly solve problems without external support in terms of finance and materials. For example, a community can improve the drainage of a water point – any community can do that, or better cleaning of school latrines for which external support is not required. Communities mainly need to understand the means to and opportunity of solving problems. From this perspective, Guided Learning Approach helps a community to find external support, but most importantly it also encourages local action.

PROBLEM SOLVING METHOD

The method is defined as a planned attack upon a difficulty for the purpose of finding a solution. It is also defined as the process of raising a problem in the minds of the pupils in such a way as to stimulate purposeful reflective thinking for arriving at a rational solution. In this method the person uses his ability to analyze a problem which confronts him in order to arrive at a solution.

Steps in problem solving method

1. Sensing the problem

2. Interpreting, defining and delimiting the problem

3. Collecting relevant data

4. Organizing and evaluating the data

5. Formulating tentative solution

6. Drawing conclusion and making generalization

7. Application of generalization to new situation

SMALL GROUP/ WHOLE CLASS INTERACTIVE LEARNING

Small group teaching has become more popular as a means of encouraging student learning. While beneficial the tutor needs a different set of skills for those used in lecturing, and more pertinently, small group work is an often luxury many lecturers cannot afford. A further consideration with small group teaching is the subjective perspective of what constitutes a small group. A lecturer used to taking 400 in a lecture would define 50 as a small group, while a lecturer used to a group of 50 would define 5-10 as a small group. In a discussion, where participation is assessed some students may not speak up in a group that begins to be get bigger than 10 participants and in addition tutors would find it hard to assess participation bv individual students in groups with numbers greater than this.

Regardless of the group size the learning environment should provide an opportunity for students to obtain a deer understanding of the material. Biggs (1989) notes that in order to gain a deeper learning the following four components are important:

Motivational Context: Intrinsic motivation, student need to see both learning goals and learning process as relevant to them, to feel some ownership of co and subject.

Learner Activity: Students need to be active not pass' deep learning is associated with doing rather t' passively receiving.

Interaction with Others: Discussion with peers requires students to explain their thinking, this, in turn, improve their thinking.

Well Structured Knowledge Base: The starting p for new learning should be existing knowledge experience. Learning programmes should have clearly displayed structure and should relate to the knowledge and not presented in isolation.

STUDENT SEMINAR

A seminar is a form of academic instruction, either at an academic institution or offered by a commercial or professional organization. It has the function of bringing together small groups for recurring meetings, focusing each time on some particular subject, in which everyone present is requested to actively participate. This is often accomplished through an ongoing Socratic dialogue with a seminar leader or instructor, or through a more formal presentation of research. It is essentially a place where assigned readings are discussed, questions can be raised and debates can

be conducted. Student seminars are the open presentations done by the students before their peers and teachers. The word seminar is derived from the Latin word 'seminarium', meaning "seed plot".

Guidelines for seminar preparation

Choose a good topic

Choose a topic which will sustain your interest and will allow you to exhibit enthusiasm during your presentation.

Keep your audience in mind

The primary objective in giving a talk should be to communicate an interesting idea to students who attend the seminar.

Tell a story/anecdote

Begin with solid motivation for your problem and plenty of illuminating examples.

Keep timing in mind

Choose a topic that you can motivate and explicate comfortably in this window of time.

GROUP DISCUSSION

Managing Group Learning in Classroom

Classroom management is the most vital skill that the teacher should demonstrate. The factors of classroom management depend on the teacher s knowledge of structuring his presentation, knowledge about the psychology of the learner, rapport between the students, rule making capacity etc. The efficiency for managing the group learning techniques depends on teacher's efficiency in handling human resources. The teacher should not be a dictator for the execution of the task but he should be dictator of ideas. He should plan the activities in such a way that effective utilization and involvement pupil participation should be maintained. To be an effective classroom manager teacher must learn to exercise, the least amount of power necessary to accomplish the desired result.

Tips for Managing group learning

Teachers can use some techniques for producing better efficiency in group learning techniques

1. Change group composition frequently so that students of different backgrounds, academic achievement levels, and social skills learn to work together. This capacity is build to familiarity, insights, and trust.

2. Organize the work so that each team member contributes to the achievement of the team goals.

3. Use teacher observations, tests, checklists, and individual assignments to measure each student's achievement.

4. Promote group responsibility by holding groups accountable for completing specific tasks or project steps during work sessions.

5. Teach, model, and assess the social skills you expect teams to demonstrate: Listening, taking turns, encouraging, and supporting each other, staying on task, cleaning up the work area, etc.

6. Pick the right sized task. It must be challenging enough to keep students interested, but easy enough for students to achieve success (with effort) in the time allotted.

7. Include a very specific assignment or menu of options for teams to work on. "Every meeting results in a product" - a list to create, a diagram to draw, an outline to display, a form to fill out.

8. Anticipate that not every group will finish at the same time. Have a classroom poster or handout with a list of "what to do if you finish early" items on it.

9. Teach teams how to assess how well they work together. Encourage "team reflection" as part of every activity.

Small Group discussions

Active learning can be implemented by organizing the class into small groups of students who can work together, foster their own learning strategy and create an atmosphere in which information sharing can takes place. Instructional techniques involving group controlled learning experiences provide room for the learners self development and active participation in the teaching learning process. A

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discussion is a teaching technique that involves exchange of ideas with active learning and participation by all concerned. Discussion is an active process of teacher-pupil involvement in the classroom environment. This allows a student present its own perspective about something freely.Four basic concepts are to be considered for initiating small group discussions are

Process - the interactions that takes place within the group

Roles - each group members' specific responsibilities within the group

Leadership - the capacity to guide and direct others in a group setting

Cohesion- group members support for one another

Different Types of Small Group Discussions

- Brain Storming
- Tutorials
- Buzz session
- Task- directed discussion
- Role playing
- Simulation
- Inquiry centered discussion

MIXED ABILITY GROUPING

"Mixed ability grouping, refers to grouping together students of different abilities. Usually this kind of grouping occurs when the group consists of students with different ages with one or two years span. The term "mixed aged grouping" or "heterogeneous grouping". But there is distinction between mixed age groupings and mixed ability grouping, the second one is done only based on the ability, since the basic criterion for grouping is ability and not necessarily age. In mixed ability groups there are some students that are more mature and experienced than other ones and thus they have more advanced ability to acquire knowledge. The main aim of setting up mixed ability groups is not to produce homogeneity of ability in a group as this is the case in ability grouping, but to increase interaction across students with different abilities. In other words the purpose of mixed ability grouping is for children to benefit by their intellectual and social interaction with other students of their group that have different social behavior and ability to learn. The former reveals the

main difference of mixed ability grouping with ability grouping. While grouping children with same ability the goal is to achieve homogeneity of the group and homogenize instruction for students of the group on basis different of grades or ages but based on ability. Age may not be an exclusive criterion for indicating different levels of ability of children but it is the first factor that you take into account when you set up mixed ability groups. Putting together students with one or two grades difference you can make a mixed ability group. It is believed that this interaction and cooperation of children with different intellectual level and social behavior, experience and skills can have worth mentioning educational benefits. Research is much more favorable for mixed ability grouping than ability grouping and stress on certain important skills that acquired or improved in mixed ability groups.

Mixed ability grouping is believed to be a valuable tool for the multi grade teacher. It can provide solutions for the multi grade teacher and safeguard good levels of quality in multi grade education. Moreover if the techniques like "peer - tutoring" or the "activity centers approach" along with utilization of ICT in multi grade classrooms are combined together with grouping techniques the results can be even more remarkable.

RECENT TRENDS

CONSTRUCTIVIST LEARNING

Constructivism is a learning theory that has its foundation in philosophy and anthropology as well as psychology. The constructivist approach to education attempts to shift education from a teacher-dominated focus to a student-centered one. The role of the teacher focuses on assisting students in developing new insights. Students are taught to assimilate experience, knowledge and insights with what they already know and from this they need to construct new meanings. Constructivist learning is based on students' active participation in problem solving and critical thinking regarding a learning activity which they find relevant and engaging. They are "constructing" their own knowledge by testing ideas and approaches based on their prior knowledge and experience, applying these to new situations and integrating the new knowledge gained with pre-existing intellectual constructs.

In the constructivist theory the emphasis is placed on the learner or the student rather than the teacher of the instructor. It is the learner who interacts with objects and events and thereby gains an understanding of the features held by such objects or events. The learner constructs her own

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conceptualizations and solutions to problems. Learner autonomy and initiative is accepted and encouraged. Exploring or experiencing the physical surroundings, experiential education is a key method of constructivism. To the constructivists, the act of teaching is the process of helping learners creates knowledge. In constructivist thinking learning is also affected by the context, beliefs and attitude of the learner.

There are many different schools of thought within this theory, all of which fall within the same basic assumption about learning. The main two are: Cognitive constructivism and Social constructivism.

Cognitive constructivism

Cognitive constructivism is generally attributed to Jean Piaget, who articulated mechanisms by which knowledge is internalized by learners. The process of accumulating the knowledge are through accommodation and assimilation, individuals construct new knowledge from their experiences. When individuals assimilate, they incorporate the new experience into an already existing framework without changing that framework. This may occur when individuals' experiences are aligned with their internal representations of the world, but may also occur as a failure to change a faulty understanding. In contrast, when individual's experiences contradict their internal representations, they may change their perceptions of the experiences to fit their internal representations. According to the theory, accommodation is the process of reframing one's mental representation of the external world to fit newexperiences. Accommodation can be understood as the mechanism by which failure leads to learning: when we act on the expectation that the world operates in one way and it violates our expectations, we often fail, but by accommodating this new experience and reframing our model of the way the world works, we learn from the experience of failure, or other s failure.

It is important to note that constructivism is not a particular pedagogy. In fact, constructivism is a theory describing how learning happens, regardless of whether learners are using their experiences to understand a lecture or following the instructions for building a model airplane. In both cases, the theory of constructivism suggests that learners construct knowledge out

of their experiences. However, constructivism is often associated with pedagogic approaches that promote active learning, or learning by doing. Today constructivist teaching is based on recent research about the human brain.

Social constructivism

Social constructivism maintains that human development is socially situated and knowledge is constructed through interaction with others. It is a sociological theory of knowledge that applies the general philosophical constructivism into the social. Assumptions of Social constructivism is based on specific assumptions about reality, knowledge and learning. To understand and apply models of instruction that are rooted in the perspectives of social constructivists, it is important to know the premises that underlie them. The most important assumptions of the theory of social constructivism is

(a) The assumption that human beings rationalize their experience by creating a model of the social world and the way that it functions.

(b) The belief in language as the most essential system through which humans construct reality.

Cognitive growth occurs first on a social level, and then it can occur within the individual. To make sense of others and construct knowledge on such a social level allow learners to relate themselves to circumstances. It also states that the roots of individual 's knowledge are found in their interactions with their surroundings and other people before their knowledge is internalized. Culture and context in understanding what occurs in society and knowledge construction based on this understanding are emphasized in social constructivism.

Reality: Social constructivists believe that reality is constructed through human activity. Members of a society together invent the properties of the world. For the social constructivist, reality cannot be discovered: it does not exist prior to its social invention. Knowledge: To social constructivists, knowledge is also a human product, and is socially and culturally constructed. Individuals create meaning through their interactions with each other and with the environment they live in.

Learning: Social constructivists view learning as a social process. It does not take place only within an individual, nor is it a passive development ofbehaviors that are shaped by external forces.

Meaningful learning occurs when individuals are engaged in social activities.

PROBLEM BASED LEARNING (PBL)

Problem-based learning (PBL) is a student-centered pedagogy in which students learn about a subject through the experience of solving an open-ended problem. Students learn both thinking strategies and domain knowledge. Problem-based learning (PBL) is an approach that challenges students to learn through engagement in a real problem. It is a format that simultaneously develops both problem solving strategies and disciplinary knowledge bases and skills by placing students in the active role of problem-solvers confronted with an ill-structured situation that simulates the kind of problems they are likely to face as future managers in complex organizations. Problem-based learning makes a fundamental shift from a focus on teaching to a focus on learning. The process is aimed at using the power of authentic problem solving to engage students and enhance their learning and motivation.

Problem-based learning begins with the introduction of an ill-structured problem on which all learning is centered. Most of the learning occurs in small groups rather than in lectures. Teacher's role is more like that of a facilitator and coach of student learning, acting at times as a resource person, rather than as knowledge-holder and disseminator. Similarly, your role, as a student, is more active, as you are engaged as a problem-solver, decision-maker, and meaning-maker, rather than being merely a passive listener and note-taker.

Characteristics of Problem-Based Learning (PBL)

Problem-Based Learning (PBL) is a pedagogical approach and curriculum design methodology often used in higher education and K-12 settings

The following are some of the defining characteristics of PBL:

- Learning is driven by challenging, open-ended problems with no one "right" answer

- Problems/cases are context specific

- Students work as self-directed, active investigators and problem-solvers in small collaborative groups (typically of about five students)

- A key problem is identified and a solution is agreed upon and implemented

- Teachers adopt the role as facilitators of learning, guiding the learning process and promoting an environment of inquiry

Rather than having a teacher provide facts and then testing student's ability to recall these facts via memorization, PBL attempts to get students to apply knowledge to new situations. Students are faced with contextualized, ill-structured problems and are asked to investigate and discover meaningful solutions. Proponents of PBL believe that, as a strategy, it:

- develops critical thinking and creative skills

- improves problem-solving skills

- increases motivation

- helps students learn to transfer knowledge to new situations

BRAIN BASED LEARNING (BBL)

Brain-based learning refers to teaching methods, lesson designs, and school programs that are based on the latest scientific research about how the brain learns, including such factors as cognitive development—how students learn differently as they age, grow, and mature socially, emotionally, and cognitively. It is totally based on the structure and function of the brain. As long as the brain is not prohibited from fulfilling its normal processes, learning will occur. Brain-based learning is motivated by the general belief that learning can be accelerated and improved if educators base how and what they teach on the science of learning, rather than on past educational practices, established conventions, or assumptions about the learning process. For example, it was commonly believed that intelligence is a fixed characteristic that remains largely unchanged throughout a persons' life. However, recent discoveries in cognitive science have revealed that the human brain physically changes when it learns, and that after practicing certain skills it becomes increasingly easier to continue learning and improving those skills.

Impacts of Brain Based Learning in Science Education

All curricular innovations that use research findings from cognitive science can better be utilized in science education than any other.

Curriculum: Teachers must design learning around student interests and make learning contextual.

Instruction: Educators let students learn in teams and use peripheral learning. Teachers structure learning around real problems, encouraging students to also learn in settings outside the classroom and the school building.

Assessment: Since all students are learning, their assessment should allow them to understand their own learning styles and preferences. This way, students monitor and enhance their own learning process.

COLLABORATIVE LEARNING

Effective communication and Collaboration are essential for becoming a successful learner. It is primarily through dialogue and examining different perspectives that students become knowledgeable, strategic and self determined and empathetic. Moreover, involving students in real world tasks and linking new information to prior knowledge requires effective communication and collaboration among teachers, students and others. Indeed it is through dialogue and interaction that curriculum objectives come alive. Collaborative learningaffords students enormous advantages which is not available in traditional instruction.

"Collaborative learning" is an umbrella term for a variety of educational approaches involving joint intellectual effort by students, or students and teachers together. Usually, students are working in groups of two or more, mutually searching for understanding, solutions, or meanings, or creating a product. Collaborative learning activities vary widely, but most center on students' exploration or application of the course material, not simply the teachers presentation or explication of it.

Collaborative learning represents a significant shift away from the typical teacher centered or lecture-centered milieu in college classrooms. In collaborative classrooms, the lecturing/listening/note-taking process may not disappear entirely, but it lives alongside other processes that are based in students' discussion and active work with the course material. Teachers who use collaborative learning approaches tend to think of themselves less as expert transmitters of knowledge to students, and more as expert designers of intellectual experiences for students-as coaches or mid-wives of a more emergent learning process.

Collaborative learning puts students together to work in heterogeneous groups. All perspectives of all learners are utilized for enriching learning; all are seen as equal contributors, collaborating to

achieve a mutual goal. Collaborative consultation encourages shared responsibility in planning and decision making. The focus on the collective knowledge and thinking of the group changes the roles of students and teachers and the way they interact in the classroom.

Essential features of Collaborative Learning

1. A group learning task is designed based on shared learning goals and outcomes

2. Students work in teams to master academic materials

3. Reward systems are group oriented than individual oriented

4. Co-operative behaviour involves trust building activities, joint planning and understanding of team support.

5. Students involvement in learning activities are more

6. Encourages students to acquire an active voice in shaping their ideas

Advantages of Collaborative Learning

1. Promotes social and intellectual involvement

2. Cultivation of teamwork, community building, and leadership skills

3. Enhanced student satisfaction and promoting positive attitudes

4. Open expression of ideas in groups

5. Patience in hearing others

6. Team building

7. Shared responsibility

FLIPPED LEARNING

Flipped Learning is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter.

The flipped classroom is a pedagogical model in which the typical lecture and homework

elements of a course are reversed. Short video lectures are viewed by students at home before the class session, while in-class time is devoted to exercises, projects, or discussions. The flipped classroom describes a reversal of traditional teaching where students gain first exposure to new material outside of class, usually via reading or lecture videos, and then class time is used to do the harder work of assimilating that knowledge through strategies such as problem solving

Four Pillars in Flipped Learning

1. Flexible Environment

Flipped Learning allows for a variety of learning modes; educators often physically rearrange their learning spaces to accommodate a lesson or unit, to support either group work or independent study. They create flexible spaces in which students choose when and where they learn. Furthermore, educators who flip their classes are flexible in their expectations of student timelines for learning and in their assessments of student learning.

2. Learning Culture

In the traditional teacher-centered model, the teacher is the primary source of information. By contrast, the Flipped Learning model deliberately shifts instruction to a learner-centered approach, where in-class time is dedicated to exploring topics in greater depth and creating rich learning opportunities. As a result, students are actively involved in knowledge construction as they participate in and evaluate their learning in a manner that is personally meaningful.

3. Intentional Content

Flipped Learning Educators continually think about how they can use the Flipped Learning model to help students develop conceptual understanding, as well as procedural fluency. They determine what they need to teach and what materials students should explore on their own. Educators use Intentional Content to maximize classroom time in order to adopt methods of student-centered, active learning strategies, depending on grade level and subject matter.

4. Professional Educator

The role of a Professional Educator is even more important, and often more demanding, in a Flipped Classroom than in a traditional one. During class time, they continually observe their students, providing them with feedback relevant in the moment, and assessing their work. Professional Educators are reflective in their practice, connect with each other to improve their instruction, accept constructive criticism, and tolerate controlled chaos in their classrooms. While Professional Educators take on less visibly prominent roles in a flipped classroom, they remain the essential ingredient that enables Flipped Learning to occur.

BLENDED LEARNING

Blended learning is a planned combination of online learning and face-to-face instruction using variety of learning resources. It is a flexible learning strategy that integrates innovative and technological advances of online learning with interaction and participation of traditional face-to-face classroom learning. Blended learning as a way of meeting the challenges of tailoring learning and development to the needs of individuals by integrating the innovative and technological advances offered in the best of traditional learning.

Blended learning strategies vary according to the discipline, the year level, student characteristics and learning outcomes, and have a student-centered approach to the learning design. Blended learning can promote learner s access and flexibility, increase the level of active learning, and achieve better student experiences and outcomes. For teachers, blended learning can improve teaching and class management practices. A blend might include:

- Face-to-face and online learning activities and formats

- Traditional classes with different modalities, such as regular, weekend, evening, part time, semester

- Use of technology interfaces like social media, wikis and various web sources

- Group work, Simulation, debate, Online Assignments, Practicals etc.

- Both usual classroom human factors and digital learning resources of the web

- Psychological concerns are addressed in the face to face interaction and technological

concerns are addressed in the online learning

So incorporating all these aspects in the learning environment, "Blended learning should be viewed as a pedagogical approach that combines the effectiveness and socialization opportunities of the classroom with the technologically enhanced active learning possibilities of the online environment, rather than a ratio of delivery modalities. In other words, blended learning should be approached not merely as a temporal construct, but rather as a fundamental redesign of the instructional model with the following characteristics:

- **A** shift from lecture- to student-centered instruction in which students become active and interactive learners (this shift should apply to the entire course, including face-to-face contact sessions)

- Increases in interaction between student-instructor, student-student, student-content, and student-outside resources

- Integrated formative and summative assessment mechanisms for students and instructor.

Components of Blended Learning

There are five components of blended learning. They are:

1. Live events

2. Self-paced learning

3. Collaboration

4. Assessment

5. Performance support

1. Live events

Synchronous, teacher initiated learning environment in which all learners participate at die same time. Teacher may use lecture, demonstration, discussion or computer-based instruction to all the students in live. For many learners, nothing can replace the ability to tap the expertise of a live teacher. It can be in real classroom or can be in virtual learning environment.

2.Self-paced learning

Learning experiences that the learner completes individually at his own pace and on his time such as recorded live events, Internet-based or CD-ROM-based: it implies on demand learning at a pace is managed or controlled by the learner.

3.Collaboration

It implies a more dynamic communication and interaction among many learners that brings about knowledge sharing. Collaborative learning has more advantages which are not available from traditional instruction because a group can accomplish meaningful learning and solve problems better than any individual. It can be extended from discussion in the live classroom to synchronous communications in chat room or in open discussion forums and asynchronous communication by e-mail and threaded discussion.

4.Assessment

It is both live and online measure of learners knowledge to determine prior knowledge as well as to measure learning transfer.

5. **Performance support**

These are the reference materials that enhance learning, retention and transfer. It may be printable references, downloaded multimedia learning objects, documentation etc.

BLENDED LEARNING DESIGN

Planning	Designing & Developing
Implementing	Reviewing
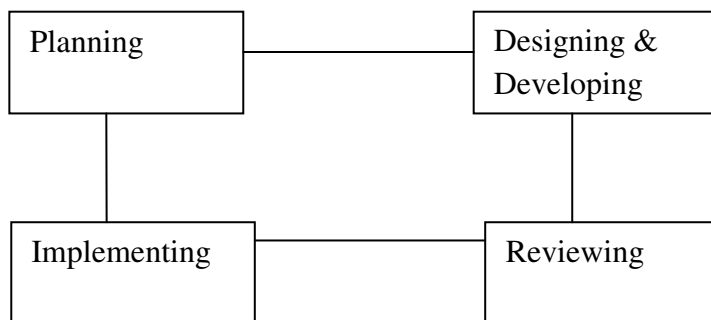
Planning

Planning is an important process in the Blended learning design. In this step all the stages and design of Blended learning is planned for a course. The person or the group entrusted for this should be aware about the course objectives, course content and mode of delivery of the material, how the assessments can be made and what should be the expected outcome.

Designing & Developing

Designing is an important and largest step which will trace out the path followed in the procedure of this course. This gives a proper array of elements included in this course and how these elements are arranged in different modalities to reach the expected goal. Developing is a process by whicheach and every element is structured to give a small reasonable result. Developing also gives how the content is developed into a blended learning unit. Proper synchronization of the digital and face to face interaction contributes to the quality of the developed material. The phase designing and developing are treated together without separating one from the other. Some of the sequence involved in designing and developing are

- Formulating Course learning, teaching and learning activities, and assessment tasks need to correspond with each other. That means (1) course resources apd learning and teaching activities need to directly support students achievement of the stated learning objectives, and (2) assessment tasks need to be congruent with the activities and the objectives, and they need to allow students to demonstrate those learning objectives. This is called "constructive alignment" .

- Authentic assessment tasks as much as possible relevant, real-world activities so that students can demonstrate their competency in a more 'true-to-life' setting.

- Teaching and learning activities need to be clearly linked in time and content

- Establish a clear sequence for engagement in content, activities and assessment tasks

The workload for a blended learning course should not exceed that of a course in Traditional mode

Implementing

Implementing is the direct application of the developed material in the blended learning environment according to the design already formulated. It is the actual step we face difficulties and setbacks. The

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quality of the course content, the proper digital media empowered and the knowledge in handling technological devices can have direct impact in this step.

Reviewing

Reviewing is the final step in the Blended learning design. Here the entire course is evaluated based on student's feedbacks and teacher appraisal. The review helps in reorganizing the course, overcoming the limitations in the previous trial.

Blended learning is a learning strategy which works only with the proper support from web technologies so constant review to encourage this mechanism will support this process or increase the accessibility of the masses towards this endevour.

E-learning

E-learning (or e Learning) is the use of electronic media and information and communication technologies (ICT) in education. E-learning is broadly inclusive of all forms of educational technology in learning and teaching. E-learning is inclusive of, and is broadly synonymous with multimedia learning, technology-enhanced learning (TEL), computer-based instruction (CBI), computer-based training (CBT), computer-assisted instruction or computer-aided instruction (CAI), internet-based training (IBT), web-based training (WBT), online education, virtual education, virtual learning environments (VLE) (which are also called learning platforms), m-learning, and digital educational collaboration. These alternative names emphasize a particular aspect, component or delivery method.

E-learning can occur in or out of the classroom. It can be self-paced, asynchronous learning or may be instructor-led, synchronous learning. E-leaming is suited to distance learning and flexible learning, but it can also be used in conjunction with face-to-face teaching, in which case the term blended learning is commonly used.

Synchronous and asynchronous

E-learning may either be synchronous or asynchronous. Synchronous learning occurs in real-time, with all participants interacting at the same time, while asynchronous learning is self-paced and allows participants to engage in the exchange of ideas or information without the dependency of other participants involvement at the same time.

Bernard Luskin, a pioneer of e-learning, advocates that the "e" should be interpreted to mean "exciting, energetic, enthusiastic, emotional, extended, excellent, and educational" in addition to "electronic." This broad interpretation focuses on new applications and developments, and also brings learning and media psychology into consideration.

Synchronous learning involves the exchange of ideas and information with one or more participants during the same period of time. A face-to-face discussion is an example of synchronous communications. In e-learning environments, examples of synchronous communications include online real-time live teacher instruction and feedback, Skype conversations, or chat rooms or virtual classrooms where everyone is online and working collaboratively at the same time.

Asynchronous learning may use technologies such as email, blogs, wikis, and discussion boards, as well as web-supported textbooks, hypertext documents, audio video courses, and social networking. At the professional educational level, training may include virtual operating rooms. Asynchronous learning is particularly beneficial for students who have health problems or have child care responsibilities and regularly leaving the home to attend lectures is difficult. They have the opportunity to complete their work in a low stress environment and within a more flexible timeframe. In asynchronous online courses, students proceed at their own pace. Both the asynchronous and synchronous methods rely heavily on self-motivation, self-discipline, and the ability to communicate in writing effectively.

There are three methods of e-learning process like live broadcasting, Video on Demand (VOD) and interactive communications.

E-LEARNING TRENDS

1. Automation

Education experts predict that automation will finally become a crucial aspect of both content creation and processing. It's most likely that content providers will use an increasing number of automated solutions to create new courses and learning materials, saving the time and money involved in conventional processes. Coursework elements, such as tests, quizzes and exercises will all be generated by tools able to efficiently scan the course content and recognize its most important aspects that should be tested. Courses will undergo the process of optimization to match the

preferences and requirements of every single user. Their skills and knowledge level will be assessed by automated tools that will in turn offer algorithmic solutions used in creating course content.

2.   Augmented Learning

This is another area under intense development. Augmented reality devices ranging from Apple Watch to Google Glass will become a common element of our everyday realities. When it comes to learning, augmented learning offers a great value in adapting environments to the learner. This is a solution for which the market is predicted to grow very fast, reaching a smashing number of 200 million users in just 3 years! 2015 will definitely pave the way to an increased use of augmented reality in eLearning, culminating in its widespread use infuture. In eLearning, learners will be able to access augmented environments by means of QR codes or mobile technologies like Apple Watch or Google Glass. This kind of learning will primarily engage learners with action-based functionalities in real life conducted by means of GPS tracking, as well as with courses developed by Oculus Rift.

3.   Big Data

Big data is big everywhere - including eLearning. It's clear that every year we'll have more and more data to process, and learning centers will use tools made especially for big data analytics to make sense of the user-generated information. Only those tools will be able to analyze a heap of data produced during one semester and deliver meaningful and valuable conclusions about user performance or course content optimization. Big data analytics will help learning providers to better understand the learning process itself - by tracking learner and group patters and performing a thorough feedback analysis, they'll be able to offer full course personalization and compile a comprehensive report for learning.

4.   Going For Cloud Computing

The use of cloud is on the rise - in every sector, including eLearning. Enterprises are willing to embrace the functionality, comfort and security of the cloud - even though many people still think that it's not a good idea to keep data on public servers, those attitudes are slowly weaning. E-Learning users will benefit from established cloud technologies assisting their learning process in many different ways.

5.   Gamification

Gamification is today a major trend that most of us are still waiting to explode - especially on the e-learning scene. Experts agree that applying game dynamics onto non-gaming contexts brings really great results - most importantly, in motivating people to achieve their goals. This feature can be easily applied to learning and eLearning environments. Gamification offers a potential strategy for improving user engagement with learning materials - some experts claim that the technique can boost learner's motivation to a smashing 90% recall rate. It's quite simple. Once learners assume an active role in knowledge reception, they will automatically improve their chances at remembering it.

6.   M-Learning

The general rise of mobile technologies all over the world provided a trend towards M-learning environment. Together with the increased use of mobile devices will emerge an interest in m-Learning. Some industry experts expect mobile learning to dominate the e-learning market someday, even if this prediction sounds a little extreme, you should consider the fact that mobile is actually expected to dominate many other areas too.

7.   Personalization

All those trends point to this key insight - the growth of personalization on all levels of eLearning. Once we'll be able to analyze big chunks of data, we'll see e-learning becoming more personalized than ever and addressing the needs, preferences and requirements of individuals rather than groups. All aspects of learning ranging from pedagogy and learning environments to learning tools and course curricula will be tailored to motivate, engage and inspire learners to achieve better results in a shorter time frame. In future the technologies will be concentrating more about developing a personalized approach to learning by adjusting the pace of instruction, leveraging student interests, letting learners to choose their own leaning path and adjusting content presentation by choosing text, images or videos, instructors will be able to deliver their coursework in more efficient ways.

VIDEO CONFERENCING

Video conferencing is two-way interactive communication delivered using telephone or Internet technologies that allows people at different location to come together for a meeting. The video

conference can be as simple as a conversation between two people in private offices (point-to-point) or involve several sites (multi-point) with more than one person in large rooms at different sites. A basic video conference setup has a camera and a microphone. Video from the camera and audio from the microphone is converted into a digital format and transmitted to a receiving location using a coding and decoding device, often referred to as a "codec". At that receiving location is another codec device that decodes the receiving digital stream into a form that can be seen and heard on monitors or televisions. At the same time, video and audio from cameras and microphones at the received location is sent back to the original location.

Benefits of Video Conferencing

Video conferencing saves travel time and money. Participants can see and hear all other participants and communicate both verbally and visually, creating a face-to-face experience. PowerPoint and other on screen graphic, as well as other cameras are also available presentation options. People downtime is reduced and productivity gains are achieved by removing the logistics of flight preparations, airport delays, hotel stays, and all the other inconveniences of business travel. In distance education, video conferencing provides quality access to students who could not travel to or could afford to relocate to a traditional campus. Video conferences can also be recorded and made available in a variety of ways, e.g., DVDs, streaming video. Besides distance education, other applications include meetings, dissertation and thesis defenses, tele-medical procedures, and online conferences.

Some Terms in Video Conferencing

1.   Video Conferencing Bridge

   A video conferencing bridge (also called a Multipoint Control Unit or MCU) is a hardware system that is able to connect multiple videoconferencing systems together into a single conference. A video conferencing bridge receives digital video and audio signals from codecs in a designated conference, processes and resends digital video and audio signals back to all the codecs. Multiple conferences involving many locations can be conducted simultaneously. Many bridges can provide advanced features such as continuous presence, people plus content or dual streams, transcoding, and translating.

2.   Continuous Presence

   Continuous Presence is a feature available during video conferences that allows all participants

to be visible on the screen at the same time. For instance, if there are 12 participants in the video conference, the screen everyone sees will have 12 windows (which can be of various client defined sizes) with each participant in their own window.

3.   People Plus Content

"People plus content" is a standard that allows a video conferencing system to process high resolution VGA graphics along with the standard video signal. This means video conferencing system in the conference sends and receives two video streams - video and VGA graphics. Example: In a classroom equipped with two monitors, the students couldsee both the instructor and the presentation on the two different displays.

4.   Transrating& Transcoding

Transrating is a function available on the video conferencing bridge that allows conferences among site and locations with different bandwidths. For instance, transrating allows virtual classrooms with Internet 2 connections participating at 2 Mbps while other locations with limited bandwidth can participate at a lower 384 Kbps rate.

Transcoding is an option available on video conferencing bridges that allows conferences to be established with participants using different video conferencing formats. For example, systems and locations using ISDN can seamlessly communicate with other locations using IP or Internet connections.

5.   Firewall

A firewall protects your network from unwanted Internet traffic. A firewall can be an appliance installed on the network or software running on your computer. When installed, a firewall exists between your computer(s) and the Internet,

ie., a virtual wall. The firewall lets you request web pages, download files, chat, etc. while making sure other people on the Internet cannot access services on your computer like file or print sharing.

If a videoconferencing system (any type) is behind a firewall, it cannot receive communications from gatekeeper, so it cannot complete a registration or use gatekeeper services. (The gatekeeper is

not a means of bypassing the restrictions of a firewall.) A videoconferencing system behind a firewall must initiate a videoconference using the IP address of the remote video conferencing system since it cannot make use of the gatekeeper's services. Firewalls make it difficult to use Videoconferencing Bridge for multipoint videoconferencing.

There are four components in Latest Video Conferencing Technology

1. Terminal/Endpoint/Conferencing System/Codec: A basic video conference system has a camera and a microphone. Video from the camera and audio from the microphone is converted into a digital format and transmitted to a receiving location using a coding and decoding device, often referred to as a "codec".

2. Multipoint Control Unit (MCUs): Supports conferences between three or more endpoints

3. Gateway: An optional element, gateways provide translation functions between conferencing codecs and other conferencing terminals.

4. Gatekeeper: Performs two call control functions - address translation from aliases to IP addresses and bandwidth management. The collection of all terminals, gateways, and MCUs are managed by a single gatekeeper is called an H.323 Zone.

Questions for Discussion and Reflection:

1. Describe Lecture Method.
2. Explain the Problem solving Method of teaching physical science.
3. Examine the Problem based learning.
4. Discuss about Flipped learning.

UNIT V: RESOURCES FOR TEACHING PHYSICAL SCIENCE

Objectives:

After the completion of the unit, the learners will be able to:

1. Understand about print resources

2. Explain about the uses of radio talk.

3. Identify the usage of interactive whiteboard.

4. Discuss about the qualities of science book.

5. Use community resources in teaching Physical Science.

INTRODUCTION

There are various forms of print, audio, visual, ICT and community resources that we can use in the science classrooms. Some of them are newspapers, science journals, magazines and science encyclopedias. In the present technological age, the full potential of resource materials needs to be explored by the teachers and learners of science. Printed materials are essential part of science curricula play a vital role in teaching and learning, at the same time over –dependence upon the text book for instance, limits the advantages of other materials in teaching and learning.

Nowadays there is wide variety of learning materials in science and these include the traditional text books, work books, supplementary readers etc. and the highly sophisticated online learning materials, digital libraries and other software solutions in science learning. It is of utmost importance for a teacher to communicate effectively with her students. ICT has entered into schools and has started influencing teacher-learner interaction. The teacher of twenty-first century must be proficient enough in using ICT for his/her teaching-learning in the classroom.

NEWSPAPERS

Newspapers are the cheapest medium of furnishing information to the general public. It can also furnish health messages in local languages which can reach to the public easily. The information will be available in low cost, easy to read and understand and simple language. The people may learn to read and interpret the contents along with pictures to enhance easy grasping.

ADVANTAGES

Best method to reach a large group

Pictures will help in easy understanding

Attractive and easy to understand

Lot of information can be obtained in various fields

DISADVANTAGES

Useful for literates only

Detailed information cannot be given

JOURNALS AND MAGAZINES

A "journal" is a scholarly periodical aimed at specialists and researchers. Articles are generally written by experts in the subject, using more technical language. They contain original research, conclusions based on data, footnotes or endnotes, and often an abstract or bibliography.

A "magazine" is a periodical with a popular focus, i.e. aimed at the general public, and containing news, personal narratives, and opinion. Articles are often written by professional writers with or without expertise in the subject; they contain "secondary" discussion of events, usually with little documentation (e.g. footnotes). Magazines use vocabulary understandable to most people, and often have lots of eye-catching illustrations. Time, Newsweek, U.S. News & World Report, and Psychology Today are magazines

Science organisations and science associations usually bring outjournals in science. These journals publish research-based, experiencebasedand popular science articles. A number of magazines alsopublish articles on scientific issues. These materials can be helpful forthe enrichment of teaching-learning of science. Some of the science journals are international journal of science education, Education in science, journal of chemical education, Physics education, Science and culture, science education etc.

ENCYCLOPEDIAS

An **encyclopedia** or **encyclopaedia** is a type of reference work or compendium holding a comprehensive summary of information from either all branches of knowledge or a particular branch of knowledge. Encyclopedias are divided into articles or entries, which are usually accessed alphabetically by article name. Encyclopedia entries are longer and more detailed than those in most dictionaries. Generally speaking, unlike dictionary entries, which focus on linguisticinformation about words,encyclopedia articles focus on factual information concerning the subject for which the article is named.

Four major elements define an encyclopedia: its subject matter, its scope, its method of organization, and its method of production:

- Encyclopedias can be general, containing articles on topics in every field (the English-language *Encyclopædia Britannica* and German *Brockhaus*are well-known examples). General encyclopedias often contain guides on how to do a variety of things, as well as embedded dictionaries and gazetteers. There are also encyclopedias that cover a wide variety of topics but from a particular cultural, ethnic, or national perspective, such as the *Great Soviet Encyclopedia* or *EncyclopaediaJudaica*.

- Works of encyclopedic scope aim to convey the important accumulated knowledge for their subject domain, such as an encyclopedia of <u>medicine</u>, <u>philosophy</u>, or <u>law</u>. Works vary in the breadth of material and the depth of discussion, depending on the <u>target audience</u>.

- Some systematic method of organization is essential to making an encyclopedia usable as a work of reference. There have historically been two main methods of organizing printed encyclopedias: the alphabeticalmethod (consisting of a number of separate articles, organized in alphabetical order), or organization by hierarchicalcategories. The former method is today the most

common by far, especially for general works. The fluidity of electronic media, however, allows new possibilities for multiple methods of organization of the same content. Further, electronic media offer previously unimaginable capabilities for search, indexing and cross reference.

• As modern multimedia and the information age have evolved, they have had an ever-increasing effect on the collection, verification, summation, and presentation of information of all kinds. Projects such as Everything2, Encarta, h2g2, and Wikipedia are examples of new forms of the encyclopedia as information retrieval becomes simpler.

AUDIO RESOURCES

RADIO TALK

Radio broad cast and audio recordings are the sources of audio learning experiences for the children. In order to provide learning experience beyond the school syllabus and to relate it to the real life outside the classroom, school broadcast programmes could be one of the best medium. It may not always be possible for a science teacher to invite eminent persons of science for the lecture or talk. In such cases the lectures or speeches can be pre-recorded and can be played in the classrooms. There are various types of programmes, such as discussion forums, question- answers, debates, quizzes, speeches, dramas, which can be either play edliveor can be pre-recorded, to be used in teaching- learning of science.

The All India Radio has regular programmes for school children. Programmes generally include talks on educational, scientific, current topics, etc. The topic, date and time of broadcast of such talks are given in advance. The school scan take advantage of such talks. Sometimes, it is also possible to synchronise the broad cast on a topic with the actual teaching-learning time of that topic in the class. To get the maximum benefit from such talks, the following points should be kept in mind: To keep students' interest alive, they are facilitated to get familiar with the back ground of the talk before hand. A discussion could be arranged after the talk. Preferably short duration talks are arranged. The student shaving hearing problem sares elated near the source.

AUDIO TAPES

The major advantage of a magnetic audio tape over a disc is that one can record programmes easily and economically. When the material becomes outdated, or is no longer useful, it could be erased and the tape can be reused. Tapes are not as easily damaged as discs, and they can be easily stored. Records of talks on interesting science topics by eminent scholars can be easily reproduced in the classroom. These talks provide an inspiration to the students. Such a recording could be used to introduce at opicor to develop it. These devices are seldom used these days.

COMPACT DISC (CD)

The disc recording has a number of attributes that makes it an attractive medium of teaching-learning. It can reproduce the audio spectrum even beyond the limits of human hearing. A major advantage of audio CDs (andotheropticaldiscs) is that the user can quickly access any part of the disc. Data from the disccanberetrievedinany desiredsequence.

Standard CDs have a diameter of 120 millimetres (4.7 in) and can hold up to about 80 minutes of uncompressed audio or about 700 MB of data. The Mini CD has various diameters ranging from 60 to 80 millimetres (2.4 to 3.1 in); they are sometimes used for CD singles, storing up to 24 minutes of audio, or delivering device drivers.

At the time of the technology's introduction in 1982, a CD could store much more data than a computer hard, which would typically hold 10 MB. By 2010, hard drives commonly offered as much storage space as a thousand CDs, while their prices had plummeted to commodity level.

DVD/CD

DVD ("digital versatile disc" or "digital video disc") is a digital opticalstorage format and the medium can store any kind of digital data and is widely used for software and other computer files as well as video programs watched using DVD players. DVDs offer higher storage capacity than compact discs while having the same dimensions.

DVDs are used in DVD-Video consumer digital video format and in DVD-Audio consumer digital audio format as well as for authoring DVD discs written in a special AVCHD format to hold high definition material (often in conjunction with AVCHD format camcorders). DVDs containing other types of information may be referred to as DVD data discs.

VISUALRESOURCES

Visuals are used very often as iconic representations of objects. Railway stations, roads, bus terminals and airports cater to people of allstrata, from totally illiterate to highly , and people of allnationalities.Universaliconsrepresentingvariousobjectshavebeen developed, so that no language is necessary to explain them. Similarly in science, we use various symbols of different electric and electronic devices and symbols for various elements in chemistry.

PICTURES

Pictures are used for the expression of idea. They are more attractive and are easily understandable. Pictures should be considered as short & language of the idea presented picture are only 2-d but should be carefully planned.

This can be prepared by any teacher using simple material. They convey the expected message by combination of visual aids by suitable information effectively.

FLASH CARDS

Flash cards are a set of pictured paper cards of varying sizes that are arranged one by one in a logical sequence. Flash cards can be self-made or commercially prepared and are made up of chart or drawing paper, plain paper using colors or ink on them for drawings.

Purposes

To teach the students about new words, properties etc.

Useful for small group

Used in group discussion

CHARTS

Charts of different types can be prepared by the learners with a little help from teacher depending on the teaching- learning objectives to be achieved and the need of the subject matter. Charts help in effective representation of the subject matter which is in the form of data, diagram, etc. Those charts which cannot be prepared locally may be procured from various educational centres.

Charts depicting pictures of great scientists, instruments, equipment used in industry, industrial processes, etc. could be used as teaching aids. But the pictures used should be of reasonable size, so that it is visible to the whole class. They should not be overloaded with information to avoid distraction of the learners to unnecessary parts.

Pictures or portraits of great scientists displayed in science laboratories not only give proper scientific atmosphere to laboratory, but also inspire learners.

POSTERS

Posters are the graphic aids with short quick and typical messages with attention capturing paintings.

Purposes

To provide general motivation

To create an esthetic or atmospheric effect

To communicate a more general idea

To thrust the message for leading to action

Printedpostersonvariousscienceconceptsandlifehistoryofscientists are available from science publishers. These can be used as are source in teaching scientific concepts covered in the school

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syllabus. If a desired poster is not available, teacher should endeavour to make one for herwith the help of students. For example, a good large-size poster of Periodic Table and Electromagnetic Spectrum will be of good help in teaching-learning of physical science.

PHOTOGRAPHS

This is one of the most common types of visual aids. The photo helps the extended work to get across an idea and pass on to the audience. It is visual which has to catch the attention of the audience and pass on to them a simple message at a glance.

The audience should become aware of the event, practice or idea you want to communicate.

MODELS

A model is a recognizable representation of a real thing three dimensionally, that is height, width and depth is felt as reality.

Types of models

1. **Solid models**: It is the replica of an original thing made with suitable material like clay, plaster of Paris, wood, iron etc. to show internal parts of the things. Ex: globe, clay model of human and animal.
2. **Cutaway and X-ray models**: These are the replicas of the original things to show internal parts of a thing. Cross sectional models are difficult to make in the classroom or institutions as they require expertise to construct them. Ex. Cross sectional model of human body.
3. **Working models**: These models are either actual working things or their miniature replicas. For illustrating an operation. Ex: a motor, a generator.
4. **Sand models**: It is made by using sand, clay, saw dust, ex: a tribal village, a forest area.

ICT RESOURCES

RADIO

Radio broadcast are of two types. General broadcast and Educational broadcast

General Broadcast

It provides general information about the facts, events and happenings, assimilating knowledge about the world, culture and life. It always gives information about what is happening all over the world. General broadcasts are routine type process, done by radio stations throughout the day.

Educational Broadcast

Educational broadcasts are typically designed for educational purposes, familiarizing the instructional process by substituting the classroom instruction, specifying the evaluation methods, creating awareness about the educational opportunities in and around the country etc.

TELEVISION

Television experience, which is a combination of sound and picture received instantaneously on the TV screen, it comes closer than any other contrived experience to that of real it.

(2) Television makes it possible for the talents of the best teachers to be put at the disposal of all schools.

(3) Television can employ all other audio and visual aids and combine their effectiveness in the air medium. Pictures, charts, films, micro slides, graphs, boards, overhead projector can all be employed in the technique of teaching by TV.

(4) Educational authorities can produce TV lessons made to their own requirements for specific local needs.

(5) The TV teacher is more real because of his frequent visual appearance in the classroom.

In the classroom TV can be advantageously used to:

(1) Broaden and enrich the classroom learning experiences of the students.

(2) Create genuine interest in the topic or the subject that is being taught.

(3) Evaluate the quality of classroom teaching process.

(4) To provide a wide variety of experiences, those are quite different from the routine classroom-instruction.

(5) Stimulate less passive slow learners by developing a more critical approach in them.

(6) Provides opportunity to learn, to create productions that can improve students ability to communicate.

Television programmes may be made on:

(1) Teaching demonstrations

(2) Recordings of student's performance

(3) Recordings of teacher's performance

(4) Micro teaching in teacher's performance

(5) Image magnification for demonstrations

(6) Records of field trips

(7) Career counselling programmes

(8) Critical community problems

(9) Technical training taps

(10) Guest speakers files

INTERNET

It is a major tool for gathering, accessing, analysing, sharing and disseminatinginformation.Withthehelpofnetworkingyourcomputerisconnectedwithremotecomputersfo raccessingtheinformation.This web of computers has certain specific locations called websites which store information on specified subjects. This information can be accessed by any internet user through the website address. Alternately, one can also upload one' information on the web to make it available to any user. The user depending on her/his requirement then navigates through the web to access desired information.

The fast and relatively low-cost access is one of the major benefits of internet. People and students all over the world are getting an internet connection very easily. Communication and information are the two basic uses of the Internet. Information available on websites can be updated or modified at any time and for any number of times, which helps in learning and better understanding.

Online learning

Another positive effect of Internet in education is the onset of distance education or online education (internet-based training (IBT) or web-based training (WBT). With this facility, you can take up short-term courses with the course material available online, attend virtual classes, learn, and appear for exams. One of the benefits of online learning is that people from any part of the world can gain knowledge on different subjects, complete courses, etc.

School/ College Products

Internet can be very useful for completing projects in schools and colleges. As the Internet is an ocean of information, covering nearly all subjects known to man, one can find information, research work, etc., required for one's projects. Going through the information on the internet is definitely faster than reading an entire book on the subject. Completing homework is also easier with the help of the Internet.

Affordable Knowledge

Investing in research material may be tedious and unaffordable for some. But, now, thanks to the Internet, we have content websites, web encyclopedias, and dictionaries whenever we want them. Today, able as well as less-able students can benefit from the sea of knowledge on the Internet. University courses and learning is now easy for people belonging to all strata of the society with the help of online courses.

Easy Education System

Not only gaining knowledge, but, every part of the education system is simplified because of the internet. You can now view your prospective educational institute, look up courses, enroll for online courses, take classes, research, see your results, and even look for job prospects on the Internet. Therefore, the scope of internet in education is very wide and equal to all.

MULTIMEDIA

Arguably, it is believed that visual data has a greater impact on learning and memorizing than plain text. Therefore, images, graphics, animation, pictures, slides, documentaries, etc., have a greater appeal than a plain textbook. Using multimedia and Internet provides an opportunity for children to gain knowledge about a particular subject in depth. Students can now see actual photographs of rare bird species, or see animated graphics of a volcanic eruption to understand the concept in detail.

INTERACTIVE WHITE BOARD

An interactive whiteboard (IWB) is a large interactive display that connects to a computer. The board is typically mounted to a wall or floor stand. They are used in a variety of settings, including classrooms at all levels of education, in training rooms for professional sports coaching, in broadcasting studios and others.

An interactive white board is an instructional tool that allows computer images to be displayed onto a board using a digital projector. The instructor can then manipulate the elements on the board by using his finger as a mouse, directly on the screen. They are a powerful tool in the classroom adding interactivity and collaboration, allowing the integration of media content into the

lecture and supporting collaborative learning. An interactive whiteboard can be a cost saver as this technology demonstrates how one computer can provide learning stimuli for a whole classroom.

COMMUNITY RESOURCES

SCIENCE CENTRES

Science centres are science museums that emphasize a hands-on approach, featuring interactive exhibits that encourage visitors to experiment and explore. The first science centre was Urania founded in Berlin in 1888. The Academy of Science of Saint Louis (founded in 1856) created the Saint Louis Museum of Science and Natural History in 1959 (Saint Louis Science Centre), but generally science centres are a product of the 1960s and later.

In India, the National Council of Science Museums runs science centres at several places including Delhi, Bhopal, Nagpur and Ranchi. There are few private Science Centres as well, noted among them are Birla Science Museum and The Science Garage in Hyderabad

SCIENCE EXHIBITION/ FAIR

Science fair experiment is generally a competition where contestants present their science project, results in the form of a report, display board, and/or models that they have created. Science fairs allow students in elementary, middle and high schools to compete in science and/or technology activities. The main motive of a science fair is for students to answer a question or task, not from a textbook but found out themselves by conducting a range of experiments and ongoing research in the short amount of time allocated to them. In order that the questions or tasks spark a true interest in the student they should be able to have an interesting, eye catching project. Science fairs also provide a mechanism for students with intense interest in the sciences to be paired with mentors from nearby colleges and universities, so that they can access to instruction and equipment that the local schools cannot provide.

Advantages of science fair

The advantages of a science fair are

To develop scientific attitude and critical thinking among the students

To develop the spirit of cooperativeness

To develop the real application of scientific knowledge in a newer situation

To develop the power of reasoning

To improve creativity among students

To facilitate the students to update their knowledge in science

FIELD TRIP

Teacher must explore opportunities for active engagement of the parent sand the community in the teaching- learning process of physical science. Different members of the community also hold a large variety of valuable knowledge .Many of these members may be willing to share their knowledge and experience with the students. These member scan be invited to school and learner scan inter act with them. Teacher should remain aware of the range of community, individuals and organisations that can be accessed to provide significant learning experiences to learners. Learners can visit their places of work also. The expertise of members varies from community to community.

In many cases learners can be taken to the community resources of learning. When organised from the point of view of enrichment of teaching-learning experiences, it is a field visit. This makes learning realistic, concrete and interesting. Learners get opportunity to discover the concept and their connection with their environment. They can use this opportunity to learn various skills in interacting with the physical world, materials, technology and other people. It helps students to create knowledge by figuring out the components of objects, events, people, and concept. Let us now see the various advantages of field visits in teaching-learning of science.

Advantages of the field visits

The field visit:

1. helps in providing first-hand experience to the students which is not possible within the four walls of the classroom;

2. enriches general knowledge of students. It supplements the classroom learning;

3. helps in broadening the outlook, deepen sinsightand widensvision of students;

4. gives new ideas and vision for taking up projects;

5. helps to deep enunderstanding of the concept sand brings clarity in the subject. It also

6. helps in concretizing the abstract ideas;

7. helps the students develop an inquiry attitude towards the environment;

8. develops skills in science processes likeo bservation, collection, classification and analysis of data;

9. Drings the awareness that science is all-around us and not just in books;

10. Relates the community to the learners, teachers and school and encourages sharing of responsibility of child's learning with the community;

11. Acknowledges the authenticity of community knowledge, etc.

QUALITIES OF A GOOD SCIENCE TEXTBOOK

Text books are the most widely used of all instructional materials. Now a day's text book has become a course of study, a set of unit plans and a learning guide as well. A text book should really design for the pupils rather than the teacher. Text book should stimulate reflective thinking and cultivate in students the scientific attitude.

In the teaching-learning process, the text-book occupies an important place. There is a saying "As is the text-book, so is the teaching and learning". A good text-book can even replace class-room teaching. The science text-book should aim at aiding the pupils in the development of their personalities, in developing open mindedness, developing appreciation and understanding of nature and not merely stuffing their minds with facts.

Thurber and Collette suggested six criteria for choosing a good textbook. They are

1. Content
2. Organization
3. Literary style vocabulary
4. Illustrations
5. Teaching aids
6. Mechanical make up and appearance

7.   Authorship

I Content

The content of text books for any one subject matter field is remarkable uniform about 85 percent of the content being common to all of them.

1. The content should be appropriate for the age level and experience backgrounds of the pupils

2. The concept should not be too complex for the maturity of the pupils

3. The content should be consistent with the pupil's needs and interests

4. The statements must be accurate

II Organization

1. The subject matter should cover the whole syllabus

2. Subject matter should be developed in psychological sequence

3. The text book has to be organized into units which are based on student interests and probability of use

4. Inductive approach is to be used whenever possible in introducing new topic

5. At the end of each units there should be assignments informing to the following

6. Application to life situations

7. Self- assessment test

8. Suggestions for further reading

9. Numerical questions if necessary

10. Assessment for practicing skills

11. The text book should be written in simple unambiguous scientific language. Prefer simple and compound sentence to complex sentences

12. It should contain a glossary of technical terms used in the books

13. It should suggest some good methods of learning's

14. Historical development of science should be attempted

15. Adequate provision should be made to correlate science with other subject and crafts.

16. It is better if the text book contains examples from the local environment

17. There should be a detailed table of contents and index text books

18. Controversial topics should be treated impartially

19. The social significance of science should be stressed

20. Headings and sub- headings should be in bold type

21. Important principles should be set in italics

22. Each text books should be accompanied by a laboratory manual and pupil's work book

23. It must be supplemented by a teacher's hand book

III.   Literary style and Vocabulary of text book

Literary style has much to do with the readability of the book. Although style is difficult to judge

1. Length of sentences

2. Directness of sentences

3. Number of ideas per seconds

4. Use of lead sentence or paragraphs

5. Presence or absence of irrelevant thoughts\continuity of thought

While evaluating a text book the teacher must decide whether or not the vocabulary is excessive or in appropriate text book should be easy to read

IV Illustrations

1. The quality and the quantity of the illustrations should be considered.

2. Photographs should be clearly reproduced

3. Diagrams should be carefully made attractive

4. Colour in the illustrations add to eye appeal and when properly used has considerable teaching value

5. The recently introduced transparencies made on plastic sheets are excellent teaching aids but because of cost it can only be used in small quantities in any one book

6. Photograph should have relation with content in the text

7. Teaching aids

8. The table of content and index should be comprehensive

9. Glossary should be included

10. Activities should be given the end of a chapter

11. Activities should be closely related to content

Mechanical make- up and appearance

1. Artistic cover

2. Durability for binding

3. Size of the book

4. Good quality of paper

5. Length of line and size- legible

6. Attractive over all experience

7. Cover design and colour should be appealing

8. Ample space to be left between lines to provide for ease in reading

VII. Authorship

Only such persons who have experience of teaching the subject should be allowed to become authors of school science text books. Such authors can understand the actual learning's situations. Certain qualifications may also be prescribed for the authors. It will be better if some training is given to them

Text books are important tool in the hand of a teacher. It helps student to how and what they learn to achieve some definite goals. When we make a text we should give importance to its content organization literary style, vocabulary, mechanical makeup and authorship

QUALITIES OF A GOOD SCIENCE TEACHER

Besides possessing the personal qualities, every science teacher should fulfil the following broad requirements.

1. Practical knowledge of child psychology and of the learning process.

2. Trained in the modern methods and techniques.

3. Basic academic requirements.

1.   A science teacher must have practical knowledge of child psychology and of the process of learning. The science teacher should be able to eater to individual differences in the class. Knowledge of child psychology helps a teacher to guide the students according to their interests, capabilities and help in educational, vocational and personal problems. Besides these, a science teacher should be of a scientific temper, rational in approach to problems, free of bias and superstitions, innovative, inquisitive about the world around him. A Science teacher should regularly evaluate his teaching so that he can keep improving and also help him identify his weakness.

2.   A science teacher must be trained in modern methods and techniques of science. New methods and techniques are being employed in the teaching of science. Science Clubs, improvisation of apparatus, programmed instruction, teaching machines and many other new concepts are coming in. It is, therefore, desirable that a science teacher is trained and well versed in:

(i) Development of aquaria, vivaria, terraria.

(ii) Knowledge of preserving specimens of plants and animals.

(iii) Techniques of evaluation.

(iv) Maintenance and use of science libraries.

(v) Lesson and unit planning.

(vi) The various teaching methods in use today.

3.   The basic academic qualifications are laid down by the education department or the employer. In all the cases, the science teachers in high schools are at least B.Sc. and higher secondary schools M.Sc.

Advantages of Textbooks

Text books are economical and relatively inexpensive.

They help individualized instruction.

They help to organize and provide unity for class instruction

They help students learn how to study, to read better, to weigh evidence and to solve problems

Questions for Discussion and Reflection:

1. Describe the Newspapers.

2. Explain Interactive Whiteboard.

3. Examine the Science centres.

4. Discuss about qualities of a Science Teacher.

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Course Material for B.Ed (First Year)

(2016-2017)

Course 7a: Pedagogy of Social Science

Prepared by

UNIT – I   :   AIMS AND OBJECTIVES OF TEACHING SOCIAL SCIENCE

UNIT – II   :   PLANNING FOR INSTRUCTION

UNIT –III   :   PRACTICING THE TEACHING SKILLS IN SOCIAL SCIENCE

UNIT – IV   :   METHODS OF TEACHING SOCIAL SCIENCE

UNIT – V   :   RESOURCES FOR EFFECTIVE SOCIAL SCIENCE TEACHING

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UNIT – I AIMS AND OBJECTIVES OF TEACHING SOCIAL SCIENCE

At the end of the course, the student teachers will be able to:

➢ Know the nature and scope of social science

➢ Understand aims of teaching social science

➢ Interest to learn objectives of social science

➢ Analyze need and importance of teaching social science

➢ Acquire knowledge of values social science

Social Science: Meaning

Social science is a major category of academic disciplines, concerned with society and the relationships among individuals within a society. It in turn has many branches, each of which is considered a "social science". The main social sciences include economics, political science, human geography, demography, and sociology. In a wider sense, social science also includes some fields in the humanities[1] such as anthropology, archaeology, jurisprudence, history, and linguistics. The term is also sometimes used to refer specifically to the field of sociology, the original 'science of society', established in the 19th century. A more detailed list of sub-disciplines within the social sciences can be found at Outline of social science.

Positivist social scientists use methods resembling those of the natural sciences as tools for understanding society, and so define science in its stricter modern sense. Interpretivist social scientists, by contrast, may use social critique or symbolic interpretation rather than constructing empirically falsifiable theories, and thus treat science in its broader sense. In modern academic practice, researchers are often eclectic, using multiple methodologies (for instance, by combining the quantitative and qualitative researchs). The term social research has also acquired a degree of autonomy as practitioners from various disciplines share in its aims and methods.

Nature

Nature, in the broadest sense, is the natural, physical, or material world or universe. "Nature" can refer to the phenomena of the physical world, and also to life in general. The study of nature is a large part of science. Although humans are part of nature, human activity is often understood as a separate category from other natural phenomena.

The word *nature* is derived from the Latin word *natura*, or "essential qualities, innate disposition", and in ancient times, literally meant "birth". *Natura* is a Latin translation of the Greek word *physis*, which originally related to the intrinsic characteristics that plants, animals, and other

features of the world develop of their own accord. The concept of nature as a whole, the physical universe, is one of several expansions of the original notion; it began with certain core applications of the word φύσις by pre-Socratic philosophers, and has steadily gained currency ever since. This usage continued during the advent of modern scientific method in the last several centuries.

Within the various uses of the word today, "nature" often refers to geology and wildlife. Nature can refer to the general realm of living plants and animals, and in some cases to the processes associated with inanimate objects – the way that particular types of things exist and change of their own accord, such as the weather and geology of the Earth. It is often taken to mean the "natural environment" or wilderness–wild animals, rocks, forest, and in general those things that have not been substantially altered by human intervention, or which persist despite human intervention. For example, manufactured objects and human interaction generally are not considered part of nature, unless qualified as, for example, "human nature" or "the whole of nature". This more traditional concept of natural things which can still be found today implies a distinction between the natural and the artificial, with the artificial being understood as that which has been brought into being by a human consciousness or a human mind. Depending on the particular context, the term "natural" might also be distinguished from the unnatural or the supernatural.

Scope

The word "science" is older than its modern use. The word has become a short-form for "natural science". It is a recent development that society has become the object of an organized body of knowledge which can be standardized and taught objectively, while following its own rules and methodology.

The Social science has a wide scope. The **social sciences** comprise academic disciplines concerned with the study of the social life of human groups, animals and individuals including anthropology, archeology, communication studies, cultural studies, demography, economics, human geography, history, linguistics, media studies, political science, psychology, social work and sociology.

Mathematics, and study of history, poetry or politics had no difference in the past. With the development of mathematical proof the people perceived the difference between scientific disciplines and others. Aristotle studied poetry and planetary motion at the same time with the same methods, and Plato mixed geometrical proofs with his demonstration on the state of intrinsic knowledge.

The study of social sciences is considered as vital for the future of the society through out the world and provides many degrees in the respective fields.

The Public Administration, one of the main branches of political science, can be described as the development, implementation and study of branches of government policy. The non-government organizations (NGO's) are working for the betterment of the society through out the world.

The social sciences are sometimes criticized as being less scientific than the natural sciences in that they are seen as being less rigorous or empirical in their methods. This claim has been made in the so-called science wars and is most commonly made when comparing social sciences to fields such as physics, chemistry or biology in which corroboration of the hypothesis is far more incisive with regard to data observed from specifically designed experiments. Social sciences can thus be deemed to be largely observational, in that explanations for cause-effect relationships are largely subjective. A limited degree of freedom is available in designing the factor setting for a particular observational study. Social scientists however, argue against such claims by pointing to the use of a rich variety of scientific processes, mathematical proofs, and other methods in their professional literature.

The modern world is making progress by leaps and bounds and the social sciences have its vital role in the development of the world. The following main branches of social science deal with the main issues facing by the modern world.

The human being is surrounded by the unlimited problems and as a human being one needs to solve them desperately.

Social work is concerned with social problems, their causes, their solutions and their human impacts. Social workers work with individuals, families, groups, organizations and communities. Social Work is the profession committed to the pursuit of social justice, to the enhancement of the quality of life, and to the development of the full potential of each individual, group and community in society.

Social work is unique in that it seeks to simultaneously navigate across and within micro and macro systems -in order to sufficiently address and resolve social issues at every level. Social work incorporates and utilizes all of the social sciences as a means to improve the human condition.

Following are the main branches of social sciences that deal with the modern problems of the modern world of 21st century.

Economics is a social science that seeks to analyze and describe the production, distribution, and consumption of wealth. The classic brief definition of economics, set out by Robins in 1932, is "the science which studies human behavior as a relation between scarce means having alternative uses." Without scarcity and alternative uses, there is no economic problem.

Education encompasses teaching and learning specific skills, and also something less tangible but more profound: the imparting of knowledge positive judgment and well-developed wisdom. Education has as one of its fundamental aspects the imparting of culture from generation to generation. It draws on many disciplines such as psychology, philosophy, computer science, linguistics, neuroscience, sociology and anthropology.

Geography as a discipline can be split broadly into two main sub fields: human geography and physical geography. The former focuses largely on the built environment and how space is created, viewed and managed by humans as well as the influence humans have on the space they occupy. The latter examines the natural environment and how the climate, vegetation & life, soil, water and land form are produced and interact. As a result of the two subfields using different approaches a third field has emerged, which is environmental geography.

History is the continuous, systematic narrative and research of past events as relating to the human species; as well as the study of all events in time, in relation to humanity. History can be seen as the sum total of many things taken together and the spectrum of events occurring in action following in order leading from the past to the present and into the future. The historical method comprises the techniques and guidelines by which historians use primary sources and other evidence to research and then to write history.

Law in common place, means a rule, which (unlike a rule of ethics) is capable of enforcement through institutions. Law is not always enforceable, especially in the international relations context. It has been defined as a "system of rules", as an "interpretive concept" to achieve justice, as an "authority" to mediate people's interests, and even as "the command of a sovereign, backed by the threat of a sanction". However one likes to think of law, it is a completely central social institution. Legal policy incorporates the practical manifestation of thinking from almost every social sciences and humanity.

Linguistics investigates the cognitive and social aspects of human language. The field is divided into areas that focus on aspects of the linguistic signal, such as syntax (the study of the rules that govern the structure of sentences), semantics (the study of meaning), phonetics (the study of speech sounds) and phonology (the study of the abstract sound system of a particular language); however, work in areas like evolutionary linguistics evolutionary linguistics (the study of the origins and evolution of language) and psycholinguistics (the study of psychological factors in human language) cut across these divisions.

Political science is an academic and research disciplines that deals with the theory and practice of politics and the description and analysis of political systems and political behaviour. Fields and subfields of political science include political economy, political theory and philosophy, civics and comparative politics, theory of direct democracy, apolitical governance, participatory direct democracy, national systems, cross- national political analysis, political development, international relations, foreign policy, international law, politics, public administration, administrative behaviour, public law, judicial behaviour, and public policy. Political science also studies power in international relations and the theory of Great powers and Superpowers.

Psychology is academic and applied field involving the study of behaviour and mental processes. Psychology also refers to the application of such knowledge to various spheres of human activity, including problems of individuals' daily lives and the treatment of mental illness.

Sociology is the study of society and human social action. It generally concerns itself with the social rules and processes that bind and separate people not only as individuals, but as members of associations, groups communities and institutions and includes the examination of the organization and development of human social life. The sociological field of interest ranges from the analysis of short contacts between anonymous individuals on the street to the study of global social process. Most sociologists work in one or more subfields.

There are so many other fields that enhance the scope of social sciences in the century of machines.

Human life is enveloped by social sciences in one shape or other. The man of 21st century is surrounded by unlimited problems; social sciences are the solutions of these problems. Natural science talks about the facts of the universe; it is social sciences that deal with these facts.

Aims and objectives of teaching social science in school
AIMS OF TEACHING SOCIAL SCIENCE

"The aim of social science is not to please not to give practical maxims of conduct, nor to five one with patriotic ferrror, nor to afford unusual training nor to arose the emotions but to equip the readers with knowledge, pyre, simple and truthful;

- To promote self-understanding

- To proper conception of time, space and society.

- To enable the pupils to assess the values and achievement of their own age.

- To teach tolerance.

- Feed the education of intellect and leave the refer to social science.

- To awakes interest in the subject and to keep it.

- Modern youth is to be equipped intellectually to the fullest.

- It is a storehouse of wisdom.

- It inculates intellectual discipline.

- Development of memory, imagination and reasoning power.

The objectives of teaching the social sciences at the upper primary stage are:

- ❖ To develop an understanding about the earth as the habitat of humankind and other forms of life.
- ❖ To initiate the learner into a study of her/ his own region, state, and country in the global context.
- ❖ To initiate the learner into a study of India's past, with references to contemporary developments in other parts of the world.
- ❖ To introduce the learner to the functioning and dynamics of social and political institutions and processes of the country.

At this stage, the subject areas of the social sciences—drawing their content from history, geography, political science, and economics—will be introduced. The child may be introduced simultaneously to contemporary issues and problems. Emphasis needs to be given to issues like poverty, illiteracy, child and bonded labour, class, caste, gender, and environment. Geography and Economics may together help in developing a proper perspective related to issues concerning environment, resources and development at different levels, from local to global. Similarly, History will be taught emphasising the concepts of plurality. The child will be introduced to the formation and functioning of governments at the local, state, and central levels, and the democratic processes of participation.

The objectives of teaching the social sciences at the secondary stage are to develop among the learner analytical and conceptual skills to enable him/her to:

❖ Understand the processes of economic and social change and development with examples from modern and contemporary India and other parts of the world.

❖ Critically examine social and economic issues and challenges like poverty, child labour, destitution, illiteracy, and various other dimensions of inequality.

❖ Understand the rights and responsibilities of citizens in a democratic and secular society.

❖ Understand the roles and responsibilities of the state in the fulfilment of constitutional obligations.

❖ Understand the processes of change and development in India in relation to the world economy and polity.

❖ Appreciate the rights of local communities in relation to their environment, the judicious utilisation of resources, as well as the need for the conservation of the natural environment.

At the secondary stage, the social sciences comprise elements of history, geography, political science, and economics. The main focus will be on contemporary India and the learner will be initiated into a deeper understanding of the social and economic challenges facing the nation. In keeping with the epistemic shift proposed, contemporary India will be discussed from the multiple perspective including the perspectives of the adivasi, dalit, and other disenfranchised populations, and efforts should be made to relate the content as much as possible to the children's everyday lives. In History, the contributions of various sections/ regions to India's freedom struggle can be studied, as well as other aspects of recent history, in the context of developments in the modern world. Aspects of Geography should be taught keeping in mind the need to inculcate in the child a critical appreciation for conservation and environmental concerns. In Political Science, the focus should be on discussing the philosophical foundations that underlie the value framework of the Indian Constitution, i.e. an in-depth discussion of equality, liberty, justice, fraternity, dignity, plurality, and freedom from exploitation. As the discipline of Economics is being introduced to the child at this level and it is important that the topics discussed should be from the perspective of the masses. For example, the discussion of poverty and unemployment should no longer be undertaken in terms of statistics, but instead should derive from an understanding of the elitist functioning of many economic institutions and the inequality sustained by economic relations. Also, given that this is the stage at which choices are made about which disciplines to pursue for further study, it is important that students be introduced to the nature, scope, and methods of each of these disciplines. Needless to say, the latter should not overload students with additional information, but instead should explain to them

what the future study of the discipline might hold in store and link these points to the creation of desirable skills.

Need and significance of teaching social science

NEED

The traditional type of procedure of teaching does not provide for the active participation of the child in the learning-teaching process. It considers the child as a passive being. weakly It does not provide sufficient opportunities for the child express himself. Students wrakly learn by theheart the subject matter without understanding its meanings and significance. Ready-made knowledge is given to them, there is a lack of incentive for exercising imitative, originality and independent thinking. There is always the possibility that the child recites correctly and yet fails comprehend the real meaning of what he has committed temporally to memory.

Education for democracy is of recent origin. In the past the social aspect was not stepped. But now it is recognised that there must be a proper social setting and through education the child is to be prepared for social participation. Teaching as well as learning are seen in a social setting under the impact of sociological approach. Gandhiji said, " I value individual freedom but you must not forget that man is effentially a social being. He has rises to his present status by learning to adjust his individualism to the require ments of social progress". Child being a social animal should be prepared for social participation. He is to be equipped with skills and abilities that would make him a better and useful member of the society. In the past such a comprehensive of education was not takes into consideration in the educative process. Socialised recitation is one of the techniques of developing social understanding in children.

1. Social scientists help us imagine alternative futures.

Social science can open up debate and give us a say in shaping our collective future. The social sciences developed as a field of study during the nineteenth century. Social science helped people understand the consequences and application of the new technologies of the age, such as steam power.

The growth of railways and factories not only transformed the economy and the world of work, but also changed forever the way people organised their family lives and leisure. Today nanotechnology and advances in medical research will have a significant impact on the way we live.

They present us with a bewildering range of ethical, legal and social issues. But it isn't enough to rely on the scientists. We also need social scientists to analyse and critique what's going on. That way we will make informed choices that shape the future.

2. Social science can help us make sense of our finances.

Social science is not just important for the future but for what's happening now. We all resent paying to withdraw our money from cash machines. Charges can amount to £120 per year. Social scientists working on behalf of the Runnymede Trust found that this doesn't just this depend on where we live, but that black and minority ethnic people are more likely to live in areas where they're forced to pay.

This put pressure on banks to ensure we all have access to machines that don't charge. A range of social scientists – not just economists but also psychologists, sociologists and political scientists, for example □ can help us understand the economic crisis and weigh up decisions we make for ourselves and those which governments make on our behalf. Without this kind of analysis we may feel like pawns in a global game of chess.

With the knowledge and understanding that social science offers us, we will feel empowered to act for ourselves, and to influence decisions being made on our behalf.

3. Social scientists contribute to our health and well-being.

From sports sociologists to public health experts, from those interpreting medical statistics to those evaluating policies for our care in old age, social scientists are working hard to make sure that our health, leisure and social care services work to best effect.

Social geographers at the University of Sheffield, for example, have shown that those of us who don't follow eating advice are not simply weak□willed or ignorant. Our eating habits are influenced by a whole range of circumstances. Some apparently unhealthy choices may seem rational:

if the person doing the shopping knows that others will simply not eat the healthy option and it will just go to waste, they may simply not buy it.

So it's no good just giving people a booklet on healthy eating. Effective nutritional advice needs to be tailored to people's everyday lives and contexts.

4. Social science might save your life.

Psychologists at the University of Liverpool spent time in a steel factory to work out what needs doing to create a safer environment. Accidents at work happen even in the best regulated companies that provide staff training and take all necessary precautions.

A top down imposed safety regime simply doesn't work. It's when people see unsafe work practices as unacceptable and take decisions as teams that workplaces become safer. Employers need to see people as individuals who take their lead from those with whom they identify. These principles have also been shown to work in crowd control.

When those responsible for crowd management at football matches are trained in techniques which take this into account, there's virtually no trouble.

5. Social science can make your neighbourhood safer.

One common myth is that if you take measures to reduce crime in one neighbourhood the criminals simply move on, leading to increased crime in another area. Sociologists at Nottingham Trent University worked closely with police to reduce crime through a method involving scanning for crime patterns.

They were able to identify patterns that regular police work had not picked up, so avoiding guess work and lost time. A technique called situational crime prevention developed by the same team is now regularly used by the police, working with the public and private sectors to prevent crime. Together they make things more difficult for would⬜be criminals.

For example, in one area there was a serious problem of lead being stolen from community building roofs. By working with dealers in the scrap metal market, and persuading them to keep records, it then became too risky to buy what might be stolen lead.

6. We need social scientists as public intellectuals.

British society is sometimes said to be anti⬜intellectual. Yet in our fast changing world, there is a place for the social scientist as public intellectual. This doesn't have to be a succession of boring grey talking heads, such as you can find on French TV any night. That's enough to cause anyone to start channel surfing. Social scientists have a duty to make their work interesting and engaging to the rest of us.

They need to explain not only why social science is relevant but do it in a compelling way. Then we will want to listen, read and find out more. Perhaps more social scientists will have to become active listeners, talking more often to the public, each other and to scientists.

Then we can get all the disciplines around the table together. In a knowledge□based world, we need people who can integrate a variety of different types of knowledge, and that come from different intellectual roots and from a range of institutions to work together.

7. Social science can improve our children's lives and education.

All societies and all governments want to show they are dong the best for children. Yet too often education reform seems to take place without regard for the best interests of the learners. Education research shows that many parents, particularly parents of younger children, are more concerned that their children enjoy school, than that they are academic stars.

By working with students of all ages to understand their perspectives on schooling, researchers at the universities of Cambridge and Leeds have discovered new insights into what makes effective schools, and what makes for effective school leadership.

We just need to listen to children, provide structured opportunities for them to give their views, and prepare adults to really listen. Today even OFSTED, the school inspection service, has to listen to children's viewpoints.

8. Social science can change the world for the better.

We can generally agree that world needs to be a safer place where all people can enjoy basic dignity and human rights. This is the case even when we can't always agree on what we should do to make this happen. Social scientists working in interdisciplinary teams have made their mark in the area of human welfare and development.

They are concerned with the social and economic advancement of humanity at large. They work with government institutions, UN organisations, social services, funding agencies, and with the media.

They are influencing the work of strategists, planners, teachers and programme officers in developing and growing economies, like India, to influence development so that it impacts on the lives of the poorest members of society. For example, social scientists from the Delhi School of Economics are cooperating with colleagues at SOAS, University of London to explore the impact of legislation in India to guarantee minimum wages for rural unskilled manual labourers on the loves of women.

They found the new law provided opportunities for some women to become wage earners where none had existed before, reducing the risk of hunger and the chances of avoiding hazardous work. But they also identified barriers to women benefitting from the changes, including harassment at the worksite.

Those working in development studies are then able to support women's ability to benefit by looking for creative solutions to such problems.

9. Social science can broaden your horizons.

For debates about feminism, peace, ecology, social movements, and much more, social science offers each of us new perspectives and new ways of understanding. Whether your idea of relaxation is visiting a museum, watching soaps, or chatting online, social science encourages a fresh look at our everyday activities and culture.

Social scientists at the University of Leicester are making an impact on museums across the world, with the goal of making them more inclusive, abler to challenge prejudices, inspire learning and be more relevant in contemporary society.

One example is their work with the Gallery of Modern Art in Glasgow to involve local communities and international visitors alike in engaging with exhibitions on a range of social justice issues from sectarianism to gay rights, through programmes including arts workshops and residencies.

10. We need social science to guarantee our democracy.

Social science offers multiple perspectives on society, informs social policy and supports us in holding our politicians and our media to account.

The Centre for the Study of Global Media and Democracy at Goldsmith's College, London is monitoring how transformation from traditional to digital media is examining the move away from traditional journalism and politics to where we as citizens try to be community journalists, presenting our own accounts on line. The work brings together specialists in media and communications, sociology and politics.

Individual citizens may feel empowered by this but there are risks in turning away from traditional journalism, including fewer opportunities for in depth analysis and critique of powerful interests. This work by social scientists is critical in protecting a modern and transparent democracy. Just think what might happen without it.

Values of teaching social science

Functions aims and values of teaching social studies

For proper teaching of a subject it is essential to have a knowledge of aims and objectives of the subject. This is also true for the teaching of social studies. Various method of teaching are then evolved according to these aim and objectives. For determining the aims to teaching any subject we have to take into consideration the utility and usefulness of that subject. We have material as well as spiritual life it is essential that we have a well founded material life

The important functions of social studies are ; 1. social experience social studies provides social experience to our pupils. Though child has varied social experience with his parents, relation, neighbors, relatives, friends etc.. Before he joins the school but in the school he gains new and varied experience as he interact with his classmates, teachers and others.

Social skills to make his social experience meaningful he is also provided with the skills and technique to apply his experience into practical life. Social skills are as important as the skills of reading, writing etc.

Social knowdetge in addition to providing social experience and social skills a study of social studies also provides a lot of information regarding man relationships this knowledge helps the child to know the correct facts and helps in to make correct interpretation, judgments and generalization.

Social Standards Every society has a certain code of social standards for its members. These generally include that the individual member of the society. Should speak the truth, obey the low, perform his duties and maintain a desirable behavior.

To enrich and develop the lives of pupil within their environment. 2. Acquisition of knowledge and understanding. 3. Training in desirable patterns of conduct. 4. Development of right attitudes. 5. Strengthening national and international integration. 6. Socialization of pupils.

1. Social learning

2. Knowledge with experience

3. Competence in tackling problems

4. Training in co-operation

5. Help for the slow and the backward

6. Skill in selection

The aims and objectives of teaching various subjects are normally very similar and they are generally guided by economic and social consideration. The aims and objectives of teaching social studies include all the aims and objectives of education. Different writers have listed these aims and objectives in different ways. Incase of social studies, it is said that "the outstanding purpose of

instructions in social studies is to produce citizens and to aid pupils in the formation of a higher type of social studies character".

Questions

1. Explain the nature and scope of social science?

2. Describe the values of teaching social science?

3. Write about on objective of teaching social science?

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UNIT II PLANNING FOR INSTRUCTION

Objectives:

- ➢ Understand the steps in planning a lesson and setting lesson goals
- ➢ Draw designing a lesson plan
- ➢ Understand bloom taxonomy of educational objectives
- ➢ Know different types of test items
- ➢ Understand formative evaluation procedures

INTROUDUCTION

An organized planning always plays a substantial role in the execution of any task in our life. This is why, planning is a must for the successful execution of a task or a project. It not only caters to the proper realization of the aims or purposes of doing that task but also helps in proper utilization of the time and energy on the part of human and material resources. The same is equally true for the process of teaching-learning. The teachers who plan their work properly are quite efficient and effective in their teaching task. This is why; a Social Science teacher should concentrate on a wise planning of his teaching and instructional work carried along with his students during the whole session.

MEANING OF INSTRUCTION

At the time of imparting instruction, i.e., teaching-learning of a particular lesson, unit or sub-unit of Social Science, a teacher has to place before him some definite and very specific objectives which would be attained within a specified classroom period and resources in hand. Through these specific classroom teaching-learning objectives, known as instructional objectives, a teacher tires to bring desired changes in the behavior of his pupils. In this way, the term instructional objectives in relation to the teaching of Social Science may be defined as a group of statements formulated by a teacher for describing what the pupils are expected to do or will be able to do once the process of classroom instruction is over.

In fact, what a teacher obtains as instructional output in the teaching-learning process are nothing but some type of behavioural change in the pupils that may be expected as a result of the instruction related to a particular lesson, unit or sub-unit of the subject. Instructional objectives are thus nothing but description of the pupil's terminal behavior expected out of the ongoing classroom instruction.

DESIGNING A UNIT PLAN

Unit planning stand for the planning of the instructional work of the session by dividing the prescribed syllabus into some well-defined and meaningful units.

Thus, by the term unit we may understand one of the most complete and meaningful sub-divisions of prescribed course of a subject, centred around a single principle, process, problem or purpose that is capable of helping in the realization of the desired teaching-learning of the subject.

Carter V. Good: "Unit may be described as an organization of various activities, experiences and types of learning around a central problem or purpose developed comparatively by a group of pupils under teacher-leadership."

IMPORTANCE AND ADVANTAGES OF UNIT PLANNING

 ➢ The syllabus in terms of contents and learning experiences to be covered in the whole session is suitably divided into units in view of the time available for the teaching of Social Science. It helps in the proper coverage of the syllabus within the available time and duration of the session.

 ➢ Unit planning has a proper provision for the diagnosis of the learning difficulties of the students and subsequent remedial instruction.

 ➢ Units represent the unified and integrated wholes of the meaningful and purposeful content material and learning experiences. The organization of the subject matter and learning experiences into such meaningful wholes is quite advantages both from the educational as well as psychological angles to the students.

DESIGNING LESSON PLAN

In simple words lesson planning in Social Science means the planning of a daily lesson related to a particular unit of the subject Social Science to be covered by the Social Science teacher in a specific school period for the realization of some stipulated instructional objectives. It is a sort of theoretical chalking out of the details of the journey that a Social Science teacher is going to perform practically in the classroom along with his students.

Now the work of chalking out the details of such journey or preparation on the part of a teacher for executing the task of actual classroom teaching may be done either at the cognitive level or prefer in the written form by writing a lesson plan.

In this planning, a teacher of Social Science may have to pay considerations to the following essential aspects:

- o Broader goals of objectives of the subject Social Science
- o Setting and defining of the classroom objectives related to the present unit of Social Science.
- o Organization of the relevant subject matter to be covered in the given lesson for the realization of the set objectives.
- o The decision about the method of presentation of the subject matter, teaching strategies, classroom interaction and management.
- o Appropriate provision for evaluation and feedback.

HOW TO PLAN LESSON FOR TEACHING SOCIAL SCIENCE

The educationists and researchers in the field of pedagogy have suggested, from time to time, some appropriate guidelines for the planning of these daily lessons. However, the schedule suggested by the renowned educationist Herbart in the shape of his famous five steps has remained quite popular for the planning in almost all the subjects of school curriculum. The five steps suggested by him for the lesson planning are as below: Preparation, Presentation, Comparison and association, Generalization and application.

MODEL LESSON PLAN

Name of the Student teacher: XXXXXXXX

Name of the School: XXXXXXXX   **Class Section/Session: XXXXX**

Subject: Teaching of Social Science   **Unit: VI**

Topic : India's First War of Independece-1857   Date: XXXX

Objectives	The student teacher will be able to : i) Know the names of the main heroes of the first war of independence. ii) Understand India's first war of independence was fought. iii) Describe the causes of the first war of independence. iv) Analyze the factors or causes leading to the failure of the war. v) Recall about the main events of the first war of independence in detail.
Instructional Materials	i) Pictures/charts of the main heroes of the first war of independence ii) Model of army weapons iii) Indian outline map iv) Power point presentation
Previous knowledge of the students	1. When did India get freedom? 2. Who was ruling India before its independence in 1947? 3. What did Indians do for getting them freed from the British subjugation?
	The teacher raises the following questions to motivate the students to study the lesson**.** 1. Are you know Independence war? 2. Could say any independence country name in the world? 3. Who was ruled before independence of India? After this process the teacher writes the lesson title **"India First war of Independence-1857"** on the black board.

Content/Concept	Specification of Behavioural changes	Learning Experiences (Teacher/Learner Activities)	Evaluation
The main causes of the war: **Political cause:** Lord Dalhousie new rules and regulations against for Indian rulers.	Listen, Observes	All these factors and causes presents before the students through a chart or transparency. This also explains, discusses and shows in the map to the students for their clear grasping.	Which state was ruled by Rani Lakshmi bai in the first war of Indian independence?
Military Causes: Being paid less salary to Indian soldiers – Indian soldiers could be sent overseas for fighting.	Understands, Clarifies Describes	Students listen to the teacher and carefully observe the graphic aids for acquaints with the political causes of the expansions of the war.	Who was the governor general of during first war of Indian Independence?
Religious and Social Causes: Widow marriage – Ban on sati Partha.	Analyzes	After power point presentation, this fully explains and discusses with the students for proper clarification and reflective thinking by the students.	What are religious and social causes for begun first war of Indian Independence?
Causes of failure of the war: Its immature initiation earlier than the scheduled date of 31st May, 1857. Its limitation to northern India only.		The students cooperate with the teacher in responding to the question asked by the teacher during and after the presentation of the social and religious causes. The teacher and students analyzes the following points: lack of single purpose or goal; lack of resources; lack of proper organization and leardership.	
Discussion Method	Clarifies	The teacher is giving a topic to the students for	Which foreign traders

		discussion. **"Economic Causes of the first war of Indian Independence"** Students take active part in knowing about the economic causes for the resentment growing among the Indian masses against the British rulers by actively responding to the questions put to them by the teacher.	occupied Indian business? Who was destroyed Indian economy in 1857?
Summary	Recalls	The teacher utilizes power point presentation for summary of the lesson.	

Follow up activities:

1. **Draw a time line chart and mention important events from 1850 to 1900.**

        Signature of the Guide   **Signature of the Student-teacher**

TAXONOMY OF OBJECTIVES IN THE COGNITIVE DOMAIN

Knowledge : it represents the lowest level of the objective belonging to the cognitive domain and primarily aims for the acquisition of the knowledge concerning:

    a) Specific facts, teriminolgy, methods and process and

    b) Generalized priniciples, theories and structures.

    The knowledge objectives mainly call for the recall and recognition level of one's memory and therefore, their evaluation is primarily made through a simple recall or multiple choice type questions.

Comprehensions: it is based on knowledge. If there is no knowledge, there will be no comprehension. On the ladder of the acquisition of cognitive abilities, its level is little higher than the knowledge. Specifically, it means the basic understanding of the facts, ideas, methods, processes, principles or theories, etc.,

Application: the knowledge is useful only when it is possible to employ it. The application of an idea, principle or theory may be made possible only when it is grasped and understood properly. Therefore, the category of application automatically involves both the earlier categories, ie., knowledge and comprehension. Under this objective the learner is required to acquire the ability to make use of the abstract or generalized ideas, principles in the particular and concrete situations.

Analysis: analysis refers to an understanding at a higher level. It is a complex cognitive process that involves knowledge, comprehension as well as application of an idea, fact, principle, or theory. Through the realization of these objectives the learner is expected to acquire the necessary skill in drawing inferences, discriminating, making choices and selection, and separating apart the different components or elements of a concept, object or principle.

Synthesis: the objectives belonging to this category aim to help the learner to acquire necessary ability to combine the different elements or components of an idea, object, concept, or principle to produce an integrated picture, i.e a figure of wholeness. As a result he may be expected to propagate or present a theory or principle by combining different approaches, ideas, view-points. He may arrive at something new or originate some novel things or ideas after synthesizing all what is known to him earlier. In this way, it calls for creativity aspect of the cognitive abilities and therefore may be considered definitely a higher level of learning involving knowledge, comprehension, application as well as analysis.

Evaluation: this category of objectives aims to develop in the learner the ability to make proper value judgment about what has been acquired by him in the form of knowledge, understanding, application, analysis and synthesis. It represents definitely the highest level of the objectives belonging to the cognitive domain and involves all the five categories described earlier. As a result, the learner is expected to take proper decision about the quantitative and qualitative value of a particular idea, object, principle or theory. He may arrive at an appropriate decision about the matter and methods by making use of all the cognitive abilities acquired through the earlier categories of cognitive objectives.

TAXONOMY OF OBJECTIVES IN THE AFFECTIVE DOMAIN

The affective domain describes learning objectives that emphasize a feeling tone, an emotion, or a degree of acceptance or rejection. Affective objectives vary from simple attention to selected phenomena to complex but internally consistent qualities of character and conscience. We found a large number of such objectives in the literature expressed as interests, attitudes, appreciations, values, and emotional sets or biases.

Here are descriptions of each step in the taxonomy, starting at the most basic level.

Receiving is being aware of or sensitive to the existence of certain ideas, material, or phenomena and being willing to tolerate them. Examples include: to differentiate, to accept, to listen (for), to respond to.

Responding is committed in some small measure to the ideas, materials, or phenomena involved by actively responding to them. Examples are: to comply with, to follow, to commend, to volunteer, to spend leisure time in, to acclaim.

Valuing is willing to be perceived by others as valuing certain ideas, materials, or phenomena. Examples include: to increase measured proficiency in, to relinquish, to subsidize, to support, to debate.

Organization is to relate the value to those already held and bring it into a harmonious and internally consistent philosophy. Examples are: to discuss, to theorize, to formulate, to balance, to examine.

Characterization by value or value set is to act consistently in accordance with the values he or she has internalized. Examples include: to revise, to require, being rated high in the value, to avoid, to resist, to manage, to resolve.

TAXONOMY OF OBJECTIVES IN THE PSYCHOMOTOR DOMAIN

The classification, of psychomotor objectives, was first Simpson(1966) and was later modified by Harrow(1972). Those given by Harrow are being described in the following under six different categories arranged from the lowest to the highest levels of functioning.

An alternative taxonomy in the psychomotor domain has been proposed by Dr. R.H. Dave(1969).

Imitation: The learner observes and then imitates an action. These behaviors may be crude and imperfect. The expectation that the individual is able to watch and then repeat an action.

Manipulation: Performance of an action with written or verbal directions but without a visual model or direct observation. The action may be performed crudely or without neuromuscular coordination at this stage. Notice that the action verbs are the same as those for the imitation stage. The difference is that these actions are performed with the aid of written and verbal instruction, not visual demonstration.

Precision: Requires performance of some action independent of either written instructions or a visual model. One is expected to reproduce an action with control and to reduce errors to a minimum.

Articulation: Requires the display of coordination of a series of related acts by establishing the appropriate sequence and performing the acts accurately, with control as well as with speed and timing.

Naturalization: High level of proficiency is necessary. The behavior is performed with the least expenditure of energy, becomes routine, automatic, and spontaneous.

TYPES OF TEST ITEMS

Here mentioned such types of test items.

1. Standardized tests(usually written test with objective type of questions)
2. Teacher made informal test

   I. Written paper and pencil tests

       a. Objective type tests
       b. Short answers type tests
       c. Essay type tests

   II. Oral test

   III. Practical test.

CONSTRUCTION OF TEST-ITEMS FOR FORMATIVE EVALUATION IN CLASS

The formative evaluation may be carried out both in formal (e.g., checklists, quizzes, question-answers, assignments and tests) as well as informal (e.g., observations, listening to students comments and conversations) way. Construction of test items is a serious job for a teacher, it requires adequate planning beforehand. Usually this work can be properly accomplished through the following steps:

1. **Setting objectives**: the first and the most important step is to make oneself clear about the objectives for which one is going to frame the test. In all situations the objectives of the test should be properly decided and defined in terms of specific behavior changes expected from the pupils as a result of studying a particular unit or course of study.

2. **Coverage of the syllabus or contents:** the contents to be covered in the test are directly dependent upon what has been taught by the teacher. The teacher should keep an outline of the learning experience given by him. Although no major unit or subtopic of what has been taught should be left, yet it is not essential at all to ask for each and every thing discussed by the teacher in the class. In other words, a reasonable coverage or various aspects of the learning experiences given to the students should be the goal.

3. **Decision about the types of items or questions:** decision about the types of questions to be set in the test paper is also an essential aspect of its construction. As pointed out earlier, all the three forms-essay type, short answer type and objective type-should find place in a good test.

4. **Decision about the time:** The total time given to the students for giving responses to the items of test should also be decided.

5. **Preparation of the blueprint:** this is the most crucial step in the planning of the test. Blue print is a sort of the decision for the test paepr in which we present detailed question wise distribution of marks over specific objectives, topics and forms of questions. Therefore, all the factors mentioned in the above four steps, i.e. objectives to be tested, contents to be covered, types of questions to be asked, and total time to be given, should be kept in mind while preparing the blueprint or design of the test.

6. **Item formats:** item or questions to be included in the test require proper organization and arrangement.

7. **Try-out and item analysis:** After planning, as suggested here, the test so prepared must be administered in an appropriate sample of students for its try out and suggested task of item analysis.

8. **Designing or preparing the final form of the test:** As a result of try out and item analysis of the test, the improper items can be declared form the test more function able. This final form should then be printed as the situation demands, for the needed evaluation of the students test.

9. **Preparation of scoring key:** to ensure objectivity in scoring, it is advisable to have a pre-determind way of scoring. It is not only the objective type items that require an advance preparation of a scoring key, but also in case of easy and short answer type questions the answer and procedure for scoring should be predetermined.

Questions

1. Write lesson plan steps and draw a lesson plan for any one lesson in Social Science from IX standard.

2. Critically analyse bloom taxonomy of educational objectives.

3. Describe psychomotor domain and its different categories.

4. Explain different types of achievement test.

5. Illustrate on formative evaluation procedures.

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1. Arora.K.L. (2005). Teaching of Social Science, Ludhiana: Tandon Publications.
2. Kochhar.S.K. (2006). Teaching of Social Science, New Delhi: Sterling Publishers.
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UNIT –III PRACTISING THE TEACHING SKILLS IN SOCIAL SCIENCE

At the end of the course, the student teachers will be able to:

➢ understand major teaching skills

➢ practice and learn mini-lesson with multiple teaching skills

➢ understand major steps in teaching in mini-lesson

➢ develop integration of teaching skills

➢ know importance of observation and feedback

Meaning of Teaching

The analytical concept of teaching considers teaching as a complex skill comprising of various specific teaching skills. Those teaching skills can be defined as a set of interrelated component teaching behaviours for the realization of specific instructional objectives. These component teaching behaviours may be modified through the exercise done in practicing the teaching skills, and thus a student teacher may be able to acquire necessary teaching skills for becoming an effective teacher.

Understanding major teaching skills:

I. Introducing

II. Explaining

III. Questioning

IV. Varying the Stimulus

V. Non-verbal cues

VI. Reinforcement

VII. Closure and fluency in communication

I. Skill of Introducing the Lesson

The skill of introducing the lesson may be defined as proficiency in the use of verbal and non-verbal behavior, teaching aids and appropriate devices for making the pupils realize the need of studying the lesson by establishing positive and affective rapport with them. This skill involves the following component behaviours:

➢ Student teacher is able to utilize previous knowledge and experiences of his pupils.

➢ He is able to maintain continuity of the ideas and information in the introduction of lesson.

Thus, utilization of previous experiences, use of appropriate devices, maintenance of continuity in the main parts of the introduction, and relevancy of the verbal and non-verbal behavior are the major component behaviours or constituents of the skill of introducing lesson.

II. Skill of Explaining

A teacher has to learn the skill of explaining in order to make the pupils understand many Ideas, concepts or principles that need explanation. Explanation is nothing but a few interrelated appropriate statements. Thus the skill of explaining may be defined as the art of learning the use of interrelated appropriate statements by the teacher for making the pupils understand the desired concept, phenomenon or principle.

It is by all means a verbal skill and has two main aspects as follows:

➢ The selection of appropriate statements relevant to the age, maturity, previous knowledge, and concept of the concept or phenomenon.

➢ The skill of interrelating and using the selected statements for the proper understanding of the concept or phenonmenon.

Components of the skill: the skill of explaining a concept or phenomenon consists of two types of behavior – desirable and undesirable. In the practice of the skill, the occurrence of the desirable behavior is to be increased whereas the undesirable behaviours are to be decreased and extinguished.

I. Desirable behaviours: using appropriate beginning and concluding statements, using explaining links, covering essential points, testing pupils understanding.

II. Undersirable behaviours: using irrelevant statements, lacking continuity in statements, lacking fluency and using inappropriate vocabulary, vague words and phrases.

III. Skill of Questioning

Questioning skill may be defined as a teaching skill helpful in putting the desired meaningful, clear and concise, grammatically correct, simple and quite straight-forward questions to the students in a classroom teaching-learning situation for the purpose of drawing their attention on one or the other teaching points, making them active and alert to the ongoing teaching-learning process, testing their understanding and comprehension at various stages of the lesson, and motivating as well as providing them opportunity for the proper expression of their thoughts, imagination, recall and recognition and creative and constructive faculties.

Elements of questioning skill: the elements related to the questioning skill may be properly discussed in the following manner by placing them into their two fold division namely the framing of questions and the presentation of these questions to the students.

Questions can serve their purposes well when these are framed with necessary care and preparation on the part of a teacher by taking cognizance of the following things:

I.   Relevance

II.   Clarity

III. Precision or conciseness

IV.   Specification

V.   Grammatically correct

Presentation of questions in the class: questioning skill asks for the proper presentation of the questions in the Social Science class by a Social Science teacher. It calls ususally for paying attention over the components as follows:

I.   Voice of the teacher

II.   Speed and pause

III. Distribution of questions

IV.   Teacher behavior

IV.   Skill of Stimulus Variation

Generally a teacher makes use of an appropriate stimulus for evoking the desired response/responses. However, a continued use of such stimulus may induce disinterest and disattention on account of many physiological and psychological factors. The stimulus variation, i.e., variation or change in the stimuli available in learner's environment, provides an answer. Thus skill of stimulus variation may be defined as a set of behaviours for brining desirable change of variation in the stimuli used to secure and sustain pupils attention towards classroom activities.

Components of the skill: the skill of introducing change or variation in the attention capturing stimuli in a classroom comprises of the following component behaviours:

I) movements,

II) gestures,

III) changes in voice,

IV) focusing,

V) change in the interaction styles,

VI) pausing,

VII)   aural-visual switching and

VIII)   physical involvement of the students.

V.   Skill of Reinforcement

Reinforcement as a technique belongs to the area of psychology of learning and helps in influencing the response or behaviours of the learners. There are two types of reinforcement, viz. positive reinforcement and negative reinforcement. While the use of the former contributes towards strengthening the desirable responses or behaviours, the latter are used for weakening or eliminating the undesirable responses or behaviours. For the better results, the use of the positive reinforcement is to be increased while that of negative reinforcement is to be decreased or eliminated.

In view of the above discussion, the skill of reinforcement may be defined as the are of learning the judicious and effective use of reinforcement by a teacher for influencing the pupil's behavior in the desired direction directed towards maximum pupils participation for realizing the better results in the teaching-learning process.

Components of the Skill: the components of the skill of reinforcement may be listed as follows:

Desirable behaviours:

   I.   use of positive verbal reinforcers

  II.   use of positive non-verbal reinforcers

 III.   use of extra verbal reinforcers

Undesirable behaviours:

   I.   use of negative verbal reinforcers

  II.   use of negative non-verbal reinforcers

 III.   inappropriate or wrong use of reinforcement

Gestures are **non-verbal cues** provided in the oral message given by the teacher for enhancing the value of the message. They are usually made with the help of the movements of eye, hand, head, body and facial expression like extending the hands in a typical shape to indicate how big or small an object is.

MODEL MINI-LESSON PLAN

Name of the student teacher: XXXXXX   Name of the School: XXXXX
Class/Section and Session: XXXXXXX   Subject: Social Science
Unit : II   Topic: Cultural Heritage of Tamil Nadu

Motivation	The teacher has been motivating the students to study a new lesson, and asking few questions related to new lesson: 1) What are the religion names you know? Hindu, Christian, Islam. Etc., 2) What are the festivals celebrated by Hindu religions people?

	Diwali, Pongal, Vinayagar Chadurthi, etc.,
	3) What are the festivals celebrated by Christian religions people? Christmas, Good Friday, All souls day, etc.,
	4) On the festival occasions are we sharing foods, sweets with neighbors home? Yes
	5) Could you say any famous art and architecture place in Tamil Nadu? Mahapalipuram, good if any?
	Today, let us see the lesson "Cultural Heritage of Tamil Nadu"
Presentation	The teacher has been presenting the lesson to the students. He/She is being written the lesson title on the Black Board and students coarsely read the lesson title. Flash cards are being used to display on important Key terms on the lesson. - Administrative System - Society - Sangam Literature - Religion - Art and Architecture The teacher has been displaying religious festival pictures to the students. - Diwali - Christmas - Ramzan
Interaction	The teacher is being clarified students doubts with help of power point and following questions are being raised by the students. 1) How many major epics are there in sangam literature? Five major epics ie., Silapadhikaram, Manimekalai, Kundalakesi, Valayapathi and Sivagasinthamani. 2) What were the revenues of the kingdom? War excise, tolls, duties on salt, periodical gifts and tributes. The teacher is being given small title to the students for peer group discussion under his monitoring. "Siddha system of medicine" "Sangam music"
Reflection	The teacher should encourage the students to think and rethink about the lesson, as well as he/she can raise such questions.

	1) Name the important temples constructed during Chola period? Tanjore, Gangai Konda chola puram etc., The small title is being given to the students for group discussion under the monitoring by the teacher. "Five Thinais"
Summing up	The teacher is being used power point presentation for synthesis of the whole lesson.

Student Teacher   Signature of the Observer

TAMILNADU TEACHERS EDUCATION UNIVERSITY

MINI-TEACHING PRACTICE: INTEGRATION OF TEACHING SKILLS
ASSESSMENT BY PEERS / TEACHER EDUCATOR

Note: Put a tick mark ( ) against the appropriate mastery level of the skill

Score Value: Average = 1, Good =2, Very Good=3

Name of the Student-teacher: xxxxx   Duration: 20 Minutes

Teaching Skill	Average	Good	Very Good	Total
Introducing				
Explaining				
Questioning				
Varying the Stimulus				
Non-verbal cues				
Reinforcement				
Closure				
Fluency in communication				
Total				

Range of Score: 8 - 24

OVERALL ASSESSMENT OF MINI TEACHING

Average		Good		Very Good	

Interpretation of scores: Average : 8   Good : 9 -16 Very Good : 17 -24

Signature of the Observer

TAMILNADU TEACHERS EDUCATION UNIVERSITY

PRACTICING MINI-LESSON: INTEGRATING THE STEPS IN TEACHING
ASSESSMENT BY PEERS / TEACHER EDUCATOR

Note: Put a tick mark ( ) against the appropriate mastery level of the steps

Score Value: Average = 1, Good = 2, Very Good= 3

Name of the Student-teacher: xxxxx   Duration: 20 Minutes

Teaching Skill	Average	Good	Very Good	Total
Motivation				
Presentation				
Interaction				
Reflection				
Summing up				
Total				

Range of Score: 5 - 15

OVERALL ASSESSMENT OF MINI TEACHING

Average		Good		Very Good	

Interpretation of scores: Average : 5   Good : 6-10 Very Good : 11-15

Signature of the Observer

Questions

1. Discuss the importance of major teaching skills in teaching.

2. Define the skill reinforcement. Describe its essential components and present a suitable mini-lesson plan for practicing this skill.

3. What you understand by the skill of stimulus variation? Illustrate the process through a mini-lesson.

4. What is mini-teaching ? Discuss its merits and limitations for teachers training programme.

5. Describing the skill of questioning along with its different components. How can this skill be practiced through mini-teaching?

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Arora.K.L. (2005). Teaching of Social Science, Ludhiana: Tandon Publications.

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UNIT - IV METHODS OF TEACHING SOCIAL SCIENCE

Objectives:

At the end of the course, the student teachers will be able to:

1. explain the various methods of teaching Social Science.

2. identify the different teacher centered methods of teaching.

3. analyse the recent trends in teaching and learning Social Science.

4. adopt the small group interactive learning methods.

5. discuss the various learner centered methods .

Introduction

Different methods of teaching Social Science have been proposed by different educators. Knowledge of these methods may help in working out a teaching-learning strategy. It is not an educational sound for a teacher to commit himself to any particular method. A teacher should adopt an approach considering the nature of the children, their interests and maturity and the resources available. The merits and demerits of various method listed.

A teacher has to make uses of various kind of methods, devices and techniques in teaching. It is not appropriate for a teacher to commit to one particular method. A teacher should adopt a teaching approach after considering the nature of the children, their interests and maturity and the resources available. Every method has certain merits and few demerits and it's the work of a teacher to decide which method is best for the students.

Teacher – centered Methods:

1. Lecture Method
2. Demonstration Method
3. Dramatization Method
4. Team Teaching
5. Source Method

(1) Lecture method

The lecture method is the most widely used form of presentation. Every teacher has to know how to develop and present a lecture. They also must understand the scopes and limitations of this method. Lectures are used to introduce new topics, summarizing ideas, showing relationships between theory and practice, reemphasizing main points, etc. This method is adaptable to many different settings (small or large groups).

• It may be used to introduce a unit or a complete course.

• Finally, lectures can be effectively combined with other teaching methods to add meaning and direction.

The lecture teaching is favorable for most teachers because it allows some active participation by the students. The success of the teaching lecture depends upon the teacher's ability to communicate effectively with the class. However in this method the feedback is not very obvious and thus the teacher must develop a keen perception for subtle responses from the class-facial expressions, manner of taking notes and apparent interest or disinterest in the lesson. The successful teacher will be able to interpret the meaning of these reactions and adjust the lesson accordingly.

Preparing the Teaching Lecture :

1. Planning
2. Rehearsing
3. Delivering a lecture
4. Use of notes

Planning: The following four steps are followed in the planning phase of preparation:

• Establishing the objective and desired outcomes;

• Researching the subject;

• Organizing the material; and

• Planning productive classroom activities.

*Rehearsing***:** After completing the preliminary planning and writing of the lesson plan, the teacher should rehearse the lecture to build self-confidence. It helps to smooth out to use notes, visual aids, and other instructional devices.

Delivering a lecture

In the teaching lecture, simple rather than complex words should be used whenever possible. The teacher should not use substandard English. If the subject matter includes technical terms, the teacher should clearly define each one so that no student is in doubt about its meaning. Whenever possible, the teacher should use specific words rather than general words.

Another way the teacher can add life to the lecture is to vary his or her tone of voice and pace of speaking. In addition, using sentences of different length also helps. To ensure clarity and variety, the teacher should normally use sentences of short and medium length.

For a teacher notes are must because they help to keep the lecture on track. The teacher should use them modestly and should make no effort to hide them from the students.

Notes may be written legibly or typed, and they should be placed where they can be consulted easily.

Advantages of the Lecture method

1. Gives chance for the teacher to expose students through all kinds of material.
2. Allows the teacher to precisely determine the aims, content, organization, pace and direction of a presentation.
3. Can be used to arouse interest in a subject.
4. Can complement and clarify text material.
5. Complements certain individual learning preferences.
6. Facilitates large-class communication.

Disadvantages of the Lecture Method

1. Places students in a passive rather than an active role, which hinders learning.
2. Encourages one-way communication; therefore, the lecturer must make a conscious effort to become aware of student problems and student understanding of content without verbal feedback.
3. Requires a considerable amount of time for unguided student outside of the classroom to enable understanding and long-term retention of content.
4. Requires the teacher to have effective speaking skills.

(2) Demonstration Method

Defining demonstration of learning is complicated by the fact that educators use many different terms when referring to the general concept, and the terms may or may not be used synonymously from place to place. For example, the terms capstone exhibition, culminating exhibition, learning exhibition, exhibition of learning, performance exhibition, senior exhibition, or student exhibition may be used, in addition to capstone, capstone experience, capstone project, learning demonstration, performance demonstration, and many others. Educators may also create any number of homegrown terms for demonstrations of learning—far too many to catalog here.

Teachers not only use demonstrate specific learning concepts within the classroom, they can also participate in demonstration classrooms to help improve their own teaching strategies, which may or may not be demonstrative in nature. Although the literature is limited, studies show that the effects of demonstration classroom teachers includes a change of perspective in relating to students,

more reflection in the teachers' own classroom strategies, and more personal responsibility for student learning.

Advantages of demonstration method

1. It helps in involving various sense to make learning permanent .
2. Through teacher behaviour is autocratic, he invites the cooperation of pupils in teaching learning process.
3. It develops interest in the learners and motivates them for their active participation
4. Any simple or complex sill becomes easy to understand.

Disadvantages of demonstration method

1. It can be used only for skill subject.
2. Only attention of the learners is invited towards the activity demonstrated. They are free to discuss about it.
3. Due to poor economic conditions of the government schools there is scarcity of audio Visual aids and equipment and the teacher are not so creative to produce handmade modes for demonstration.
4. There is a general lack of sincerity and diligence among teachers who which to
5. Complete the syllabus or syllabi at the earliest without putting sincere efforts.

(3) Dramatization Method

There are many ways to use dramatization teaching methods in the classroom. Teachers can use it to help students gain deeper insights into lessons, build on concepts and themes or as a means to test student knowledge. These creative techniques often bring a bit of chaos into the learning process, and teachers guide their students through this creative chaos while staying within the framework of the curriculum.

Teachers may choose to use dramatic teaching methods, such as teacher in role, storytelling or still images. In the teacher in role method, the teacher assumes a character role to guide discussion on a topic. The teacher may use costuming or props to give the role more depth, and the teacher answers questions from students while in character. With the storytelling method, the teacher brings the subject matter to life through the use of stories. The stories incorporate key information from the course and turn it into a compelling story that is told in the teacher's own words. With the still images method, the teacher instructs students to form a circle, and each student takes a turn at recreating a still image with their bodies that represents a specific topic idea.

(4) Team teaching

Team teaching involves a group of instructors working purposefully, regularly, and cooperatively to help a group of students of any age learn. Teachers together set goals for a course, design a syllabus, prepare individual lesson plans, teach students, and evaluate the results. They share insights, argue with one another, and perhaps even challenge students to decide which approach is better.

Teams can be single-discipline, inter disciplinary, or school-within-a-school teams that meet with a common set of students over an extended period of time. New teachers may be paired with veteran teachers. Innovations are encouraged, and modifications in class size, location, and time are permitted. Different personalities, voices, values, and approaches spark interest, keep attention, and prevent boredom.

The team-teaching approach allows for more interaction between teachers and students. Faculty evaluate students on their achievement of the learning goals; students evaluate faculty members on their teaching proficiency. Emphasis is on student and faculty growth, balancing initiative and shared responsibility, specialization and broadening horizons, the clear and interesting presentation of content and student development, democratic participation and common expectations, and cognitive, affective, and behavioural outcomes. This combination of analysis, synthesis, critical thinking, and practical applications can be done on all levels of education, from kindergarten through graduate school.

Working as a team, teachers model respect for differences, inter dependence, and conflict-resolution skills. Team members together set the course goals and content, select common materials such as texts and films, and develop tests and final examinations for all students. They set the sequence of topics and supplemental materials. They also give their own interpretations of the materials and use their own teaching styles. The greater the agreement on common objectives and interests, the more likely that teaching will be interdependent and coordinated.

Teaching periods can be scheduled side by side or consecutively. For example, teachers of two similar classes may team up during the same or adjacent periods so that each teacher may focus on that phase of the course that he or she can best handle. Students can sometimes meet all together, sometimes in small groups supervised by individual teachers or teaching assistants, or they can work singly or together on projects in the library, laboratory, or fieldwork. Teachers can be at different sites, linked by video-conferencing, satellites, or the Internet.

Breaking out of the taken-for-granted single-subject, single-course, single-teacher pattern encourages other innovations and experiments. For example, students can be split along or across lines of sex, age, culture, or other interests, then recombined to stimulate reflection. Remedial programs and honours sections provide other attractive opportunities to make available appropriate and effective curricula for students with special needs or interests. They can address different study skills and learning techniques. Team teaching can also offset the danger of imposing ideas, values, and mindsets on minorities or less powerful ethnic groups. Teachers of different backgrounds can culturally enrich one another and students.

Advantages of Team Teaching

All the Students do not learn at the same rate. Periods of equal length are not appropriate for all learning situations. Educators are no longer dealing primarily with top-down transmission of the tried and true by the mature and experienced teacher to the young, immature, and inexperienced pupil in the single-subject classroom. Schools are moving toward the inclusion of another whole dimension of learning. The lateral transmission to every sentient member of society of what has just been discovered, invented, created, manufactured, or marketed. For this, team members with different areas of expertise are invaluable.

Of course, team teaching is not the only answer to all problems plaguing teachers, students, and administrators. It requires planning, skilled management, willingness to risk change and even failure, humility, open-mindedness, imagination, and creativity. But the results are worth it.

Teamwork improves the quality of teaching as various experts approach the same topic from different angles: theory and practice, past and present, different genders or ethnic backgrounds. Teacher strengths are combined and weaknesses are remedied. Poor teachers can be observed, critiqued, and improved by the other team members in a nonthreatening, supportive context. The evaluation done by a team of teachers will be more insightful and balanced than the introspection and self-evaluation of an individual teacher.

Disadvantages of Team teaching

Team teaching is not always successful. Some teachers are rigid personality types or may be wedded to a single method. Some simply dislike the other teachers on the team. Some do not want to risk humiliation and discouragement at possible failures. Some fear they will be expected to do more work for the same salary. Others are unwilling to share the spotlight or their pet ideas or to lose total control.

Team teaching makes more demands on time and energy. Members must arrange mutually agreeable times for planning and evaluation. Discussions can be draining and group decisions take longer. Rethinking the courses to accommodate the team-teaching method is often inconvenient.

Opposition may also come from students, parents, and administrators who may resist change of any sort. Some students flourish in a highly structured environment that favours repetition. Some are confused by conflicting opinions. Too much variety may hinder habit formation.

Salaries may have to reflect the additional responsibilities undertaken by team members. Team leaders may need some form of bonus. Such costs could be met by enlarging some class sizes. Non- professional staff members could take over some responsibilities.

(5) Source Method

In the 20th century, there are large numbers of text books on Social Science and students are so much used to them that they can little reaise as to when and how they can be made to realize that the writers of these text books drew on the works, monuments, autobiographies and accounts of the travellers of foreign lands who visited their country in the past. Thus, they compiled Social Science from various sources which they alone could understand. An investigation of the original sources of Social Science by the students is called the source method.

Classification of sources

The sources of Social Science are in fact the traces left by human beings in the past. They are found in various forms. "In some sense every thing that man now is or has is a trace left by the past, present, personal, memories, personal mental habits, present ideals, present social customs and institutions, language, literature, material products of human industry, physical man himself and the physical remains of men." There exist a variety of sources which are classified in different ways.

I) Literary sources:

➢ The vedas
➢ Epics
➢ The Dharmasastras
➢ The puranas
➢ The budhist literature
➢ The jain literature
➢ The arthashastra of Kautilya
➢ Patanjali Mahabhashya

II The Secular Literature

The secular literature may be divided into two classes:

i) The private literature

The private literature is that which is produced by an author in a private capacity. Such type of literature includes dramas, novels, poetry and prose. They provide useful information about the social, religious, economic and cultural life of the people.

ii) The official literature

The official literature is that which is produced in an official capacity, for example, despatches, firmans, etc. they throw proper light on the social and religious as well as the economic and political conditions of the age to which they belong.

Archaeology

It has contributed a lot particularly to the Social Science of ancient India. Under the heading of archaeology, historical information can be obtained from inscriptions, numismatics and monuments.

The Role of the Teacher of Social Science

Last the students should develop distaste for the subject; the teacher should take some precautions while using this method:

He should encourage the students to visit libraries frequently in order to find out some original documents.

Time for a discussion of the topics about which the students have read from original sources, should be set apart. They may be asked to write their own impressions and inferences.

The main aim of the teacher of Social Science is not to make students research scholars in Social Science but to put them on the road to research in Social Science.

Whenever the documents are found in the languages other than one which the students know, he should their language problem, and as far as possible, makes things intelligible to them.

Limitations of this method

No single book is available which deals with a large variety of the topics of Social Science. Students may have to fall on may resources for a single topic of Social Science. The historical sources, especially for the boys of the school going age have not been compiled.

Most of the original sources of Indian Social Science are available in Persian or Urudu or Sanskirit or Pali or Arabic whereas all these languages are foreign to students.

The use of the method is not possible at the junior stage. The result of its excessive use is doubtful even at high and the higher secondary stages.

Students, if asked to read the various sources of Social Science, may develop a hatred for the subject, if they have not been given proper training in their handling.

Learner Centered Methods

Learner-centered methods are those methods are those methods where the focus of attraction is learners than teachers. It is through the involvement of learners the method develops. The recent psychological approaches in the classrooms give more importance to learner centered methods than teach centered methods.

(i) Project Method

Project method owes its origin to the pragmatic school of philosophy. It was propounded by W H. Kilpatrick and was perfected by J. A.Stevenson. The method consists of building a comprehensive unit around an activity which may be carried out in the school or outside. The essence of this method is to carry out a useful task in a group in which all the students work co-operatively. Learning by doing and learning by living are the two basic principles involved and children learn through association, co-operation and activity.

Definition

- "A project is a unit of whole-hearted purposeful activity carried on preferably in its natural setting". Kilpatrick
- "A project is a problematic and carried to completion in its natural setting" - Stevenson.
- "A project is a bit of real life that has been imparted in to the school" - Ballard.

Principles of the Project Method

1. The principle of freedom.
2. The principle of reality.
3. The principle of activity.
4. The principle of experience.
5. The principle of utility.
6. The principle of interest.
7. The principle of sociability

Major steps of the Project Method

1. Providing a situation
2. Choosing and purposing
3. Planning
4. Carrying out the project (executing)
5. Evaluating
6. Recording

Kinds of Project

1. ***Producer type***: Here the emphasis is directed towards the actual construction of a material object or article.

2. ***Consumer type***: Here the objective is to obtain either direct or vicarious experience such as reading and learning stories or listening to music etc.

3. ***Problems Type:*** Here the purpose is to solve a problem involving the intellectual process such as determining the e/m ratio of an election.

4. ***Drill type***: Here the purpose is to attain efficiency in some activity. E.g. swimming, driving etc.

Merits of Project method

1. The method is in accordance with psychological laws of learning

   i. Law of readiness - pupil are ready to learn creating interest, purpose and life like situation.

   ii. Law of exercise - by practice we learn things, self-activity on the part of students create experience in later life.

   iii. Law of effect - child should be satisfied and feel happy in what he is learning.

2. It promotes co-operation and group interaction.

3. It gives training in a democratic way of learning and living.

4. There is no place for rote memorization.

5. Provides dignity of labor and develop respect and taste for all types of work.

Demerits of Project Method

1. Project absorbs large amount of time and can be used as a part of science work only.

2. Many aspect of curriculum will not yield to project work.

3. Larger projects in the hands of an inexperienced and unskillful teacher lead to boredom.

4. Text book written on this lines are not available.

5. The method is highly expensive as pupil has to purchase lot of item, travel and do outdoor work.

(2) Peer Tutoring

- Peer tutoring is a flexible, peer-mediated strategy that involves students serving as academic tutors and tutees. Typically, a higher performing student is paired with a lower performing student to review critical academic or behavioral concepts.

- It is a widely-researched practice across ages, grade levels, and subject areas

- The intervention allows students to receive one-to-one assistance

- Students have increased opportunities to respond in smaller groups

- It promotes academic and social development for both the tutor and tutee

- Student engagement and time on task increases

- Peer tutoring increases self-confidence and self-efficacy

- The strategy is supported by a strong research base

Types of Peer Tutoring

*Classwide Peer Tutoring (CWPT) –*Class wide peer tutoring involves dividing the entire class into groups of two to five students with differing ability levels. Students then act as tutors, tutees, or both tutors and tutees. In CWPT, student pairings are fluid and may be based on achievement levels or student compatibility.

Cross-age Peer Tutoring (CPT) - Older students are paired with younger students to teach or review a skill. The positions of tutor and tutee do not change. The older student serves as the tutor and the younger student is the tutee. The older student and younger student can have similar or differing skill levels, with the relationship being one of a cooperative or expert interaction. Tutors serve to model appropriate behavior, ask questions, and encourage better study habits. This arrangement is also beneficial for students with disabilities as they may serve as tutors for younger students.

Peer Assisted Learning Strategies (PALS)- It involves a teacher pairing students who need additional instruction or help with a peer who can assist. Groups are flexible and change often across a variety of subject areas or skills. Cue cards, small pieces of cardstock upon which are printed a list of tutoring steps, may be provided to help students remember PALS steps. All students have the opportunity to function as a tutor or tutee at differing times. Students are typically paired with other students who are at the same skill level, without a large discrepancy between abilities.

*Reciprocal Peer Tutoring (RPT)***:** Two or more students alternate between acting as the tutor and tutee during each session, with equitable time in each role. Often, higher performing students are paired with lower performing students. RPT utilizes a structured format that encourages teaching material, monitoring answers, and evaluating and encouraging peers. Both group and individual rewards may be earned to motivate and maximize learning.

***Same-age Peer Tutoring*:** Peers who are within one or two years of age are paired to review key concepts. Students may have similar ability levels or a more advanced student can be paired with a less advanced student. Students who have similar abilities should have an equal understanding of the content material and concepts. When pairing students with differing levels, the roles of tutor and tutee may be alternated, allowing the lower performing student to quiz the higher performing student. Answers should be provided to the student who is lower achieving when acting as a tutor in order to assist with any deficits in content knowledge.

(3) Individual activities

The social aspect of activities is just as important as the creative, leisure and learning aspects. Mentors make great efforts to help people join small friendly groups to share experience and skills and support each other in maintaining the group in the long-term. Some participants are housebound. In these circumstances, mentors encourage activities that people can pursue individually at home. Sometimes, arrangements may be made for an external artist or 'provider' to visit the person for a while. Wherever possible, the participant is introduced to others who might share their interests, by phone or letter or visiting. Some people prefer to pursue interests on their own.

(4) Experiential learning

The word experiential essentially means that learning and development are achieved through personally determined experience and involvement, rather than on received teaching or training, typically in group, by observation, listening, study of theory or hypothesis, or some other transfer of skills or knowledge. The expression 'hands-on' is commonly used to describe types of learning and teaching which are to a lesser or greater extent forms of experiential learning.

The expression 'chalk-and-talk' (the teacher writes on a board and speaks while learners listen and look and try to absorb facts) refers to a style of teaching or training which contains no experiential learning aspect whatsoever.

Experiential learning, especially used at the beginning of a person's new phase of learning, can help to provide a positive emotional platform which will respond positively and confidently to future learning, even for areas of learning which initially would have been considered uncomfortable or unnecessary.

Experiential learning also brings into play the concept of multiple intelligences - the fact that people should not be limited by the 'three Rs' and a method of teaching based primarily on reading and writing.

Experiential learning is a way to break out of the received conditioned training and teaching practices which so constrain people's development in schools and work.

Small group/ whole class interactive learning

Small group teaching has become more popular as a means of encouraging student learning. While beneficial the tutor needs a different set of skills for those used in lecturing, and more pertinently, small group work is an often luxury many lecturers cannot afford. A further consideration with small group teaching is the subjective perspective of what constitutes a small group. A lecturer used to taking 400 students in a lecture would define 50 students as a small group, while a lecturer used to a group of 50 students would define 5-10 students as a small group. In a discussion, where participation is assessed some students may not speak up in a group that begins to be get bigger than 10 participants and in addition tutors would find it hard to assess participation by individual students in groups with numbers greater than this.

(1) Student Seminar

A seminar is a form of academic instruction, either at an academic institution or offered by a commercial or professional organization. It has the function of bringing together small groups for recurring meetings, focusing each time on some particular subject, in which everyone resent is requested to actively participate. This is often accomplished through an ongoing Socratic dialogue with a seminar leader or instructor, or through a more formal presentation of research. It is essentially a place where assigned readings are discussed, questions can be raised and debates can be conducted. Student seminars are the open presentations done by the students before their peers and teachers. The word seminar is derived from the Latin word seminarian, meaning "seed plot".

Some Tips for Seminar Preparation

1. *Choose a topic*: Choose a topic which will sustain your interest and will allow you to exhibit enthusiasm during your presentation

2. *Keep your Audience in Mind*: The primary objective in giving a talk should be to communicate an interesting idea to students who attend the seminar. This means that the talk should be delivered in a way that students in attendance understand what you are saying, so be mindful of their background.

3. *Tell a story/ anecdote*: Begin with solid motivation for your problem and plenty of illuminating examples. Only after your audience understands what your topic is and why they should care about it should you spend time working carefully through the relevant science.

4. *Keep timing in mind:* Choose a topic that you can motivate and explicate comfortably in this window of time.

Scoring Indicators for Evaluation of seminar

1. *Ability to Collect Data:* Sufficient, Relevant, Accuracy of facts.

2. *Ability to Prepare seminar Paper*: Introduction, Content Organization, Conclusion.

3. *Presentation:* Communication, Competence, Fluency, Spontaneity.

4. *Understanding the Subject:* Involvement in the Discussion, Responding suitably.

(2) Group discussions

Active learning can be implemented by organizing the class into small groups of students who can work together, foster their own learning strategy and create an atmosphere in which information sharing can takes place. Instructional techniques involving group controlled learning experiences provide room for the learners self-development and active participation in the teaching learning process. A discussion is a teaching technique that involves exchange of ideas with active learning and participation by all concerned. Discussion is an active process of teacher-pupil involvement in the classroom environment. This allows a student present its own perspective about something freely. Four basic concepts are to be considered for initiating small group discussion

- Process - the interactions that takes place within the group
- Roles - each group member's specific responsibilities within the group
- Leadership - the capacity to guide and direct others in a group setting.
- Cohesion - group members support for one another
- Different Types of Small Group Discussions

(3) Mixed ability grouping

It refers to grouping together students of different abilities. Usually this kind of grouping occurs when the group consists of students with different ages with one or two years span. The term "mixed aged grouping" or "heterogeneous grouping" is used for this case but we prefer to use the more general term of "mixed ability grouping" since the basic criterion for grouping is ability and not necessarily age. In mixed ability groups there are some students that are more mature and experienced than other ones and thus they have more advanced ability to acquire knowledge. The main aim of setting up mixed ability groups is not to produce homogeneity of ability in a group as this is the case in ability grouping, but to increase interaction across students with different abilities.

In other words the purpose of mixed ability grouping is for children to benefit by their intellectual and social interaction with other students of their group that have different social behavior

and ability to learn. The former reveals the main difference of mixed ability grouping with ability grouping. While grouping children with same ability the goal is to achieve homogeneity of the group and homogenize instruction for students of the group on basis different of grades or ages but based on ability.

LABORATORY METHOD

H.C.Hill presents a picture of the Laboratory method was used in the University of Chicago High School in a class in civics. He says, " The greater part of the students will be studying and writing at their work tables. Two or three may be having a quiet conference on some moot point. Others may be comparing notes or outlines of some phase of the work. One student may be busy at the dictionary, hunting for the explanation of some phrase or term; another may be consulting an atlas; a third may be sharpening a pencil or filling his fountain pe; fourth may be making a map or preparing a graph; fifth may be conferring with the teacher about some difficulty or asking for a criticism on his notes or outlines. Usually one or two students will be browsing among the volumes in the bookcases or going through tables of contents or indexes to find a clue to some obscure item. In general, however, the room is a place of quite, disorderly order, in which students are busily engaged in profitable activities of one kind or another".

Bining and Bining sum up the situation, "Conviction on troublesome issues and questions must come4 as a result of analysis, judgement and experience. Teachers must be loyal to the ideals of tolerance, truth, justice, and honesty. They should emphasize, in their teaching, attitudes, ideals, intellectual habits, and other qualities that will bring about an educated citizency in a great democracy. A few educators have suggested that the teaching of ideals-even those ideals upon which there is general agreement is a form of in doctrination. From this viewpoint, we are being indoctrinated. If it means going to the extremes of Fascist Italy and Nazi germany or present day Soviet Russia, it is to be condemned. On the other hand, a social and civic training that is in accord with democratic ideals-call it what we may-is not only desirable but essential if our schools are to

have any part in training citizens who will build a nobler society, freer from faults and defects than the present one".

PROBLEM SOLVING METHOD

Problem solving may be defined as a planned attack upon a difficulty or perplexity for the purpose of finding a solution. It is a method in which a person uses his ability to solving problem which confront him. It enables a person to exercise control over his activities and environment. it is an instructional device whereby the teacher and the pupils attempt in a conscious, planned, purposeful effort to arrive to explanation or solution to some educationally significant difficulty. It may be purely a mental difficulty or it may be a physical and involve the manipulation data. It is a method in which some difficulty to act on an educational setting is felt an attempt is made in a conscious, planned and purposeful way to find its solution.

Gates has defined the problem thus, " A problem exists for an individual when he has a definite goal he cannot reach by the behaviour pattern which he already has available". Problem solving is not merely a method of teaching. It is, in fact a method of organisation of a subject matter. It is an approach to deal with subject matter. There are problems of puzzling situations which are a normal feature of a child's everyday life. These problems grow in complexity as he grows older and older. The solution of these problems enables him o have a mastery of the environment. therefore, the function of education is to enable the child to prepare him for life, problem solving must be encouraged in school life.

Recent trends in Teaching and Learning Social Science
1. Constructivist learning
2. Problem based learning
3. Brain based learning
4. Collaborative learning

5. Flipped learning

6. Blended learning

7. e-learning trends

8. Video conferencing

(1) Constructivist learning

Constructivism is a learning theory that has its foundation in philosophy and anthropology as well as psychology. The constructivist approach to education attempts to shift education from a teacher-dominated focus to a student-centered one. The role of the teacher focuses on assisting students in developing new insights. Students are taught to assimilate experience, knowledge and insights with what they already know and from this they need to construct new meanings. Constructivist learning is based on students' active participation in problem solving and critical thinking regarding a learning activity which they find relevant and engaging. They are "constructing" their own knowledge by testing ideas and approaches base on their prior knowledge and experience, applying these to new situations and integrating the new knowledge gained with pre-existing intellectual constructs.

In the constructivist theory the emphasis is placed on the learner or the student rather than the teacher of the instructor. It is the learner who interacts with objects and events and thereby gains an understanding of the features held by such objects or events. The learner constructs her own conceptualizations and solutions to problems. Learner autonomy and initiative is accepted and encouraged. Exploring or experiencing the physical surroundings, experiential education is a key method of constructivism. To the constructivists, the act of teaching is the process of helping learners creates knowledge. In constructivist thinking learning is also affected by the context, beliefs and attitude of the learner.

There are many different schools of thought within this theory, all of which fall within the same basic assumption about learning. The main two are: Cognitive constructivism (e.g., Theory of Piaget) and Social constructivism (e.g., Theory of L.S. Vygotsky).

Cognitive Constructivism

Cognitive constructivism is generally attributed to Jean Piaget, who articulated mechanisms by which knowledge is internalized by learners. The process of accumulating the knowledge are through accommodation and assimilation, individuals construct new knowledge from their experiences.

It is important to note that constructivism is not a particular pedagogy. In fact, constructivism is a theory describing how learning happens, regardless of whether learners are using their experiences

to understand a lecture of following the instructions for building a model airplane. In both cases, the theory of constructivism suggests that learners construct knowledge out of their experiences. However, constructivism is often associated with pedagogic approaches that promote active learning, or learning by doing. Today constructivist teaching is based on recent research about the human brain.

The major views of constructivism can be summarized as follows:

- Emphasis learning and not teaching
- Encourage and accepts learner autonomy and initiative
- Sees learners as creatures of will and purpose
- Thanks of learning as a process
- Encourages learner inquiry
- Acknowledges the critical role of experience in learning
- Nurtures learners natural curiosity
- Takes the learner's mental model into account etc..

Social Constructivism

Social constructivism maintains that human development is socially situated and knowledge is constructed through interaction with others. It is a sociological theory of knowledge that applies the general philosophical constructivism into the social assumptions of Social Constructivism. Social constructivism is based on specific assumptions about reality, knowledge, and learning. To understand and apply models of instruction that are rooted in the perspectives of social constructivists, it is important to know the premises that underlie them. The most important assumptions of the theory of social constructivism is

1. The assumption that human beings rationalize their experience by creating a model of the social world and the way that it functions
2. The belief in language as the most essential system through which humans construct reality

(2) Problem Based Learning (PBL)

Problem-based learning (PBL) is a student-centered pedagogy in which students learn about a subject through the experience of solving an open -ended problem. Students learn both thinking strategies and domain knowledge. Problem - based learning (PBL) is an approach that challenges students to learn through engagement in a real problem. It is a format that simultaneously develops both problem solving strategies and disciplinary knowledge bases and skills by placing students in

the active role of problem-solvers confronted with an ill-structured situation that simulates the kind of problems they are likely to face as future managers in complex organizations. Problem-based learning makes a fundamental shift from a focus on teaching to a focus on learning. The process is aimed at using the power of authentic problem solving to engage students and enhance their learning and motivation. There are several unique aspects that define the PBL approach:

- Learning takes place within the contexts of authentic tasks, issues, and problems that are aligned with real world concerns.

- In a PBL course, students and the instructor become co-learners, co-planners, co-producers, and co-evaluators as they design, implement, and continually refine their curricula.

- The PBL approach is grounded in solid academic research on learning and on the best practices that promote it. This approach stimulates students to take responsibility for their own learning, since there are few lectures, no structured sequence of assigned readings, and so on.

- PBL is unique in that it fosters collaboration among students, stresses the development of problem solving skills within the context of professional practice, promotes effective reasoning and self-directed learning, and is aimed at increasing motivation for life-long learning.

Problem-based learning begins with the introduction of an ill-structured problem on which all learning is centered. Most of the learning occurs in small groups rather than in lectures. Teacher's role is more like that of a facilitator and coach of student learning, acting at times as a resource person, rather than as knowledge-holder and disseminator. Similarly, your role, as a student, is more active, as you are engaged as a problem-solver, decision-maker, and meaning-maker, rather than being merely a passive listener and note-taker.

Characteristics of Problem-Based Learning (PBL)

Problem-Based Learning (PBL) is a pedagogical approach and curriculum design methodology often used in higher education and K-12 standard settings.

The following are some of the defining characteristics of PBL:

1. Learning is driven by challenging, open-ended problems with no one "right" answer
2. Problems/cases are context specific
3. Students work as self-directed, active investigators and problem-solvers in small collaborative groups (typically of about five students)
4. A key problem is identified and a solution is agreed upon and implemented

5. Teachers adopt the role as facilitators of learning, guiding the learning process and promoting an environment of inquiry

Learning outcomes of Problem Based Learning

A well designed Problem based learning task provides students with the opportunity to develop skills related to:

- Managing tasks and holding leadership roles
- Oral and written communication
- Self-awareness and evaluation of group processes
- Working independently
- Critical thinking and analysis

Basic Steps in designing a Problem Based Learning Task

There are   some important aspect which we want to take care before going for a problem based learning task

1. Articulate the learning outcomes of the task. What do you want students to know or be able to do as a result of participating in the assignment?
2. Create the problem. Ideally, this will be a real-world situation that resembles something students may encounter in their future class or lives. Cases are often the basis of PBL activities.
3. Establish ground rules at the beginning to prepare students to work effectively in groups.
4. Introduce students to group processes and do some warm up exercises to allow them to practice assessing both their own work and that of their peers.

(3)Brain Based Learning (BBL)

Brain - based learning refers to teaching methods, lesson designs, and school programs that are based on the latest scientific research about how the brain learns, including such factors as cognitive development-how students learn differently as they age, grow, and mature socially, emotionally, and cognitively. It is totally based on the structure and function of the brain. As long as the brain is not prohibited from fulfilling its normal processes, learning will occur. Brain-based learning is motivated by the general belief that learning can be accelerated and improved if educators base how and what they teach on the science of learning, rather than on past educational practices, established conventions, or   assumptions about the learning process. For example, it was commonly believed that intelligence is a fixed characteristic that remains largely unchanged throughout a

person's life. However, recent discoveries in cognitive science have revealed that the human brain physically changes when it learns, and that after practicing certain skills it becomes increasingly easier to continue learning and improving those skills.

Instructional techniques emerges from Brain Based Learning

The three instructional techniques associated with brain-based learning:

1. *Orchestrated immersion***:** Creating learning environments that fully immerse students in an educational experience.

2. *Relaxed alertness***:** Trying to eliminate fear in learners, while maintaining a highly challenging environment.

3. *Active processing***:** Allowing the learner to consolidate and internalize information by actively processing it.

(4)Collaborative Learning

Effective communication and Collaboration are essential for becoming a successful learner. It is primarily through dialogue and examining different perspectives that students become knowledgeable, strategic and self-determined and empathetic. Moreover, involving students in real world tasks and linking new information to prior knowledge requires effective communication and collaboration among teachers, students and others. Indeed it is through dialogue and interaction that curriculum objectives come alive. Collaborative learning affords students enormous advantages which is not available in traditional instruction.

"Collaborative learning" is an umbrella term for a variety of educational approaches involving joint intellectual effort by students, or students and teachers together. Usually, students are working in groups of two or more, mutually searching for understanding, solutions, or meanings, or creating a product. Collaborative learning activities vary widely, but most center on students' exploration or application of the course material, not simply the teacher's presentation or explication of it.

Collaborative learning represents a significant shift away from the typical teacher centered or lecture-centered milieu in college classrooms. In collaborative classrooms, the lecturing/ listening/note-taking process may not disappear entirely, but it lives alongside other processes that are based in students' discussion and active work with the course material. Teachers who use collaborative learning approaches tend to think of themselves less as expert transmitters of knowledge to students, and more as expert designers of intellectual experiences for students-as coaches or mid-wives of a more emergent learning process.

Essential features of Collaborative Learning

1. A group learning task is designed based on shared learning goals and outcomes

2. Students work in teams to master academic materials

3. Reward systems are group oriented than individual oriented

4. Co-operative behavior involves trust building activities, joint planning and understanding of team support.

5. Students involvement in learning activities are more

6. Encourages students to acquire an active-voice in shaping their ideas

Advantages of Collaborative Learning

1. Promotes social and intellectual involvement

2. Cultivation of teamwork, community building, and leadership skills

3. Enhanced student satisfaction and promoting positive attitudes

4. Open expression of ideas in groups

5. Patience in hearing others

6. Team building

7. Shared responsibility

(5) Flipped Learning

Flipped Learning is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter.

Flipped Learning Short video lectures are viewed by students at home before the class session, while in-class time is devoted to exercises, projects, or discussions. The flipped classroom describes a reversal of traditional teaching where students gain first exposure to new material outside of class, usually via reading or lecture videos, and then class time is used to do the harder work of assimilating that knowledge through strategies such as problem solving discussion or debates.

Flipped Classroom and Implications for Teaching

The flipped classroom constitutes a role change for instructors, who give up their front-of-the-class position in favor of a more collaborative and cooperative contribution to the teaching process. There is a concomitant change in the role of students, many of whom are used to being cast as passive participants in the education process, where instruction is served to them. The flipped model puts more of the responsibility for learning on the shoulders of students while giving them greater

impetus to experiment. Activities can be student-led, and communication among students can become the determining dynamic of a session devoted to learning through hands-on work.

(6) Blended learning

Blended learning is a planned combination of online learning and face-to-face instruction using variety of learning resources. It is a flexible learning strategy that integrates innovative and technological advances of online learning with interaction and participation of traditional face-to-face classroom learning.

Blended learning strategies vary according to the discipline, the year level, student characteristics and learning outcomes, and have a student-centered approach to the learning design. Blended learning can promote learner's access and flexibility, increase the level of active learning, and achieve better student experiences and outcomes. For teachers, blended learning can improve teaching and class management practices. A blend might include:

1. Face-to-face and online learning activities and formats
2. Traditional classes with different modalities, such as regular, weekend, evening, part time, semester
3. Use of technology interfaces like social media, wikis and various web sources
4. Group work, Simulation, debate, Online Assignments, Practicals etc.
5. Both usual classroom human factors and digital learning resources of the web
6. Psychological concerns are addressed in the face to face interaction and technological concerns are addressed in the online learning

Blended learning should be viewed as a pedagogical approach that combines the effectiveness and socialization opportunities of the classroom with the technologically enhanced active learning possibilities of the online environment, rather than a ratio of delivery modalities.

Teachers in the Blended learning modality can

- Foster a class culture of hard work and persistence
- Monitor students throughout the period for motivation and learning
- Intervene to personalize instruction when data shows that students are struggling
- Build personal relationships of trust and caring

(7) e-learning

e-learning is the use of electronic media and information and communication technologies (ICT) in education. E-learning is broadly inclusive of all forms of educational technology in learning and teaching. Technology-Enhanced Learning (TEL),

Computer-Based Instruction(CBI). Computer-Based Training (CBT), Computer-Assisted Instruction or Computer - Aided Instruction (CAI),Internet-Based Training (IBT), Web-Based Training (WBT), Online education, Virtual education, Virtual Learning Environments (VIE). e-learning can occur in or out of the classroom.

Synchronous and asynchronous

e -learning may either be synchronous or asynchronous. Synchronous learning occurs in real-time, with all participants interacting at the same time, while asynchronous learning is self-paced and allows participants to engage in the exchange of ideas or information without the dependency of other participants involvement at the same time.

Synchronous learning involves the exchange of ideas and information with one or more participants during the same period of time. A face-to-face discussion is an example of synchronous communications. In e-learning environments, examples of synchronous communications include online real-time live teacher instruction and feedback, Skype conversations, or chat rooms or virtual classrooms where everyone is online and working collaboratively at the same time.

Asynchronous learning may use technologies such as email, blogs, wikis, and discussion boards, as well as web-supported textbooks, hypertext documents, audio video courses, and social networking. Asynchronous learning is particularly beneficial for students who have health problems or have child care responsibilities and regularly leaving the home to attend lectures is difficult.

e-Learning trends

- ✓ Automation
- ✓ Augmented Learning
- ✓ Big Data
- ✓ Going for Cloud Computing
- ✓ Gamification
- ✓ M - Learning
- ✓ Personalization

(8) Video conferencing

Video conferencing is two-way interactive communication delivered using telephone or Internet technologies that allows people at different location to come together for a meeting. The video conference can be as simple as a conversation between two people in private offices involve several sites with more than one person in large rooms at different sites. A basic video conference

setup has a camera and a microphone. Video from the camera and audio from the microphone is converted into a digital format and transmitted to a receiving location using a coding and decoding device, often referred to as a "codec". At that receiving location is another codec device that decodes the receiving digital stream into a form that can be seen and heard on monitors or televisions. At the same time, video and audio from cameras and microphones at the received location is sent back to the original location.

Benefits of Video Conferencing

Video conferencing saves travel time and money. Participants can see and hear all other participants and communicate both verbally and visually, creating a face- to- face experience. PowerPoint and other on screen graphic, as well as other cameras are also available presentation options. People downtime is reduced and productivity gains are achieved by removing the logistics of flight preparations, airport delays, hotel stays, and all the other inconveniences of business travel. In distance education, video conferencing provides quality access to students who could not travel to or could afford to relocate to a traditional campus. Video conferences can also be recorded and made available in a variety of ways. Besides distance education, other applications include meetings, dissertation and thesis defenses, tele-medical procedures, and online conferences.

People use video conferencing when:

- a live conversation is needed.
- visual information is an important component of the conversation.
- parties of the conversation can't physically come to the, same location.
- expense or time of travel is a consideration.
- examples of how video conferencing can benefit people around campus.
- guest lecturer invited into a class from another institution.
- researcher collaborates with colleagues at other institutions on a regular basis.
- thesis defense at another institution.
- administrators from different parts of campus need to collaborate on administrator issues such as a campus strategic plan.
- researcher needs to meet with a review committee about a grant.
- student interviews with an employer in another city.

Conclusion

Every learner learns on his/her own unique way and strategy. The learning is taking place with an individual speed, depending on student's attitude and level of prerequisite knowledge. In

designing the teaching process, teacher should take into consideration differences among the students in the target group. Enough of space must be provided for processing and memorizing the presented information. Combination of different teaching methods can produce quality in fulfilling all teaching functions.

Questions

1. Explain the teacher centered methods of teaching Social Science.
2. How would you use source method in senior classes for increasing effective participation by the pupils?
3. Discuss the main characteristics of lecture method of teaching of Social Science.
4. Mention some difficulties in teacher-centered methods.
5. Discuss the merits and demerits of recent trends.

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UNIT – V: RESOURCES FOR EFFECTIVE TEACHING SOCIAL SCIENCE

Objectives

➢ Know importance of print resources

➢ Understand audio resources

➢ Interest to learn objectives of Social Science

➢ Analyze need and importance of teaching Social Science

➢ Acquire knowledge of values of Social Science

I.   PRINT RESOURCES:

Newspapers

The daily newspapers are very effective as teaching aids in Social Science. They give information regarding the efforts being made to bring peace and harmony in the world, e.g., the summits and non-aligned conferences, the seminars and workshops. They also inform about developments taking place around the world and other news of topical interest.

Contemporary occurrences help to clarify and exemplify the facts and concepts described in the Social Science textbooks. Newspapers may be used to augment other instructional resources and serve as a means of sensitizing the class to the need for updating knowledge. Newspapers can be used to initiate, strengthen and reinforce a unit. Movements, trends, ideas, and changes in national and international governments and relations, addresses of statesmen, prime ministers and presidents are all very important from historical point of view.

Journals

An academic or scholarly **journal** is a periodical publication in which scholarship relating to a particular academic discipline is published. Academic **journals** serve as permanent and transparent forums for the presentation, scrutiny and discussion of research. They are usually peer-reviewed or refereed.

Magazines

Magazines keep the teacher of Social Science more informed of the current events. These events and current problems and their discussion are found in magazines only. Without the knowledge of the current events a teacher cannot create an effective atmosphere in the teaching of

Social Science. The teacher of Social Science fails in his duty if every day problems or current affairs and current events are not brought to the notice of his students.

The students are to be encouraged to read standing standard magazines of the subject and think over those problems which are burning issues.

One period a week for reading of magazines should be developed and the students should be asked to keep a diary and note the main events of the week in their note-books.

Reference books

Reference materials standard or conventional reference books and non-conventional reference books. Conventional reference books include dictionaries, encyclopedias, directories, year books, atlas, maps, charts, pamphlets, hand-books, manuals, and books of knowledge. There should be some picture collections which include well-known masterpieces. These prove most valuable to teachers especially for classroom use.

The non-conventional reference materials consist of all other library books that may be used for reference service of any other kind. They include books on special subjects.

Social Science /Humanities Encyclopedias

There are many children's encyclopedias available-inclusive, well-written, attractive and convenient to use. The teacher should demonstrate their use and cite them frequently. The pupil who acquires the habit of using the encyclopedia is likely to become well-informed. Moreover, when the pupils realize the fullness and richness of these volumes, and acquire the habit of using them, they are also likely to use those which are intended for adults. And they often succeed remarkably well in securing useful information from these relatively difficult books. The pupils should learn to use reference books and to seek out the information itself is of less importance than the discovery of how and where to find it out.

II. AUDIO RESOURCES:

In this category we may include those aids which call upon the visual senses and thus help the learners to learn through listening to the displayed aid.

Radio talk

Radio, as an effective audio aid device, is capable of providing valuable assistance to the teacher in the classroom by presenting worthwhile information and learning experience simultaneously to a large number of students.

These broadcasts are two types, which are as follows:

I. General broadcast providing general information about the events and happenings, assimilating knowledge about the world, culture and life.

II. Educational broadcast specifically prepared and broadcast for serving the cause of education and classroom instruction in the form of radio lessons, lectures, etc.

Use of radio in Social Science teaching: use of radio is helpful in the teaching-learning of the subject Social Science in the following manner:

I. Awareness about the current events and affairs is very much emphasized through the teaching of Social Science. The general broadcasts of the radio may help much to the teachers as well as students of Social Science in this direction.

II. Radio broadcasting makes it possible to listen to the lectures, talks, discussions, seminars and proceedings of educational interest in which renowned authors, educationists, leading scholars and other important personalities may participate. Such contact is bound to provide immense educational and psychological value to the students of Social Science.

III. Specific educational broadcasting on radio, through its planned and sequenced classroom lessons on various topics related to Social Science, may provide much assistance to the teachers in realizing the instructional objectives besides being a direct self-instructional source for the students.

Audio tapes

It is an effective recording device that cells for the use of auditory senses to convey the educational message to the teachers. It mainly consists of three parts-microphone or over sound input, the amplifier, and the reproducer. It involves two main processes-recording and re-producing of the sound.

In recording, the educational message is first fed into the tape recorder through microphone and other inputs. The voice produces mechanical vibrations that are changed into electrical vibrations. The amplifier intensifies these vibrations which, in turn, active a magnet. It results in the establishment of varied sound pattern on the iron oxide coated tape.

The playing of the instrument results into the reproduction of the recording sound. Here the sound pattern contained on the tape is subjected to electrical vibrations that are amplified by the amplifier and changed into an original like voice by the speacker.

III. VISUAL RESOURCES:

In this category we may include those aids which call upon the visual senses and thus help the learners to learn through viewing. For the sake of convenience this category may be further sub-categorized into projective and non-projective aids.

Cartoons

A cartoon does not present the reality directly ; it is a metaphorical presentation of reality. The cartoonist depends on humor, satire and mockery for the presentation of his idea. In a way the cartoon is also a picture diagram, as it presents ideas rather than real objects. Carton type presention makes a strong appeal to the emotions, thus it enhaces learning. This device should be used with pupils of higher classes as a higher level of intellectual maturity is required to appreciate the idea behind a cartoon.

Charts

Charts may be defined as combinations of graphic and pictorial media designed for the orderly and logical visualizing of relationship between key facts and ideas. The main function of the charts is always to show relationships such as comparisons, relative amounts, developments, processes classification and organization.

Types of charts: i) Genealogy charts, ii) Flow charts, iii) Relationship charts, iv) Tabulation charts, v) Chronology charts.

Comics

A comic book or comic book also called comic magazine or simply comic, is a publication that consists of comic art in the form of sequential juxtaposed panels that represent individual scenes. Panels are often accompanied by brief descriptive prose and written narrative, usually dialog contained in word balloons emblematic of the comics art form. Although comics has some origins in 18th century Japan and 1830s Europe, comic books were first popularized in the United States during the 1930s. The first modern comic book, Famous Funnies, was released in the United States in 1933 and was a reprinting of earlier newspaper humor comic strips, which had established many of the story-telling devices used in comics. The term comic book derives from American comic books once being a compilation of comic strips of a humorous tone; however, this practice was replaced by featuring stories of all genres, usually not humorous in tone.

Why should kids read comics?"

Emerging research shows that comics and graphic novels are motivating, support struggling readers, enrich the skills of accomplished readers and are highly effective at teaching sometimes dull or dry material in subject areas such as science and social studies.

Josh Elder, founder and president of Reading With Pictures, sums up the strengths of comics as educational tools with his "Three E's of Comics."

Engagement: Comics impart meaning through the reader's active engagement with written language and juxtaposed sequential images. Readers must actively make meaning from the interplay of text and images, as well as by filling in the gaps between panels.

Efficiency: The comic format conveys large amounts of information in a short time. This is especially effective for teaching content in the subject areas (math, science, social studies, etc.).

Effectiveness: Processing text and images together leads to better recall and transfer of learning. Neurological experiments have shown that we process text and images in different areas of the brain: known as the Dual-Coding Theory of Cognition. These experiments also indicate that pairing an image with text leads to increased memory retention for both. With comics, students not only learn the material faster, they learn it better.

Flash cards

Flash cards are those cards which are employed to provide valuable information to the viewers through the graphical representation made on them. Usually they make use of flannel graph for their display. However, they can also be effectively displayed at their own without making use of a flannel graph. These are are in the shape of small compact cards and contain some picture, phtotograph, sketch, diagram, and reading material neatly and boldy drawn and written on them. The display of these cards at their own or on the flannel board is for a very small period just in the shape of a flash. This is why, these cards are called flash cards. These cards can also be utilized as projective material for being shown on the screen through projectors.

Graphs

Graphs are flat pictures which employ dots, lines or pictures to visualize numerical and statistical data to show statistics or relationships. They are made according to exact specifications and depict specifically quantitative data for analysis, interpretation or comparison.

Graphs are effective tools for making comparisons and contrasts. The use of visual imageries for abstract ideas helps clarifications and remembrance.

Types of graphs: i) Line graph, ii) Bar graph, iii) Circle graph, iv) Pictorial graph.

Maps

One of the most valuable documents for the students of Social Science is the map; but could they read it. As stated earlier place and time are two most important concepts in Social Science; every historical event occurs at a definite place and at a fixed time; devoid of the sense of place and time, Social Science becomes fiction. Map is the universally accepted symbol for the presentation of space concept. It indicates relationships in space, distance and direction.

Types of maps: i) Relief maps, ii) Flat maps, iii) Pictorial maps.

Photographs

Photographs may be passed from hand to hand or posted on a board in front of an audience. They can be used most effectively in small groups. Photographs are extensively used for documentation purposes.

Pictures

Children, by their very nature, are picture minded. This love of pictures can be capitalized to add zest, interest and validity to the teaching Social Science. Pictures they say, concretise Social Science-they help children to understand that Social Science is concerned with real things, real places and real persons. They are representations of beautiful dreams of reality or at least beautiful dreams. "if Social Science is to be made interesting, particularly for lower classes, the proper materials for teaching are dramatic scenes and heroic characters." Abstract generalisations are alwys cumbersome . Pictures will simplify the abstractions and help create and maintain interest.

Types of Pictures: i) Picture post cards, ii) Pictures made on charts, iii) Textbook and reference pictures, iv) Pageant type aids, v) Picture assembly, vi) Picture diagram, and vii) cartoon.

Posters

The present age is poster age. Everywhere we can see posters pasted on the walls, advertising boards and public places and also displayed in the newspapers and magazines for commercial, social and political propaganda. Through such propaganda, directly or indirectly, we can draw valuable educational advantages. In all their forms and shapes, posters represent quite forceful and appealing graphic visual aids. They usually concentrate on a single idea or theme.

Posters carry the following significance and advantages as a visual aid in the process of teaching and learning.

Posters are very effective means of catching and holding the attention of the learners, maintaining their interest in the teaching-learning process and leaving a permenant impression on their minds.

Posters can be specially used at the time of introducing a lesson by the teacher in his class for the purpose of attracting and motivating the students for the learning.

At the presentation, practice and recapitulation stages, they can be used for focusing the attention of the learners on some specific idea, fact, event or process.

The proper selection and effective use of posters:

➢ Simplicity

➢ Brevity

➢ Appropriateness

➢ Attractiveness

➢ Design and colour

Diagrams

A diagram may be defined as a graphic visual aid in the form of some simplified but explanatory drawing to show interrelationships and explain some idea, events or processes by means of lines, geometrical forms and symbols. Their main value lies in their power to describe and explain rather than merely to represent a thing or phenonmenon. Moreover, in comparison to other visual graphic aids like pictures, charts and graphs, they provide the highest condensed visual summaries of the presented facts and ideas.

The diagram should not be used at the introductory or beginning stage of the presentation of a lesson. They are more helpful at the drill, summary and review stages. In any case it is necessary to help the students to acquire necessary background in terms of the essential previous knowledge of the subject matter that is illustrated through the diagram.

Diagrams are complex and abstract representations. They rely highly on the typical symbolism that is very difficult to understand by the students. Therefore, every care is to be taken on the fact that a particular diagram should be used only when the students are capable of comprehending and interpreting such abstraction.

A diagram should have a single purpose in terms of illustrating and explaining a thing, idea or a phenonmenon. It should never be crowded with many ideas and functions to be explained through it.

Models

Original materials are quite rare in Social Science. Even those which exist are within easy reach of all schools. Therefore, the models the three dimensional representations of real things can be used with great advantage in the teaching of Social Science.

A model may be defined as a replica of an object as it is or in a reduced or in an enlarged form. Model can afford a substitute for most of the historic remains. They give a vivid impression of the real.

Use of models in teaching helps in visualizing the historical reality such as buildings, sculptures, etc., sometimes, models may be the shortest and easiest way of presenting certain concepts to pupils.

Models can invest Social Science with the sense of reality. Things which were mere stories to the pupils, might appear as true if we have models to support our verbal exposition.

Models can help Social Science teachers to teach according to the source method. Models of sources may be considered as sources for all practical purposes.

Specimens

These are also effective teaching aids in Social Science. They become more potent when used with other teaching aids such as pictures, maps and charts.

They say "A bird in hand is worth two in the bush". This saying acquires a new meaning when it is applied to the use of objects and specimens.

Specimen may be defined as typical objects or parts of objects which have been removed from their natural setting and environment.

These teaching aids are powerful interest arousing devices which possess the capacity of bringings into play all the five senses-touch, sight, heraring, smell and taste.

IV. ICT RESOURCE:

Radio

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✓ Specific educational broadcasting on radio, through its planned and sequenced classroom lessons on various topics related to Social Science, may provide much assistance to the teachers in realizing the instructional objectives besides being a direct self-instructional source for the students.

Television

Television is a powerful medium of communication that calls for the use of auditory as well as visual senses of the learners in receiving education from a large distance, this appliance makes us able to transmit instantly every spoken or the written word, the picture, the sights and sounds, and the action of events as they take place.

Like most of the advanced developing countries of the world, india has also started to use television in education for imporving the quality of education at all levels, to expand educational facilities, particularly in rural and backward areas, for formal and non-formal systems and to make education interesting to the learners and thereby reduce wastage, i.e., dropouts in educational system.

The successful placing of the satellites into orbit has added new dimensions in the use of television for instructional purposes. One may observe now a number of programmes on his television set that carry significant educational experiences. Besides this, regular educational service for schools and college studetns in the shape of model lessons and other instructional programmes can now be seen on the television screen. The launching of edusat programmes for the schools through the organized efforts of the centre of educational technology cell of necert may be viewed as the latest development in this direction.

➢   Internet

➢   Multimedia

➢   Interactive whiteboard.

V.   COMMUNITY RESOURCES:

Fieldtrips

Therefore most of Social Science learning can take place in the immediate surroundings. Most of the social and historical phenomena can be clearly and easily understood by organizing local field trips to different places of historical interest. The students get an opportunity to come in contact with the natural environment and they get first hand experience and view of Social Science. In fact, the field trips put school on wheel. Field trips to some of the neighboring villages may help the students to recognize vital and meaningful contrast to city life in respect of pattern of houses, occupations, various activities connected with occupations and socio-economic life of the villagers. They get to know the forts, tombs, battle fields, etc. such trips develop the habit of self-study and understanding.

Purpose of field trips

➢   Field trips help to utilize the resources of the environment to their fullest extent for teaching Social Science.

➢   The students are able to see events, relics, objects, specimens in their natural setting.

➢   Because of direct observation, the understanding of the students becomes meaningful and they confirm the bookish knowledge.

➢   Field trips create interest in the subject of Social Science.

➢   They help to neutralize the boredom of teaching of Social Science and to link the school with social and political life outside it.

Museum

The word museum is derived from the greek word MOUSEION meaning thereby a temple of muses. It is place of assembly which specializes in assembling and showing specimens and exhibits. Museum of art and natural Social Science provides splendid educational opportunities to our school population.

Museum is the temple of the muse, as the word implies, is intended to be a place for study. For ages, the museum has been regarded as the reference file of real objects by which to verify and amplify knowledge acquired and preserved in other forms. It is described as the centre of a three

dimensional documentation of the world and the Social Science of man which no publications can replace. It provides information, education and enjoyment. Unless the hearts and minds of the people are exposed to works of art and elevated to a higher creative plane, they generally tend to remain at the animal level below the teaching of civilization.

Today, it is being considered essential that every school should have a museum with a separate section for every subject. It is essential and desirable that there should be a Social Science museum in every school. It will invest Social Science with a sense of reality. By seeing the relics of the past, pupils can realize that Social Science deals with facts. The sculpture can inform the students how in the days of yore arts were patronized and encouraged by different rulers in India. We know that Indian Social Science, particularly the ancient Indian Social Science, is based on ancient relics to a great extent. As such, it provides ample opportunities for study through museum.

A good Social Science museum is not merely a collection of items; it should be a collection of useful items. A museum is also not a curio shop. It must have a dynamic image and role to play in the diverse needs of the pupils of different classes.

Library

It is an important and useful aid to the teaching of Social Science. A small Social Science library is as essential for the teaching Social Science as a laboratory in physics, chemistry, zoology, etc. teachers of Social Science look upon a library as indispensable because original material, reference books, magazines, journals, etc., are stocked in it for reference. Because of a separate Social Science library, the students begin to take interest in the subject and if they do so, the purpose of maintaining a separate Social Science library is served. But is is surprising to know that few schools are really in a position to maintain a good library in general and subject libraries in a particular.

Need of a library

➢ The need of a good and a separate Social Science is felt both by an intelligent teacher and intelligent students. It need is felt when a teacher is confronted with a few problems during the course of teaching of Social Science because no single text-book on Social Science could possibly provide information on all the topics of Social Science. More and more emphasis in being laid on collateral reading in Social Science these days. It is a good Social Science library which can furnish the requisite information and comes to play an important role of enhancing the knowledge of social and historical nature.

➢ Such a subject library helps in inculcating library habits in general and subject interest in particular. The students develop the habit of using the index and develop library sense.

➢ Text-books of Social Science do not meet all the needs of the students. They, thus consult other books on Social Science or reference books. Besides, a Social Science library provides an appropriate atmosphere to inspire and encourage students to consult them and whenever they feel that a text book is not meeting their needs.

Excavated archeological sites

Archaeology has contributed a lot particularly to the Social Science of ancient India. Under the heading of archeology, historical information can obtained from i) inscriptions, ii) numismatics and iii) monuments.

Monuments

The ancient monuments, like forts, mosque, buildings, statues and pottery provide a lot of useful and reliable information about Social Science. The excavations of the sites of the old towns like Harappa, mohanjadaro and Taxila have furnished the historian with a lot of useful and reliable information hitherto unknown and have unearthed much of the Social Science of ancient India. The excavation of the sites of birth has added to the knowledge regarding Budhism and Ashoka.

The remains of the temples of ancient India and the mosques of medieval India are indicative of the hindu and muslim influences. The existence of various monuments through the ages provides a scientific basis for establishing chronology. They shed valuable light on the various phases of our cultural life and also provide as with a clue to the nature and extent of india's cultural contacts with the other civilizations of the world.

➢ Social Science resource Centre

Social Science Club

Such clubs if properly organized will be of immense help in enlivening the teaching of Social Science, considered and thought by most of us, as dull in our schools. Such a club stimulates the interest in extra readings of historical matrial. When the students meet in a club, they get an opportunity to mix with other students.

This club should be managed by the students themselves and the teacher should be a mere guide. They meeting may be held once a month in which a few interesting topics of Social Science may be discussed. Excursion should be organized or arranged to places of historical interest. Films if available may be exhibited off and on.

The members of the club may be asked to collect coins, old utensils, old jewellery, pottery, costumes of the past, photographs of historical personalities. Such activities will provide the students an opportunity to show their ingenuity and manual skill. It will create in them the habit of extra study of historical magazines, journals and old books and may create a desire in them to delve deep into the historical writings. Such training will help them to spend their leisure time usefully.

A historical society may help to organize extra school activity and may foster an interest in the historical remains of all kinds. The students may visit places of interest in their free time, taking notes, drawings and take photographs of the old historical monuments. The value of this lies not only in giving them a permanent interest in antiquities, but also in making their ordinary Social Science a more living and interesting thing to them.

Activities of the Social Science Club

➢ This club may organize village survey and the students may be asked to collect some socio-economic data of a village.

➢ In vacation, the club may organize hiking and trips to mountains, sea side or old monuments. The students will get first-hand knowledge of Social Science.

➢ This club may arrange film show to enhance the historical knowledge of the students of Social Science.

CHARACTERISTICS OF A GOOD SOCIAL SCIENCE TEXT-BOOK

Proper Social Science text books can help in promoting national integration. Text books should give an objective account of forces and trends which synthesized and fused various patterns of thought and modes of life resulting in the present composite Indian culture. It is essential that histories of different regions are prepared in a well-coordianted manner with an all india approach but without sacrificing historical truths in any manner. This will make the pupils aware of inter-cultural differences, help them to reconise the common humaneness which bind sub-cultures together into one single nation and accept different ways of meeting human needs and aspirations.

The text-books should highlight the memorable role of heroes of national stature who kept burning the torch of freedom at the gloomiest hour.

The text-books should not only deal with the glories of the past achievement but also make a significant mention of the future aspirations of resurgent people of India.

Researchers need to be taken up in the realistic contemporary indian culture to guide the text book writers of Indian Social Science. Pamphlets, teaching guides, maps, models and manuals of field trips may be made available to promote national consciousness and strengthen national security.

It is fortunate that the NCERT and central board of secondary education are making special efforts to see it that Social Science does help in promoting national consciousness.

QUALITIES OF A SOCIAL SCIENCE TEACHER

Teacher occupies a very important place in the scheme of education. Without a well equipped teacher, the aims and objectives the school has set before it cannot be achieved. Therefore, we need teachers who have special qualifications and interests. Social Science is a subject which involves observation of historical events and places, collection of old and new data, analysis and generalization etc. Direction and guidance of such a teacher is very necessary. Social Science being a very vast subject, both science and art, it is not possible to teach this subject unless a teacher has special qualifications. In order to be successful and to realize the objectives of Social Science teaching and to discharge his functions properly and adequately, he should be a person of wide reading and culture and possess certain qualifications which are mentioned as under:

- ✓ Academic preparation
- ✓ Mastery of the subject and techniques
- ✓ Power to excite imagination
- ✓ Keen power of observation and imagination
- ✓ Knowledge of various methods of teaching
- ✓ He should have a love for excursions and tours
- ✓ He should take interest in collection of things of historical importance
- ✓ Power of narration and dramatization
- ✓ He should possess the basic knowledge of other social science
- ✓ He should possess scientific bent of mind
- ✓ Knowledge of current affairs
- ✓ Knowledge of child psychology
- ✓ Teacher pupil relationship
- ✓ Personality
- ✓ Professional training

Questions

1. Write about meaning of print resources and describe its impact on society.
2. Describe advantages and disadvantages of ICT sources.
3. Explain qualities of a Social Science teacher.

4. Discuss on importance of community resources in education.

5. Describe impact of ICT resources in education.

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பாடம் 7(அ) தமிழ் கற்பித்தல் (பகுதி-1 கற்பிக்கும் முறைகள்)

பாடங்களைத் தயாரித்து வழங்குவோர்

அலகு 1 தமிழ் கற்பித்தலின் நோக்கங்களும் குறிக்கோள்களும்

முனைவர். ஆ.இராஜேஸ்வரி, உதவிப்பேராசிரியர், கலைத்திட்ட வரைவு மற்றும் மதிப்பீட்டுத்துறை

அலகு 2 கற்பித்தலுக்கான திட்டமிடல்

முனைவர். ஆ.இராஜேஸ்வரி, உதவிப்பேராசிரியர், கலைத்திட்ட வரைவு மற்றும் மதிப்பீட்டுத்துறை

அலகு 3 கற்பித்தல் திறன்களில் பயிற்சி பெறுதல்

முனைவர். கு.விஜயா, உதவிப்பேராசிரியர், கலைத்திட்ட வரைவு மற்றும் மதிப்பீட்டுத்துறை

அலகு 4 மொழித்திறன்களைக் கற்பித்தலும் மதிப்பிடுதலும்

முனைவர். கு.விஜயா, உதவிப்பேராசிரியர், கலைத்திட்ட வரைவு மற்றும் மதிப்பீட்டுத்துறை

அலகு 5 கற்பிக்கும் முறைகள்

முனைவர்.கு.ரதீஸ்வரி, உதவிப்பேராசிரியர், மதிப்பீட்டுக்கல்வித்துறை

அலகு 6 சோதித்தலும் மதிப்பிடலும்

முனைவர். து.பொ. சரவணன் , உதவிப்பேராசிரியர், கல்வித் திட்டமிடல் மற்றும் நிர்வாகத் துறை

தமிழ்நாடு ஆசிரியர் கல்வியியல் பல்கலைக்கழகம்,

சென்னை.

பாடம் -7 (அ) : தமிழ் கற்பித்தல் (பகுதி-1 கற்பிக்கும் முறைகள்)

அலகு 1   தமிழ் கற்பித்தலின் நோக்கங்களும் குறிக்கோள்களும்

நோக்கங்கள்:

இப்பாடம் முடிவுறும் தருவாயில், மாணவ ஆசிரியர்கள்:

1. தமிழ் மொழி கற்பித்தலின் நோக்கங்களையும் குறிக்கோள்களையும் புரிந்துகொள்வர்.
2. தமிழ் கற்பித்தலின் பொதுக்கோட்பாடுகளை அறிந்துகொள்வர்.
3. பண்பாட்டிற்கும் மொழிக்குமுள்ள தொடர்பினை உணர்ந்து பயன்படுத்துவர்.

முன்னுரை

தமிழகத்தில் தமிழ்மொழி பெரும்பான்மையான மக்களின் தாய்மொழியாக விளங்குவதால் அதுவே முதன்மைமொழியாகவும், ஆட்சிமொழியாகவும் பயன்படுத்தி வரும் இன்றைய காலகட்டத்தில் தமிழ் மக்கள் மட்டுமின்றி உலகளாவிய நிலையில் பரந்து நிற்கின்ற தமிழர்கள் தமிழ்மொழியை கற்கின்றனர். தமிழைக் கற்பிப்பதற்குப் புதிய அணுகுமுறைகளும் கணினி போன்ற கருவிகளின் பயன்பாடும் வளர்ந்து பெருகி வருகிறது. மேலும் தற்பொழுது தமிழ் கற்பித்தல் என்பது கல்வியாளர் கவனத்தைப் பெற்று வருகிறது. தமிழுக்கெனத் தனி இணையதளமும் பல்கலைக்கழகமும் இயங்கி வருகிறது. 'தமிழ் மொழி கற்பித்தல்' என்பது பண்டைய கற்பித்தல் முறையிலிருந்து மாறுபட்ட இன்றைய காலப்போக்கிற்கேற்ப வளர்ந்து வர வேண்டியதொரு துறையாகும்.

தமிழ் மொழி கற்பித்தலின் நோக்கங்கள்

மனிதன் எண்ணங்களைப் பேச்சாலும் எழுத்தாலும் வெளியிடவும், அவனின் சிந்தனைத் தாக்கங்களை உணர்வாக படைக்கவும் மொழி பயன்படுகிறது. தனியொருவர் முயற்சியால் கிடைக்கும் படைப்புகள் யாவும் அழியா இடம் பெறுபவை. அவை தாய்மொழியால் மட்டுமே நிலைத்து நிற்கும் ஆற்றலைப் பெறுகின்றன.

சங்க இலக்கியம் தொட்டு இக்கால இலக்கியங்கள் வரை காணப்படும் இலக்கியச் சுவைகளை உணர்ந்து கொள்ளத் தாய்மொழியான தமிழ்மொழி நமக்கு இன்றியமையாத ஒன்றாகும். எண்ணற்ற உயர் இலக்கியங்களில் உள்ள சொற்சுவை, பொருட்சுவை, எழிலுணர்வு, ஒலியினிமை, கருத்து மதிப்பு, நல்லியல்புகள் ஆகியவற்றினைத் தாய்மொழியான தமிழ்மொழி மூலமே சுவைத்துணர முடியும்.

ஓர் தமிழரால் தாய்மொழியான தமிழ்மொழி மூலமாகக் கல்வி கற்கும்போது பல்துறை நூல்களையும் கற்றுத் தெளிய வாய்ப்பு ஏற்படுகிறது. மனிதன் சமுதாயத்துடன் இணைந்து வாழ்வதற்குரிய பண்புகளான ஒத்துழைத்தல், விட்டுக்கொடுத்தல், பிறர்மீது மதிப்பு வைத்தல், குழுக்களில் பணிபுரிதல், பெரியோரை மதித்தல், பிறருக்கு தீங்கு செய்யாமை, வேற்றுமை பாராட்டாமை, கூடிவாழ்தல், இனியவை பேசுதல் போன்ற மனித நேய பண்புகளை தாய்மொழியான தமிழ்மொழியின் மூலமே கற்க இயலும். எனவே மொழியின் அடிப்படைத்திறன்களைப் பெறுதல், ஆக்கப் படைப்புகளை உருவாக்குதல், இலக்கியச் சுவையுணர்தல் பண்பாடுள்ள சமுதாய வாழ்க்கைக்கு உதவுதல் போன்ற உயர் பண்புகளை ஒவ்வொரு தனி மனிதனும் பெற்றுச் சமுதாய உயர்வுக்கு வித்திடப் பயன்படுவதே ஒருவரின் தாய்மொழி. அதுவே தாய்மொழியாகிய தமிழ்மொழி கற்பித்தலின் அடிப்படை நோக்கமுமாகும்.

தமிழ் மொழி கற்பித்தலின் முக்கியத்துவம்

மனிதர்களின் உடல், உள்ளம், அறிவு ஆகிய மூன்றினையும் வளர்ச்சி பெறச்செய்வதே கல்வி. குழந்தை, தான் பிறந்தது முதல் கேட்டும், பேசியும் வரும் தாய்மொழி அக்குழந்தையின் அக வளர்ச்சிக்கும், புற வளர்ச்சிக்கும் துணை நிற்கிறது. ஒருவரோடு ஒருவர் தொடர்பு கொள்ளவும், கருத்துகளைப் பரிமாறிக் கொள்ளவும், பிறரைப் புரிந்து கொள்ளவும் மொழியே அடிப்படைக் காரணியாகிறது.

ஒவ்வொருவருக்கும் அறிவை வளர்க்கவும், மனப்பான்மைகளை உருவாக்கவும், மொழிப்பற்று, இனப்பற்று ஏற்படவும், அழகியல் உணர்வு தோன்றவும் தாய்மொழியே காரணமாகின்றது. எனவே தனிமனிதனின் அகவளர்ச்சிக்கும், புறவளர்ச்சிக்கும், ஆளுமை வளர்ச்சிக்கும் நம் தாய்மொழியாகிய தமிழே முக்கிய காரணியாகிறது. மாணவர்களின் தெளிவான பேச்சு, எழுத்து, சிந்தனையாற்றல் ஆகியவற்றை மொழியாசிரியர்களே வளர்த்தெடுக்க முடியும். எனவே, தாய்மொழியாகிய தமிழ் கற்பித்தலின் நோக்கங்களாகப் பின்வருவனவற்றை வரையறுக்கலாம்.

1. அடிப்படைத்திறன்களை வளர்த்தல்
2. சிந்தனையை வளர்த்தல்
3. எண்ணத்தை வெளியிடல்
4. கருத்துக்களைப் பகிர்ந்து கொள்ளுதல்
5. கற்பனைத்திறன் வளர்த்தல்
6. படைப்பாற்றலை வளர்த்தல்
7. இலக்கிய நயமுணர்ந்து இன்புறல்
8. சமூகப் பண்பாட்டு மரபினை அறிதல்
9. ஒழுக்கப்பண்புகளை வளர்த்தல்
10. மொழிப்பற்று வளர்த்தல் மற்றும் நாட்டுப்பற்றை வளர்த்தல்

1. அடிப்படை மொழித்திறன்களை வளர்த்தல்

தமிழ் மொழியை நுட்பமாகவும், துல்லியமாகவும் கேட்கும் திறனை வளர்த்தல், புரிந்துகொள்ளுதல், ஒலிப்புமுறை, அழுத்தம், உணர்வுகளுடன் பேசும் திறனை வளர்த்தல். மொழியைப் படிக்கும் போது வேகம், பொருளுணர்தல், பிழையின்மை ஆகிய படித்தல் திறன்களை வளர்த்தல், முறையாக எழுதுதல், பிழையின்றி எழுதுதல் ஆகிய எழுத்துத் திறன்களை வளர்த்தல் என மொழியின் அடிப்படைத் திறன்களான கேட்டல், பேசுதல், படித்தல், எழுதுதல் ஆகியவற்றை வளர்ப்பதே தமிழ் மொழியின் முதன்மை நோக்கமாகும்.

இந்தியக் குடியரசில் பேச்சுரிமையும் எழுத்துரிமையும் அடிப்படை உரிமைகளாயின. மொழிவாரி மாநிலங்கள் அமைந்தமையால் தாய்மொழி ஆட்சி ஏற்பட்டது. பொது வாழ்வுப் பகுதி முழுவதிலும் பேச்சுத்தமிழும், அலுவலகங்களில் எழுத்துத் தமிழும் நடுவிடம் பெற்றுள்ளன. செய்தித் தொடர்புச் சாதனங்களான தொலைக்காட்சி, வானொலி, செய்தித்தாள், இணையம் ஆகியவற்றின் மூலம் தாய்மொழியின் எழுத்துத்தமிழும், பேச்சுத்தமிழும் முக்கிய இடத்தைப் பிடித்துள்ளன. எனவே மாணவர்கள் அடிப்படைத் திறன்களில் பயிற்சி பெறத் தாய்மொழியான தமிழ் மொழியே சிறந்த கருவியாக அமைகிறது.

2. சிந்தனையை வளர்த்தல்

சிந்தனையை வளர்த்தலுக்குப் பொதுமைக்கருத்து அடிப்படையாகும். பொதுமைக் கருத்தை மொழியினால்தான் உருவாக்க முடியும். எனவே சிந்தனைக்கு மொழி அடிப்படையாகிறது. சிந்தனை வளர்ச்சி தாய்மொழியின் மூலம் சிறப்படைகிறது. அறிவியல் அறிஞர்கள் பலர் தாய்மொழி மூலமே கண்டுபிடிப்புக்களைச் செய்திருக்கின்றனர். படைப்பாளிகள் பலர் தம் தாய்மொழியிலேயே படைத்திருக்கின்றனர். மகான்களும் மகத்துவமான உண்மைகளை தமது தாய்மொழியிலேயே கூறியுள்ளனர். தாய்மொழியறிவைப் பெறுமிடங்கள் பலவாக இருப்பினும் தாய்மொழித் திறனை, அதுவும் சிந்தனை வளர்ச்சிக்கான தாய்மொழித்திறனைப் பெறுமிடங்கள் கல்விக்கூடங்கள் எனலாம்.

கலையென்றால் உணர்ச்சிகளைக் கவர வேண்டும்

களிப்பூட்டி அறிவினைப்போய் கவர வேண்டும்:

நிலைகொள்ளார் சிந்தனையை நிற்கச் செய்து

நீதிநெறி தெய்வத்தினைப் பூட்டற் கன்றோ?

விலையில்லாப் பெருமைபல உடைய தேனும்

விளங்காத பாஸ்யிலே பாட்டைக் கேட்டுத்

தலையெல்லாம் சுளுக்கேற அசைத்திட் டாலும்

தனக்கதுவோர் கலையின்பம் தருவ துண்டோ?   - *நாமக்கல் கவிஞர்.*

எண்ணங்களும் எண்ணங்களை வெளிப்படுத்துகின்ற பேச்சுக்களும் ஒன்றிற்கொன்று மிகவும் நெருங்கிய தொடர்புடையன. அவை இரண்டும் ஒன்றாகவே அறியக்கூடியன. ஒன்றைப் பயன்படுத்தாமல் மற்றொன்றைப் பயன்படுத்த முடியாது. எனவே மொழி வளர்ச்சிக்கும் மன வளர்ச்சிக்கும் பள்ளிகளில் தாய்மொழிப் பயிற்சி அளித்தலே முதன்மையான தேவையாகும். மொழி நூல்களைக் கற்பதன் வாயிலாய்க் கருத்துக்கள் பல தோன்றும். சிந்தனைகள் தெளிவு பெறும். தாய்மொழி வாயிலாகவே சிந்தனைகள் விளக்கமடைவதுடன், கற்ற செய்திகளைப் பிறர்க்கும் புலப்படுத்த முடிகின்றது. சிந்தனையற்ற செயல் சிறப்புறுவதில்லை.

மனத்தேயெழும் பல்வகைச் சிந்தனைக்கும் மொழியே அடிப்படையாகும். பழைய நினைவுகளை மீட்டறியவும், திறனாய்வு செய்யவும், கொள்கைகளை ஊகித்து அறிந்து கொள்ளவும், உணர்ச்சிகளை வெளிப்படுத்தவும் மொழி பயன்படுகின்றது. இதன்மூலம் சிந்தனையின்றேல் மொழியில்லை, மொழியின்றேல் சிந்தனை இல்லை என்ற கருத்து தெளிவாகும்.

3. எண்ணத்தை வெளியிடல்

மொழியின் வாயிலாகத் தான் நம் எண்ணங்கள், கருத்துக்கள், உணர்ச்சிகள் முதலியவற்றைத் தெரிவிக்க முடிகிறது. பேச்சாலும், எழுத்தாலும், பிறர் கருத்துக்களை அறிய முடிகிறது. ஆதலால் தாய்மொழியை மாணாக்கர்கள் திறமையுடன் கையாளக்கூடியவாறு கற்பிக்க வேண்டும். நுண்ணிய எண்ணங்களும் தெளிவான கருத்துக்களும் மாணாக்கர்களிடம் தோன்றுவதற்கு ஆசிரியர் பின்வரும்படி செயல்பட வேண்டும்.

(அ) எளியமுறையில் ஒரு பொருளைக் குறித்துத் தெளிவாகப் பேசுதல் வேண்டும்.

(ஆ) எளியமுறையில் ஒரு பொருளைப் பற்றிக் கேட்கவும், கேட்டுப் பொருளுணர்வும் செய்தல் வேண்டும்.

(இ) ஒரு பொருளைத் தெளிவான முறையில் படிக்கவும், படித்துப் பொருள் உணரவும் செய்தல் வேண்டும்.

(ஈ) ஒரு பொருளைப் பற்றித் தெளிவான எளிய முறையில் எழுதுவதற்கு தேவையான ஆற்றல்களை வளர்க்க வேண்டும்.

தாய்மொழியில் படிக்கவும், எழுதவுமான பயிற்சிகளைப் பள்ளியில் அளித்து இவ்வாற்றல்களை வளர்த்தால், அவர்களின் எதிர்காலத்திற்கு பெரிதும் துணையாக இருக்கும். ஒரு சிறந்த குடிமகனாக வாழ்வதற்கு இவ்வாற்றல்கள் மிகவும் இன்றியமையாதனவாகும்.

சொல்லில் உயர்வு தமிழ்ச்சொல்லே – அதை

தொழுது படித்திடிப் பாப்பா.   - *பாரதியார்*

எண்பொருளவாகச் செலச்சொல்லித் தான் பிறர்வாய்

நுண்பொருள் காண்ப தறிவு.   - *வள்ளுவர்*

பிறர் உணரும் வண்ணம் எளிமையாகச் சொல்ல வேண்டும். பிறர் நுட்பமாகக் கூறினாலும் அதனை அறிதல் வேண்டும்.

எத்துணைய வாயினுங் கல்வி யிடமறிந்

துய்த்துணர் வில்லெனி னில்லாகும் - உய்த்துணர்ந்தும்

சொல்வன்மை யின்றெனி னென்னா ம.'.துண்டேல்

பொன்மலர் நாற்ற முடைத்து.   - *நீதிநெறி*
விளக்கம்

கல்வி , எத்துணைய ஆயினும் - கற்ற கல்வி எவ்வளவு பெரிதேயானாலும், இடம் அறிந்து உய்த்து உணர்வு இல் எனின் இல்லாகும் - நூலின் இடம் தெரிந்து ஆராய்ந்து உணரும் அறிவு இல்லையானால் அக்கல்வி பயனற்றதாகும்.

தாய்மொழியில் நல்ல புலமை பெற்றால் தான் ஒருவர் தம் உணர்ச்சிகளைத் தெளிவாக வெளியிட முடியும். தம் உணர்ச்சிகளை வெளியிடுவதனால் அவர்களுக்குத் தனிப்பட்ட மகிழ்ச்சி ஏற்படுவதுடன், அவர்களுடைய மனம், ஒழுக்கம் முதலியவை பண்பட்டு, ஆளுமை சிறக்கவும் இடமுண்டு. தாய்மொழியிலுள்ள சிறந்த இலக்கியங்கள் மனத்தை விரிவடையச் செய்து அவர்களுடைய தனித்தன்மையையும் வளர்க்கும். தமிழில் புத்திலக்கியங்கள் பல படித்து மகிழவும் தாய்மொழியறிவு தேவை. ஆட்சி, நிர்வாகம் போன்ற துறைகளில் பலபணிகள் நடைபெறுவதற்கும் தாய்மொழியறிவு தேவை.

4. கருத்துக்களைப் பகிர்ந்துகொள்ளுதல்

வாழ்க்கையில் ஒவ்வொருவரும் பெறக்கூடிய அனுபவங்களை, சுவைகளை, கருத்துக்களை எடுத்தியம்பும் ஆற்றலைத் தாய்மொழியே அளிக்கவல்லது. இன்பத்தையும், துன்பத்தையும் , பொருட்சுவையும், சொற்சுவையையும் தாய்மொழி மூலமே வெளிப்படுத்த இயலும்.

ஒவ்வொருவரும் வேறுபட்ட வாழ்க்கை நுகர்வுகளை, அனுபவங்களை வெளிப்படுத்த மொழியே உதவுகிறது. உள்ளத்தில் எண்ணும் எண்ணங்களை எடுத்தியம்பும் ஆற்றலைத்

தாய்மொழி அளிக்கவல்லது. அதற்கு ஒளவையார் விநாயகப் பெருமானை வேண்டிப்பாடும் பாடலையும், பாரதிதாசன் பாடலையும் சான்றாகக் கூறலாம்.

பாலுந் தெளிதேனும் பாகும் பருப்புமிவை

நாலுங் கலந்துனக்கு நான் தருவேன்

துங்கக் கரிமுகத்துத் தூமணியே நீயெனக்குச்

சங்கத்தமிழ் மூன்றும் தா.   - ஒளவையார்

ஏழை யென்றும் அடிமை யென்றும்

        எவனும் இல்லை ஜாதியில்

இழிவு கொண்ட மனித ரென்பது

        இந்தி யாவில் இல்லையே.

வாழி கல்வி செல்வம் எய்தி

        மனம கிழ்ந்து கூடியே

மனிதர் யாரும் ஒருதி கர்ச

        மான மாக வாழ்வமே!

… விடுதலை விடுதலை   - பாரதிதாசன்

5. கற்பனைத்திறனை வளர்த்தல்

        உள்ளத்து உள்ளது கவிதை
        இன்ப உருவெடுப்பது கவிதை
        தெள்ளத் தெளிந்த தமிழில்
        தெரிந் துரைப்பது கவிதை.

இலக்கியத்தின் முக்கியக் கூறுகளுள் ஒன்றும் கவிதைக்கு இன்றியமையாததாக வேண்டுவதும் கற்பனையே ஆகும். நமது கற்பனையை நமது தாய்மொழியாம் தமிழில் எடுத்துரைப்பது சிறந்தது. இது கவிதைகளைக் கனிவித்துக் கற்போரின் மனத்தை விரிந்த பார்வையில் செலுத்துவது ஆகும். கவிதையின் பிற பண்புகளுக்கெல்லாம் அடிநிலமாய் அதோடு முடிவாக அமைகிறது.

ரஸ்கின் என்ற கவிஞர் **"கற்பனைத் தத்துவம் அறிவுக்கு எட்டாதது. சொற்களால் உணர்த்த முடியாதது. அது அதன் பலன்களை மட்டும் கொண்டே அறியப் பெறுவதென்பதாகும்"** என்று கூறியுள்ளார்.

நம் முன்னோர்களின் கற்பனைக்குச் சான்றுகளாகவே சிற்பங்களை, சின்னங்களை, ஓவியங்களை, காவியங்களை, மாடங்களை, கூடங்களை, இன்று நாம் கையாளும் பொருள்களை, நம்மை, நம் வரலாற்றை, ஏன் உலகத்தையே காண்கிறோம்.

இலக்கியங்களைப் படிக்கும் போது, எண்ணற்ற கற்பனைக் காட்சிகளைக் காண்கிறோம்.

காக்கைச் சிறகினிலே நந்தலாலா! – நின்றன்

கரியநிறந் தோன்றுதையே நந்தலாலா!

பார்க்கும் மரங்களெல்லாம் நந்தலாலா! – நின்றன்

பச்சைநிறந் தோன்றுதையே நந்தலாலா!

கேட்கும் மொழியிலெல்லாம் நந்தலாலா! – நின்றன்

கீத மிசைக்குதடா நந்தலாலா!

தீக்குள் விரலை வைத்தால் நந்தலாலா! – நின்னைத்

தீண்டுமின்பந் தோன்றுதடா நந்தலாலா!

என்ற பாரதியாரின் பாடல் வரிகள் மூலம் அவரின் கற்பனைத்திறனை அறியலாம்.

6. படைப்பாற்றலை வளர்த்தல்

எத்தகைய திறனும் கற்பிப்பாலும் பழகுதலாலும் பெறவியலும். கற்பிப்புக் காலத்தில் மாணவர்கள் பெறுகின்ற இலக்கிய ஆர்வம், எக்கருத்தையும் எழிலுணர்ச்சியுடன் நுணுகி நோக்கல், படிப்புப் பழக்கம், படித்ததைப் போல ஒன்றனைத் தானும் உருவாக்க வேண்டும் எனும் பெருமித உணர்வு ஆகிய உந்தல்களை ஆசிரியர் மாணவர்க்கு உண்டாக்க வேண்டும்.

தம் இலக்கிய ஆர்வத்தைப் பொருத்தே அவரிடம் கற்கும் மாணவர்க்கு இலக்கிய ஆர்வம் அமையும். ஆசிரியர் தம் இலக்கிய நோக்கில் மாணவர்களையும் ஈடுபடுத்த வேண்டும்.

இலக்கியங்களை அவற்றில் பின்புலத் தகவல், அது வழங்கும் செய்தி, உயர்ந்த பொருள், வகைப்பாடு, மொழித்திறன் வளர்க்கும் கூறுகள் ஆகிய நோக்குடன் படிக்க வேண்டும் என்பதை மாணவர்க்கு உணர்த்த வேண்டும். இவ்வாறு இலக்கியத்தை மாணவர் நுணுகி

நோக்கிக் கற்கும்போது உணர்வு மேலோங்கிப் பாராட்டும் மனப்பாங்கு உண்டாகும். பாடுபொருள், மொழிநடை ஆகியவை அவரிடம் தாக்கத்தை விளைவிக்கும். அத்தாக்கம் இலக்கியங்களைப் படிக்கும் எண்ணத்தை தூண்டும். இலக்கியப் படிப்பின்போது காணும் பொருள் மொழிநடையும் மாணவர்தம் உள்ளத்தில் பதிந்து கொண்டதற்கேற்ப புதிய படைப்பு வடிவமாக வெளிப்படும். இது 'போலச் செய்தல்' என்னும் பழக்கத்தால் உண்டாவதாகும்.

> எண்ணிய முடிதல் வேண்டும்
> நல்லவே எண்ணல் வேண்டும்
> திண்ணிய நெஞ்சம் வேண்டும்
> தெளிந்த நல்லறிவு வேண்டும். *- பாரதியார்*

என மாணவர்களுக்கு நல்லெண்ணங்களை ஊட்டி, உயர்ந்த எண்ணத்தோடு அவர்களின் கருத்துகளை படைக்க பயிற்சி அளித்தல் வேண்டும்.

படைக்குமாற்றலைக் கட்டுரைகள், சிறுநாடகங்கள், சிறுகதைகள், செய்யுள்கள், சொற்பொழிவுகள் முதலியவற்றை எழுத்துப்பேச்சு வழிகளில் தட்டி எழுப்பி அது வளர்வதற்கான முறையில் அவர்கள் உள்ளத்தைப் பண்படுத்திவிடலாம். இதனால் ஆயிரத்தில் ஒரு மாணாக்கனாவது இங்ஙனம் சிறந்து பிற்காலத்தில் கம்பனாகவோ, பாரதியாராகவோ விளங்கலாம்.

7. இலக்கிய நயமுணர்ந்து இன்புறல்

இலக்கியத்தில் வரும் பாடலைப் படித்து அதன் பொருளைப் புரிந்து கொள்வது மட்டும் போதாது. அப்பாடலில் உள்ள பொருள் நயம், சொல் நயம், எதுகை, மோனை, அணிநயம் ஆகியவற்றையும் உணர்ந்து மகிழ்வது இலக்கிய நயமுணர்ந்து இன்புறல்.

> செந்தமிழ் நாடெனும் போதினிலே - இன்பத்
>
> தேன்வந்து பாயுது காதினிலே – எங்கள்
>
> தந்தையர் நாடென்ற பேச்சினிலே – ஒரு
>
> சக்தி பிறக்குது மூச்சினிலே.

> காவிரி தென்பெண்ணை பாலாறு – தமிழ்
>
> கண்டதோர் வையைப் பொருணைநதி – என
>
> மேவிய யாறு பலவோடத் - திரு
>
> மேனி செழித்த தமிழ்நாடு.

நீலத் திரைகடல் ஓரத்திலே - நின்று

நித்தம் தவஞ்செய் குமரிஎல்லை – வட

மாலவன் குன்றம் இவற்றிற்கிடையே - புகழ்

மண்டிக் கிடக்கும் தமிழ்நாடு.

கல்வி சிறந்த தமிழ்நாடு – புகழ்க்

கம்பன் பிறந்த தமிழ்நாடு – நல்ல

பல்வித மாயின சாத்திரத்தின் - மணம்

பாரெங்கும் வீசுந் தமிழ்நாடு.   - *பாரதியார்*

மையக்கருத்து: 'செந்தமிழ் நாடு' என்று பிறர் சொல்லக் கேட்கின்ற போதே செவிக்கு இன்பம் பயக்கின்றது. தந்தையர் நாடு என்று வழங்குகின்றபோது உயிர் மூச்சில் புதிய ஆற்றல் தோன்றுகிறது.

வற்றாத பல ஆறுகள் ஓடி நாட்டை வளப்படுத்துகின்றன. தென்குமரி முதல் வடவேங்கடம்வரை பெருமை மிக்க தமிழ்நாடு.

தமிழ்நாடு கல்வியாளர் பலரால் நிறைந்தது; புகழ்க்கம்பனாலும் பல்வேறு கலைகளாலும் புகழ் பரவியது.

தொடைநயம்:

எதுகை: அடிதோறும் முதற்சீரின் முதலெழுத்துத் தம்முள் அளவொத்து இரண்டாம் எழுத்து ஒன்றிவருவது அடிஎதுகையாகும்.

செந் - தந், காவிரி – மேவிய, நீலம் -மாலவன், கல்வி – பல்வித என அடிதோறும் எதுகைகள் வந்துள்ளன.

இயைபுத் தொடை:

ஓரடியில் சீர்தோறும் கடைசியில் நின்ற எழுத்தாலும் சொல்லாலும் ஒன்றிவரத் தொடுப்பது சீர் இயைபுத்தொடையாகும்.

கவிதையின் முதலடியில் மூன்றாம் ஏழாம் சீர்களில் **போதினிலே, காதினிலே** என சீர் இயைபுத்தொடை நயம் பெற்று வந்துள்ளது.

மோனை: ஓரடியில் சீர்தோறும் முதலெழுத்து ஒன்றிவருவது சீர்மோனையாகும்.

செந்தமிழ் - **தே**ன், **தந்**தையர் - **ச**க்தி, **கா**விரி – **கண்**ட , **மே**விய – **மே**னி, **நீ**லம் - **நி**த்தம், **மா**லவன் - **மண்**டி, **க**ல்வி – **க**ம்பன் , **ப**ல்வித – **பா**ரெங்கும் என முதற்சீரிலும்

ஐந்தாம் சீரிலும் முதலெழுத்து ஒன்றி வந்து மோனைத் தொடை அமைந்து இனிய ஓசை தருவதை அறியலாம்.

அணி: காவிரி முதலிய ஆறுகள் பாய்ந்து செந்தமிழ் நாட்டைச் செழிக்கச் செய்தலையும், தமிழ்நாட்டின் எல்லைகளையும் உள்ளது உள்ளவாறு இயற்கைத் தன்மைகளைக் கவிஞர் கூறியுள்ளதால் இக்கவிதையில் இயல்புநவிற்சி அணி பயின்றுள்ளது.

சுவை: கல்வி, தறுகண்மை, புகழ், கொடை ஆகியவற்றால் மேம்பட்டு நிற்கும் நிலையில் பெருமிதம் தோன்றும். தமிழ் மொழியின் உயர்வு, தமிழ்நாட்டின் செழுமை, தமிழரின் கல்வி ஆகியவற்றால் மேம்பட்டு நிற்கும் தன்மைகளை எடுத்துரைப்பதால் இப்பாடலில் பெருமிதச் சுவை விஞ்சி நிற்கிறது.

8. சமூகப் பண்பாட்டு மரபினை அறிதல்

மொழிகள் அனைத்திலுமே அம்மொழி பேசுகிறவர்களின் பண்டையச் சமுதாய வாழ்வையும் பண்பாட்டையும் கற்பதற்குரிய நூல்கள் இருக்கும். பெரும்பாலும் அவை இலக்கிய மரபாகவும் வரலாற்று நூலாகவும் இருக்கும். ஆனால், தமிழில் வாழ்க்கையை அடிப்படையாகக் கொண்ட இலக்கண நூலிருப்பது நம் மொழியின் தனிப் பெருஞ்சிறப்பாகும். வாழ்க்கைக்கு இலக்கணம் வகுத்துக்காட்டிய பெருமை தமிழனுடையதாகும். புறநானூறு, அகநானூறு போன்ற சங்க இலக்கியங்களிலிருந்து பண்டைத் தமிழர்களின் சமுக வாழ்க்கையையும், பண்பாட்டையும் தெரிந்து கொள்ளலாம். மேலும் "இப்படித்தான் குறிக்கோள் வாழ்க்கை வாழவேண்டும்" என்று தொல்காப்பியப் பொருளதிகாரத்தில் திட்டமான குறிப்புகள் உள்ளன. தமிழர்கள் வாழ்க்கையை அகவாழ்க்கை , புறவாழ்க்கை என இரண்டாகப் பிரிப்பர். இன்பம் (அ) காதலைப் பற்றிப் பேசுவது அகப்பொருள், போர், கொடை, நட்பு ஆகியவற்றை விரித்துக் கூறுவது புறம். அகம் குடும்ப வாழ்க்கையாகும். புறம் உலக வாழ்க்கையாகிய பொது வாழ்க்கையாகும். பிறர் புலன்களால் அறியக் கூடிய பொருள்களைப் புறம் என்றும், அனுபவிப்பவர் மட்டும் அறியக்கூடியதும் ஏனையோர் புலன்களுக்கு வசமாகாததுமான சிற்றின்ப உள்ளுணர்ச்சியினை அகப்பொருள் என்றும் பிரித்திருக்கிறார்கள். இவ்விரு பொருள்களையும் விரிக்கும் போது ஒவ்வொரு பொருளையும் ஏழு திணைகளாகப் பிரித்து ஒவ்வொரு திணையிலும் நிகழக்கூடிய நிகழ்ச்சிகளையும் விரிவாக கூறியுள்ளனர். பண்டைய காலத்திலிருந்து இன்று வரை தோன்றியுள்ள இலக்கியங்களைப் படிக்கும்போது அவை நேர்முகமாகவும், மறைமுகமாகவும் அவ்வக்காலங்களில் வாழ்ந்த மக்களின் சமுக இயலையும் பண்பாட்டு மரபினையும் விளக்குவதை அறியலாம்.

> யாதும் ஊரே யாவரும் கேளீர்
> தீதும் நன்றும் பிறர்தர வாரா:
> நோதலும் தணிதலும் அவற்றோ ரன்ன
> சாதலும் புதுவ தன்றே.   -புறம்-192.

மாங்குடி மருதனார் என்ற புலவர் பாண்டிய நெடுஞ்செழியனை, "தேவருலகத்திலுள்ள அமிழ்தே கிடைத்தாலும் நீ பொய் கூறமாட்டாய். தேவர்களே பகைவரானாலும் பணியமாட்டார். நேர்வழியில் வரும் பொருளையே விரும்புவாய்", என்று பாராட்டியுள்ளார்.

பண்பாடு என்பது சமூகத்தோடு ஒட்டி வாழும் உயிரின் நோக்கமாகக் கருதப்படல் வேண்டும். இதனையறிந்து செயல்படுவதற்கு வாயிலாகத் தமிழ்மொழி இலக்கியமே உதவும். தனிமனிதனுக்குத் தேவையான சமுதாய மரபுகளையும், மனப்பான்மையையும் தமிழ் இலக்கியமே அளிக்கிறது.

9.ஒழுக்கப் பண்புகளை வலியுறுத்தல்

மொழிப்பாடம் வாயிலாகத்தான் மாணவர்களுக்கு ஒழுக்கப் பண்புகளை வலியுறுத்த முடியும். ஏனெனில் வாழ்க்கையும், தமிழ் இலக்கியமும் பின்னிப் பிணைந்தவை, பிரிக்க முடியாதவை. இலக்கியம் வாழ்க்கையிலிருந்தே தோன்றுகிறது. பிற பாடங்களில் கோட்பாடுகளையும், கொள்கைகளையும் மட்டுமே மாணவர்கள் கற்றுக் கொள்ளுகின்றனர். ஆனால் வாழ்க்கைக்கு தேவையான அன்பு, பண்பு, பொறுமை, விடாமுயற்சி, விருந்தோம்பல், பிறரை மதித்தல், ஏழைகளுக்கு உதவும் அறநெறி, நலிந்தவர்களுக்கு நல்வாழ்வு தருதல், பிற சமயத்தினரை மதித்தல் ஆகிய ஒழுக்கப்பண்புகளை தமிழ்மொழிப் பாடம் மூலமே மாணவர்களுக்குக் கற்றுத்தர முடியும்.

சிறுவகுப்பிலிருந்தே மாணவர்களுக்கு இறைவாழ்த்துப் பகுதி மூலம் இறையுணர்வு ஊட்டப்படுகிறது. சங்க இலக்கியங்கள் தமிழர்களின் வாழ்வியல் நெறிகளை ஒழுக்கப் பண்புகளை வளர்க்கின்றன. சமய, இன, மொழி, சாதி வெறியைத் தூண்டாத வகையில் அனைத்து சமயப் பொதுமைக் கருத்துகளை வலியுறுத்தக்கூடிய நல்லொழுக்கப் பண்புகளை நம் தாய்மொழியாகிய தமிழ்மொழி கற்பிக்கிறது.

ஈதற்குச் செய்க பொருளை அறநெறி

சேர்தற்குச் செய்க பெருநூலை — யாதும்

அருள்புரிந்து சொல்லுக சொல்லையிம் மூன்றும்

இருளுலகஞ் சேராத வாறு.   - திரிகடுகம்.

இல்லார்க்கு ஈதற்காகப் பொருளைத் தேடுதலும், பிறர் அறவழியை அறிந்து நடப்பதற்காகச் சிறந்த நூல்களைச் செய்தலும், பிறரிடம் பேசும்போது இனிமையாகப் பேசுதலும் இன்பந் தருவன என்பதாம். இவை மூன்றும் நல்லொழுக்கமாகும்.

ஒழுக்கத்தின் எய்துவர் மேன்மை, இழுக்கத்தின்

எய்துவர் எய்தாப் பழி.   - திருக்குறள்

10.மொழிப்பற்று மற்றும் நாட்டுப்பற்றை வளர்த்தல்

மொழிப்பற்றினையும், நாட்டுப்பற்றினையும் தமிழ்செய்யுள்கள் வழி வளர்க்க வேண்டும். இதற்கெனவே பொருத்தமான செய்யுள்கள் பாடப்பகுதியில் இடம் பெறுகின்றன.

மொழிப்பற்று

யாமறிந்த மொழிகளிலே தமிழ்மொழிபோல்

இனிதாவ தெங்கும் காணோம்,

பாமரராய, விலங்குகளாய், உலகனைத்தும்

இகழ்ச்சிசொலப் பான்மை கெட்டு

நாமமது தமிழரெனக் கொண்டிங்கு

வாழ்ந்திடுதல் நன்றோ? சொல்லீர் !

தேமதுரத் தமிழோசை உலகமெலாம்

பரவும்வகை செய்தல் வேண்டும்.   - *பாரதியார்.*

கனியிடை ஏறிய சுளையும் - முற்றல்

கழையிடை ஏறிய சாறும்

பனிமலர் ஏறிய தேனும் - காய்ச்சுப்

பாகிடை ஏறிய சுவையும்

நனிபசு பொழியும் பாலும் - தென்னை

நல்கிய குளிரிள நீரும்,

இனியன என்பேன் எனினும் - தமிழை

என்னுயிர் என்பேன் கண்டீர்!   - *பாரதிதாசன்*

என்ற பாரதியார் மற்றும் பாரதிதாசனின் வரிகள் மூலம் அவரறிந்த மொழிகளுள் தமிழே இனிமை பயப்பது. தமிழராக பிறந்த ஒவ்வொருவரும் தமிழ் மொழியை பரப்ப வேண்டும் என்ற மொழிப்பற்றினை உணர்த்துகிறார்.

நாட்டுப்பற்று

அருஞ்சிறப்புகளை அடையப் பெற்ற ஒரு நாடு பாருக்குள்ளே நல்ல நாடாக இருப்பது வியப்புக்குரியதல்லவே! இதனையே வான்புகழ் வள்ளுவர் ஒரு நாட்டிற்கு இலக்கணமாக,

நாடென்ப நாடா வளத்தன நாடல்ல

நாட வளந்தரும் நாடு.   - *திருக்குறள்*

என்னும் குறள்வழிக் கூறியிருப்பது நினைவில் கொள்ளவேண்டியது.

பாரத தேசமென்று தோள்கொட்டுவோம்

வெள்ளிப் பனிமலையின் மீதுலாலுவோம் - அடி

மேலைக் கடல் முழுதும் கப்பல் விடுவோம்

பள்ளித் தலமனைத்தும் கோயில் செய்குவோம் - எங்கள்

<div align="center">

பாரத தேச மென்று தோள்கொட்டுவோம்!

சிங்களத் தீவினுக்கோர் பாலம் அமைப்போம்

சேதுவை மேடுறுத்தி வீதி சமைப்போம்

வங்கத்தில் ஓடிவரும் நீரின் மிகையால்

வையத்து நாடுகளில் பயிர் செய்குவோம்

காசிநகர்ப் புலவர் பேசும் உரையைக்

காஞ்சியில் கேட்பதற்கோர் கருவி செய்வோம்

ஆயுதம் செய்வோம் நல்ல காகிதம் செய்வோம்

ஆலைகள் வைப்போம் கல்வி சாலைகள் வைப்போம்! *-பாரதியார்*

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என்று அனைத்து துறையிலும் முன்னேற்றம் கண்டிட காண வழிமுறைகளை பாரதியார் கூறும் மொழியை காணும் பொழுது நாட்டுப்பற்று தெளிவாகும்.

<div align="center">

தன்குல வளர்ப்பும் தமிழ் இன வளர்ப்பு எனும்

வன்மொழித் தத்துவம் வழங்குவர்க் குரைப்பேன்

என்குல மென்பது இதயத்து இடம்பெறின்

தன்மொழி, தன் இனம் தாங்குவார் அவரவர்.   - குலோத்துங்கன்.

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மொழி கற்பித்தலின் பொதுக்கோட்பாடுகள்

1963ம் ஆண்டு ஜெரோம் புரூனர் முதன் முதலில் கற்பித்தல் கொள்கைகள் என்ற சொல்லை உருவாக்கினார். பின்னர் 1965ல் இச்சொல் பிரபலமடையத் தொடங்கியது. கற்பித்தல் வளர்ச்சிக்குக் கற்பித்தலுக்கான உளவியல் கொள்கைகள் அடித்தளமிட்டுள்ளன. மனிதனின் நடத்தையில் கல்வியால் மட்டுமே மாற்றங்களைக் கொண்டு வரமுடியும். கல்வியும், கற்றலும் பிரிக்க இயலாதவை. எனவே கற்பித்தலுக்கான உளவியல் கொள்கைகளை ஆசிரியர்கள் கடைபிடிக்க வேண்டியது இன்றியமையாததாகும்.

பேட்டர்சன் என்பவரின் கூற்றுப்படி கற்பித்தலில் ஒருங்கிணைப்பை உளவியல் கொள்கைகளே அளிக்கின்றன. கற்பித்தலுக்குத் தேவையான முறைகளைக் கையாள உதவுகின்றன. ஆராய்ச்சிக்கும் அவையே படிநிலைகளை அமைத்துக் கொடுக்கின்றன. ஆசிரியப்பயிற்சி மாணவர்களுக்குக் கற்பித்தல் நுட்பங்களை உளவியல் கொள்கைகளே உணர்த்துகின்றன. பல உளவியலறிஞர்கள் கற்பித்தலுக்கான கொள்கைகளை வகுத்துள்ளார்கள். அவர்களுள் காக்னே, புரூனர், பியாஜே ஆகியோருடைய கற்பித்தலுக்கான உளவியல் கொள்கைகள் இங்கு ஆராயப்படுகின்றன.

மொழி கற்பித்தலின் உளவியல் கோட்பாடுகள்

1. காக்னேயின் அறிவு வளர்ச்சிக் கோட்பாடு

காக்னே அவருடைய "கற்றலுக்கான சூழல்" என்னும் நூலில், கற்றலில் ஏற்படக்கூடிய எட்டுவகையான கற்றல் மாற்றங்களைக் குறிப்பிட்டுள்ளார். மேலும் அவை ஒன்றுடன் ஒன்று தொடர்பு கொண்டுள்ளதையும் கண்டறிந்தார்.

காக்னேயின் கற்றல் படிநிலைகள்:

இராபர்ட் எம். காக்னே கற்றலை எட்டு வகையாகப் பிரித்துள்ளார். எளிமையான கற்றலில் தொடங்கி சிக்கலான பிரச்சனைகளைத் தீர்க்கக் கற்றுக்கொள்ளுதல் வரை வரிசைக்கிரமத்தில் அமைந்துள்ளன. அவை

1. குறியீட்டு வழிக்கற்றல்
2. தூண்டல்-துலங்கல் மூலம் கற்றல்
3. இணைத்தல்
4. சொற்களின் கூட்டிணைப்பு
5. வேறுபாடறிதல்
6. கருத்துகள் உருவாவதைக் கற்றல்
7. விதியைக் கற்றல்
8. சிக்கலைத் தீர்த்தல்

1. **குறியீட்டு வழிக்கற்றல்:** பாவ்லோவின் ஆக்கநிலையுறுத்தல் கொள்கைப்படி கற்றலில், தனிநபர் ஒரு குறியீட்டுக்குத் துலங்கலை வெளிப்படுத்துவதைக் கற்றுக் கொள்கிறான்.
2. **தூண்டல்-துலங்கல் மூலம் கற்றல்:** தார்ண்டைக்கின் தூண்டல் துலங்கல் மூலம் கற்றல் சோதனையையும், ஸ்கின்னரின் செயல் தொடர்புடைய துலங்கலையும் இக்கற்றல் முறைக்குச் சான்றுகளாகக் கூறலாம்.
3. **இணைப்புக் கற்றல்:** இரண்டு அல்லது அதற்கு மேற்பட்ட தூண்டல் துலங்கல்களை இணைப்பதன் மூலம் கற்றல் நிகழ்தல்.
4. **சொற்களின் கூட்டிணைப்பு:** சொற்களைப் பொருத்தமாக இணைத்தலைக் கற்றுக் கொள்ளுதல்.
5. **வேறுபாடறிதல்:** ஒரே மாதிரியான பல்வேறு தூண்டல்களைக் கண்டறிந்து, ஒவ்வொன்றிற்கும் ஒவ்வொரு வகையான துலங்கலை வெளிப்படுத்தும் வேறுபாடுகளை அறிதல்.
6. **கருத்துகள் உருவாவதைக் கற்றல்:** தூண்டல் வகைகளுக்கிடையே உள்ள பொதுமைப் பண்புகளை உணர்ந்து, அதனடிப்படையில் பொதுமைக் கருத்துகளைக் கற்றல்.
7. **விதியைக் கற்றல்:** இரண்டு அல்லது அதற்கு மேற்பட்ட கருத்துகளை இணைத்து, விதியைக் கற்கும் பொழுது, கொள்கைகளைக் கற்றலும் நிகழ்கிறது.
8. **சிக்கலைத் தீர்த்தல்:** காரணமறிதல், சிந்தனை, உற்றுநோக்கல், வேறுபடுத்துதல், பொதுமைப்படுத்துதல் போன்ற அறிவுத் திறன்களின் மூலம் சிக்கலைத் தீர்க்கக் கற்றுக் கொள்ளுதல் நிகழ்கிறது.

காக்னே, கற்பித்தலின் நான்கு முக்கியக் கூறுகளையும் குறிப்பிட்டுள்ளார். ஆசிரியர் தன்னுடைய கற்பித்தல் செயலில் இவற்றைப் பயன்படுத்த வேண்டுமென்றும் அறிவுறுத்தியுள்ளார். அவை:

1. முன்பு கற்ற பாடப் பொருளை நினைவு கூறத் தூண்டுதல்.

2. பொருத்தமான தூண்டலை நேரடியாக அளித்தல்.
3. நிர்ணயிக்கப்பட்ட கற்றல் இலக்குகளைச் செயல்படுத்துதல்.
4. பின்னூட்டம் பெறுதல்.

ஆசிரியர்களே கற்பித்தல் பொருளின் வடிவமைப்பாளர்கள், மேலாளர்கள் மற்றும் மாணவர்களின் கற்றலை மதிப்பீடு செய்பவர்கள் என்று காக்னே கருதினார். எனவே கற்பித்தல் என்பது ஆசிரியர்களின் திட்டமிடல் மற்றும் கட்டுப்படுத்தலை உள்ளடக்கியது. கற்பவர்களின் தேவைக்கேற்பக் கற்றல் சூழலை ஒழுங்குப்படுத்துவதே கற்பித்தல் எனலாம். கருத்துகள் உருவாவதைக் கற்றல், விதியைக் கற்றல், சிக்கலைத் தீர்த்தல் ஆகியவைகளுக்கே பெரும்பாலான பள்ளிப்பாடங்கள் முக்கியத்துவம் அளிப்பதை ஆராய்ச்சியின் மூலம் அறிந்தார் காக்னே. எனவே கற்றல் செயலிலும் எட்டு நிலைகளை அவர் விவரிக்கிறார். அவை:

1. ஊக்குவித்தல்
2. புரிந்து கொள்ளுதல்
3. முயன்று அடைதல்
4. விடாது வைத்திருத்தல்
5. நினைவுகூர்தல்
6. பொதுமைப்படுத்துதல்
7. செயல்திறன்
8. பின்னூட்டம்

காக்னே கற்றல் செயல் இயல்பாகவோ அல்லது பின்னூட்டம் பெற்றோ முடிவடைய வேண்டும் என்று கருதினார்.

2.புருணரின் அறிவு வளர்ச்சிக் கோட்பாடு

கற்பித்தல் கொள்கை என்பது அறிவை அடைவதற்குரிய விதிகளையும், திறன்களையும், அளவிடுதல் நுட்பங்களையும் விளக்கக் கூடியதாக இருக்க வேண்டுமென்று புருணர் சுட்டியுள்ளார். கற்பித்தல் கொள்கை நான்கு கூறுகளைக் கொண்டிருக்க வேண்டுமென்கிறார். அவை:

1. **கற்றலுக்கு முன்பே விரும்பும் நிலை:** ஒரு குழந்தை பள்ளிக்கு வரும்பொழுது அக்குழந்தை தானே கற்கும்படியான ஆர்வத்தை ஏற்படுத்தக் கூடிய பாடப் பொருள்களையும், அனுபவங்களையும் கற்பித்தல் கொண்டிருக்க வேண்டும்.
2. **அறிவு அமைப்பு:** கற்போரால் உட்கிரகித்துக் கொள்ளும் வகையில் கற்பித்தல் கொள்கைகள் குறிப்பிட்ட வகையில் அமைக்கப்பட வேண்டும்.
3. **வரிசைக்கிரமம்:** பாடப்பொருளை அளிக்க வேண்டிய வரிசைமுறை பற்றிக் கற்பித்தல் கொள்கைகள் குறிப்பிட வேண்டும்.
4. **வலுவூட்டுதல்:** கற்பித்தல் கொள்கை மாணவர்களை அறியாதவைகளிலிருந்து அறிந்தவைகளுக்கு இட்டுச் செல்லும் பொழுது எத்தகைய வலுவூட்டம் அளிக்க வேண்டும் என்பதையும் குறிப்பிட வேண்டும். அறிவு வளர்ச்சி நிலையில் புருணர் மூன்று நிலைகளைக் குறிப்பிட்டுள்ளார். அவை:
   1. **செயல்படுநிலை:** கற்றல் செயல்களைச் செய்வதன் மூலம் நிகழ்கிறது. இதற்கு இரு சக்கர வாகனத்தை ஓட்டிக் கற்றுக் கொள்வதைக் கூறலாம்.
   2. **உருவகநிலை:** புலன்காட்சி வழி, மனதுக்குள்ளேயே சாயல்களைப் பயன்படுத்திக் கற்றல் நடைபெறுகிறது.

3. **குறியீட்டு நிலை:** செயல்களை மொழியாக மாற்றி, இணைத்துக் கற்கும் நிலையே குறியீட்டு நிலை, ஒருவரின் தற்கருத்து வளர்ச்சி, அவருடைய உலகிலுள்ள பொருள்களின் சாயல்களைப் பொறுத்தது.

நாம் எவ்வாறு அறிவை அளிக்கிறோம், எவ்வாறு கற்பவரை அவருடைய கற்றல் நிலைக்கேற்ப வழிநடத்துகிறோம் என்பதற்கேற்பவே அறிவு வளர்ச்சி இருக்கும் என்பது புருணரின் கோட்பாடாகும்.

3.பியாஜேயின் அறிவு வளர்ச்சிக் கோட்பாடு

ஜீன் பியாஜே என்னும் சுவட்சர்லாந்து உளவியலறிஞர் குழந்தையின் சிந்தனை மற்றும் அறிவு வளர்ச்சி பற்றி பொதுமைக் கருத்துகளை அறிவித்துள்ளார். அவரது கருத்துப்படி, குழந்தையின் வயதுக்கேற்ப, பல்வேறு படிநிலைகளில் அறிவு வளர்ச்சி ஏற்படுகிறது. இவருடைய அறிவுக்கோட்பாடு அறிவின் எல்லை மூலம் மரபியல் வழி மனிதனின் அறிவு மூலம் எல்லை, பண்புகளை அறியும் பண்புகளை ஆய்வாகக் கொண்டுள்ளது. அறிவு வளர்ச்சியில் உயிரியல் மரபுக் கூறுகளும், சூழலும் கொண்டுள்ள இடைவினை பற்றி இவரது ஆராய்ச்சி அமைந்தது. பியாஜே, அனைத்து அறிவு வளர்ச்சியும் மூன்று செயல்களால் நிகழ்வதாகக் குறிப்பிட்டுள்ளார். அவை:

1. தன்வயப்படுத்துதல்
2. பொருந்துதல்
3. சமநிலைப்படுத்துதல்

1. **தன்வயப்படுத்துதல்:** புதியதாகப் பெறும் தகவல்களை, தான் ஏற்கனவே பெற்றுள்ள அறிவு அமைப்புடன் குழந்தை பொருத்திக் கொள்ளுதல்.
2. **பொருந்துதல்:** புதிய தகவல்களுக்கேற்ப ஏற்கனவே உள்ள அறிவு அமைப்பை மாற்றி, அதனோடு இயைந்து செல்லுதல்.
3. **சமநிலைப்படுத்துதல்:** தன் வயப்படுதலுக்கும், பொருந்துதலுக்கும் இடையே அறிவினைச் செயல்படுத்துவதிலே உண்டாகும் சமநிலையே சமநிலைபடுத்தலாகும். ஒரு குழந்தை ஏற்கனவே தான் உள்ள சூழலுக்கும், புதிய கற்றல் சூழலுக்கும் இடையே தன்னைச் சமநிலைப்படுத்திக் கொள்கிறது. மேலே சொன்ன மூன்று செயல்களாலும், குழந்தை தகவமைப்பைப் பெறுகிறது.

பியாஜே குழந்தையின் அறிவு வளர்ச்சி நிலைகளை நான்கு வகையாகப் பிரித்துள்ளார்.

1. புலனியக்கநிலை (பிறப்பு முதல் 2 வயது வரை)
2. செயலுக்கு முந்தைய நிலை (2 முதல் 7 வயது வரை)
3. பருப்பொருள் செயல்படும் நிலை (7 முதல் 12 வயது வரை)
4. கருத்தியல் நிலை (12 வயதுக்கு மேல்)

1. **புலனியக்கநிலை:** இந்நிலையில் குழந்தை தனக்கென்று ஓர் உலகத்தை உருவாக்கிக் கொள்கிறது. அதில் அதனுடைய உடல் தேவைகளும், புலன் உணர்வும் குழந்தையின் கற்றலுக்கு வழிவகுக்கிறது. இந்நிலையில் குழந்தை தன்னைச் சுற்றி என்ன நிகழ்கிறது என்று சிந்திப்பதை விட புலன்களைக் கொண்டு இயக்கிக் கற்றுக் கொள்கிறது. எட்டு மாதத்திற்கு பிறகு குழந்தை பொருள்களின் நிலைத்த தன்மை பற்றி அறிகிறது.

அடிப்படை நினைவு தோன்ற ஆரம்பித்த உடன் பிறரைப் போலவே தானும் செய்யக் கற்றுக்கொள்கிறது.

2. **செயலுக்கு முந்தைய நிலை:** இந்நிலையில் மொழி வளர்ச்சி உருவாகிறது. பொருட்கள் மற்றும் செயல்கள் பற்றிக் குழந்தை சிந்திக்க ஆரம்பிக்கிறது. இதில் கருத்துக்கு முந்தியநிலை, உள்ளுணர்வு தோன்றும் நிலை என்ற இரண்டு நிலைகளும் அடங்கியுள்ளன. அறிவுநிலை வளர்ச்சி என்பது பெரியவர்களைக் கண்டு போலச்செய்வதாலும், குறியீடுகளைப் பயன்படுத்துவதாலும் நிகழும். குழந்தையின் காரணம் கண்டறிதலில் நெகிழ்ச்சியோ, முன்பின் மாற்றமோ இருக்காது. குழந்தை தன்னை மட்டுமே மையமாகக் கொண்டு சிந்தித்துச் செயல்படும். உயிரற்ற பொருட்களுக்கு, உயிருள்ளதாகக் குழந்தை பாவித்துக்கொண்டு, அவற்றோடு பேசுதல், விளையாடுதல் போன்ற செயல்களைச் செய்யும்.

3. **பருப்பொருள் செயல்படு நிலை:** இந்நிலை 7 வயது முதல் 12 வயது வரை இருப்பதால், இந்நிலையில் குழந்தைகளுக்குக் காரணத்தோடு சிந்தித்தலும், தன்னிலை முனைப்புக் குறைதலும் நிகழும். இந்நிலையின் முக்கியக்கூறுகள்:

- பகுத்தறிதலும், தொகுத்தறிதலும் நடைபெறும்.
- சிந்திப்பதில் நெகிழ்ச்சி இருக்கும்.
- பொருட்களின் பயனைப் புரிந்து கொள்ளும் திறன் வளரும்.
- வரிசைப்படுத்தலும், வகைப்படுத்தலும் குழந்தையிடம் நிகழும்.
- ஒரு செயலின் முன் பின் மாற்றங்களைக் குழந்தை உணர ஆரம்பிக்கும்.

4. **கருத்தியல் நிலை:** இந்நிலையில் குழந்தை தன் எதிரில் இல்லாத பொருட்களையும், நடக்காத நிகழ்வுகளையும் பற்றிக் கற்பனையாகச் சிந்திக்கத் தொடங்கும். குழந்தையின் சிந்தனை முறைப்படியும், காரணங்கள் அடிப்படையிலும் ஒருங்கிணையத் தொடங்கும். இந்நிலையில் பின்வரும் கூறுகள் அமைந்துள்ளன:

- பருப்பொருள் சிந்தனை
- முறைப்படுத்தப்பட்ட தீர்வுகளைக் கொண்டிருத்தல்
- சிக்கலைத்தீர்த்தல்
- அறிவு மாற்றம் பெறுதல்.

பண்பாட்டிற்கும் மொழிக்குமுள்ள தொடர்பு

- மொழி என்பது ஆதிகாலத்தில் ஒலியில் தோன்றி சைகை மொழி, ஒலிக்குறியீட்டில் வளர்ந்து மொழி என்ற நிலையில் நின்றது. அதுவே பின் பேச்சுமொழி, எழுத்து மொழி என்று உயர்வு பெற்றது. அந்தந்த வட்டார, இனமக்கள் பேசியது அவர்களுடைய தாய்மொழியாகியது. அதில் தமிழ் மொழி மிகவும் தொன்மையானது. என்பதையே

> "கல்தோன்றி மண்தோன்றா காலத்தே
>
> முன்தோன்றிய மூத்தக்குடி".

என்று தமிழ் இலக்கியங்கள் கூறுகிறது.

- பண்பாடு என்பது மக்கள் வாழும் சூழலுக்கேற்ப அவரவர் பின்பற்றக்கூடிய ஒழுக்கநெறியே ஆகும். அதில் குறிப்பாக மொழி இலக்கியங்களின் மூலமே அந்தந்த காலங்களில் வாழ்ந்த மக்களின் பண்பாட்டினை அறிய முடிகிறது.

- தமிழ் மொழியின் இலக்கண இலக்கியங்களே தமிழர் பண்பாட்டினை எடுத்துரைக்கும் காலக்கண்ணாடியாகும்.

- பண்பாட்டினை ஒரு தலைமுறையிலிருந்து அடுத்த தலைமுறைக்கு எடுத்துச்செல்ல பண்பாடு ஓர் ஊடகமாக செயல்படுகிறது.

- ஓர் சமூகத்தின் பண்பாடு, அவரவர் பேசும் மொழியின் வெளிப்பாட்டின் மூலம் சிறப்பு மற்றும் வளர்ச்சி பெறுகிறது. அதேபோல் மொழி சிறப்பு பெற்றால் பண்பாடு சிறப்பு பெறும். இவை இரண்டும் ஒரு பாலத்தில செல்லும் இணை கோடுகளாகும்.

முடிவுரை

இதன்மூலம் மனிதர்களின் உடல், உள்ளம், அறிவு ஆகிய மூன்றினையும் வளர்ச்சி பெறச் செய்வதே கல்வி என்பதை அறியலாம். தாய்மொழியாகிய தமிழ் கற்பித்தலின் நோக்கங்களையும், தமிழ்மொழியின் முக்கியத்துவத்தையும் ஒவ்வொருவரும் அறிந்து கொள்ளமுடிகிறது. குழந்தை, தான் பிறந்தது முதல் கேட்டும், பேசியும் வரும் தாய்மொழி அக்குழந்தையின் அக வளர்ச்சிக்கும், புற வளர்ச்சிக்கும் துணை நிற்கிறது. ஒருவரோடு ஒருவர் தொடர்பு கொள்ளவும், கருத்துகளைப் பரிமாறிக் கொள்ளவும், பிறரைப் புரிந்து கொள்ளவும் மொழியே அடிப்படைக் காரணியாகிறது என்பதையும் அதிலும் நம் தாய்மொழியாகிய தமிழின் பங்கு குறிப்பிடத்தக்கது என்பதையும் இவ்வியலின் மூலம் அறியலாம்.

பயிற்சி வினாக்கள்

1. தமிழ் மொழி கற்பித்தலின் முக்கியத்துவம் மற்றும் நோக்கங்கள் குறித்து விரிவான கட்டுரை வரைக.
2. மொழிக் கற்பித்தலின் உளவியல் கோட்பாடுகளில் ஏதேனும் மூன்றினை விளக்குக.
3. பண்பாட்டிற்கும் மொழிக்குமுள்ள தொடர்பினை விளக்குக.

அலகு 2 கற்பித்தலுக்கான திட்டமிடல்

நோக்கங்கள்:

இப்பாடம் முடிவுறும் தருவாயில், மாணவ ஆசிரியர்கள்:

1. பாடம் கற்பித்தலுக்கான நோக்கங்களை புரிந்துகொள்வர்.
2. புளுமின் கற்பித்தல் கோட்பாட்டை பற்றி அறிந்துகொள்வர்.
3. அலகுத்திட்டம் மற்றும் கற்பிப்புத்திட்டத்தின் நோக்கங்களை உணர்ந்து பயன்படுத்துவர்.

முன்னுரை

கற்பித்தலைச் சிறப்பாக்குவதற்கும், வெற்றிகரமாக முடிப்பதற்கும் உள்ள திறவுகோல் வகுப்பறைப் பாடங்களை ஒழுங்காகத் திட்டமிடுதலேயாகும். எவற்றைக் கற்பிப்பது என்பதையும், எவ்வாறு கற்பிப்பது என்பதையும் ஆசிரியர் முன்கூட்டியே தெளிவாக அறிதல் வேண்டும். பாடம் கற்பிக்கப்படுவதன் முக்கிய நோக்கங்களையும், அப்பாடத்தை மாணவருக்குக் கற்பிக்கும்போது எவ்வாறு தொடங்குவது, எவ்வாறு புதிய செய்திகளை அமைப்பது, எந்தெந்தத் துணைக்கருவிகளை உபயோகிப்பது, பாடம் முடிந்தபின் குறிப்பிட்ட நோக்கங்கள் நிறைவேறினவா என்று அறிய எவ்வாறு சோதனை செய்வது போன்ற அனைத்தையும் முன்கூட்டியே திட்டமிடல் வேண்டும்.

பாடம் கற்பித்தலின் படிநிலைகள்

பாடம் கற்பித்தலின் பொழுதும், பாடம் கற்பிப்புத் திட்டம் எழுதும்பொழுதும் பின்பற்ற வேண்டிய படிநிலைகளை **ஹெர்பார்ட்டின்** என்பவர் வடிவமைத்தார். அப்படிநிலைகளுக்கு ஹெர்பார்ட்டின் படிநிலைகள் என்று பெயர். அவை:

1. ஊக்குவித்தல்
2. பாடவளர்ச்சி
3. தொடர்புபடுத்துதல்
4. பொதுக்கருத்தை உருவாக்குதல்
5. பயன்படுத்துதல்
6. மீள்பார்வை செய்தல்

1. **ஊக்குவித்தல்:** ஆசிரியர் ஒரு புதிய பாடப்பொருளை மாணவர்களுக்குக் கற்பிப்பதற்கு முன் அது பற்றிய அறிவினைப் பெறுவதற்கு மாணவர்களைத் தயார் செய்தல் வேண்டும். மாணவர்கள் ஆர்வத்துடன் புதிய செய்திகளை அறிந்து கொள்வதற்கு அவர்களைத் தயார் செய்வதே ஊக்குவித்தல் ஆகும்.

   ஊக்குவிக்கும் வழிமுறைகள்:
   - கற்பித்தல் பாடப்பொருளுடன் தொடர்புடைய முன்னறிவினை மாணவர்கள் பெற்றிருக்கிறார்களா என்று சோதித்தல்.
   - கற்பித்தல் பாடப் பொருளுடன் தொடர்புடைய செயல்களையும், நிகழ்ச்சிகளையும் கூறுதல்.
   - துணைக்கருவிகள் மூலம் புதிய செய்திகளைத் தொடர்புபடுத்துதல்.

- மாணவர்களின் அன்றாட வாழ்க்கையோடு புதிய செய்திகளை இணைத்தல்.

2. **பாட வளர்ச்சி**: மாணவர்களை ஊக்குவித்த பிறகு பாடத் தலைப்பின் நோக்கங்களைத் தெளிவாகக் குறிப்பிட வேண்டும். பாடத் தலைப்பைக் கருப்பலகையில் எழுதி பாடத்தைத் தொடங்க வேண்டும். பாடப்பொருளின் வளர்ச்சி நிலைகளில் மாணவர்களைப் பங்கேற்கச் செய்ய வேண்டும். பாடவளர்ச்சியின் இடையில் கேட்கப்படும் வினாக்கள் மாணவர்களின் பாடப்பொருள் அறிவினைச் சோதிப்பதாக அமைய வேண்டும். வினாக்களை வகுப்பறையில் உள்ள அனைத்து மாணவர்களுக்கும் பயன்படும்படி திட்டமிட்டு வினவ வேண்டும்.

3. **தொடர்பு படுத்துதல்**: பாட வளர்ச்சியில் அளிக்கப்பட்ட செய்திகளுக்குத் தொடர்பான சான்றுகளைத் தொடர்புபடுத்த வேண்டும். செய்திகளைத் தொடர்ந்து அளித்துக் கொண்டே செல்லாமல் ஒவ்வொரு பாடப்பொருளுக்கும் பொருத்தமான விளக்கத்தை அளிக்க வேண்டும். கேள்விக் காட்சிக் கருவிகளைப் பாடத்துடன் இணைத்து ஒப்புமைப்படுத்த வேண்டும். இதனால் முக்கியமான பாடக்கருத்துக்களை மாணவர்களால் எளிதில் புரிந்து கொள்ள இயலும்.

4. **பொதுக்கருத்தை உருவாக்குதல்**: ஆசிரியர் தொடர்புபடுத்தலில் விளக்கப்பட்ட கருத்துகளையும், கொள்கைகளையும் தகுந்த முறையில் பொதுமைப் படுத்த வேண்டும். விதிகளைப் பொதுமைப்படுத்துதல் மூலம் புதிய கருத்தினைப் பெற இயலும்.

5. **பயன்படுத்துதல்**: மாணவர்கள், பொதுமைப்படுத்தப்பட்ட கருத்துகளை அன்றாட வாழ்வில் பயன்படுத்துவதற்கான வாய்ப்புகளைச் சுட்ட வேண்டும். பொதுக் கருத்துக்களை சூழ்நிலையுடன் இணைக்கும் போது அன்றாட வாழ்க்கையோடு ஒரு தொடர்பு ஏற்படுத்துகிறது. கற்றல் பயிற்சி மாற்றம் செய்யப்படுவதால் கற்றல் நிலை பெறுகிறது.

6. **மீள்பார்வை**: இது இறுதிப்படிநிலை. மிக முக்கியமான இப்படிநிலையில் மாணவர்கள் என்ன கற்றுக் கொண்டார்கள் என்பதை ஆசிரியரால் அளந்தறிய முடிகிறது. குறிப்பிட்ட வகுப்பறைக் கற்பித்தல் நோக்கங்கள் நிறைவேறி இருக்கின்றனவா என்று மதிப்பீடு செய்ய உதவுகிறது. ஹெர்பார்ட்டின் படிகள் அனைத்தையும் எல்லாப் பாடங்களுக்கும் எல்லா நேரங்களிலும் பயன்படுத்த இயலாது. எனவே, சில பாடங்களுக்கு ஹெர்பார்ட்டியின் படிநிலைகளில் உள்ள சில முக்கியப் படிநிலைகள் ஆசிரியர்கள் பயன்படுத்த வேண்டுமென்று வலியுறுத்தப்படலாம். ஆனால் கற்பிக்கும் பாடப்பொருளின் தன்மை, மாணவர்களின் தரம் ஆகியவற்றிற்கேற்ப சில பாடங்களில் சில படி நிலைகளை முற்றிலுமாக ஒதுக்கிடவும் செய்யலாம்.

பாடம் கற்பித்தலுக்கான நோக்கங்களைத் தயாரித்தல்

பாடம் கற்பித்தலுக்கான முதல் அடிப்படை பாடம் கற்பிப்புத் திட்டம் தயாரித்தல். பாடம் கற்பிப்புத்திட்டம் என்பது சில தலைப்புகளின்கீழ் அமைக்கப்பட்ட பாடப்பொருளைக் கற்பித்து நிறைவு செய்யவேண்டும் என்ற கருத்து இல்லை. பள்ளிக்கு வருகின்ற ஒவ்வொரு பிள்ளையையும் ஒரு நீர் கொள்ளும் பாத்திரம் என்று கருதி, நம்மிடம் உள்ள பாடத்திட்டம் என்ற நீரை அதன் தலையில் திணிக்க இயலாது. அல்லது ஒவ்வொரு பிள்ளையையும் களிமண் உருண்டையெனக் கருதி, ஆசிரியர் எண்ணியபடி, தமது கருத்துகளையெல்லாம் அவர்கள் மனத்தில் புகுத்தி, அவர்களைப் பொம்மைகளாக்கும் சிற்பி போல ஆசிரியர் அமைத்துவிடவும் முடியாது. பிள்ளைகள் ஒவ்வொன்றும் உயிருள்ள ஜீவன். அவர்களைக் கட்டுப்படுத்தி வைக்க

இயலாது. அவர்கள் மிகுந்த சுறுசுறுப்புடன் செயல்படும் உயிர்கள். ஆகவே அவர்களுக்குப் பாடங்களை கற்பிக்கத் திட்டமிடும்போது, அவர்களையும் கற்றல் செயலில் ஈடுபடுத்தல் வேண்டும். இதுவே தற்கால முறையாகும்.

வகுப்பில் படிப்பது, படக்காட்சியைக் காண்பது அல்லது குறிப்புகள் தயாரிப்பது போன்ற செயல்கள் மனத்தைக் கட்டுப்படுத்துவன. வெளியபயணங்கள் அமைப்பதும், சோதனைகள் செய்வதும், செயல்திட்டங்களில் ஈடுபடுவதும் மாணவர்களை முழுதும் ஈடுபடுத்தும் செயல்களாகும். செய்து காட்டும் சோதனைகளில் சில மாணவரது கவனத்தை முழுதும் நிலைநிறுத்துவன. குறிப்புகள் எழுதிக்கொள்ளும்படி செய்தல், மாணவர்களைச் செயலில் ஈடுபடுத்தினாலும் அச்செயல் மிகச்சிறிய அளவே கவனத்தை நிலைநிறுத்தும்.

வகுப்பில் பயன்படுத்துகின்ற ஒவ்வொரு செயலும் மாணவர் மனத்தில் ஒவ்வொருவித விளைவினை ஏற்படுத்தும். ஒரு பாடப் பகுதியினைக் கற்பிக்கப் பயன்படுத்தும் செயல் ஒரு சில மாணவருக்கு எதிர்பார்க்கும் பலனை அளிக்கலாம். அதே செயல் மற்றொரு சாராருக்கு எவ்விதப் பயனும் அளிக்காமல் போகலாம். ஆகவே பாடம் கற்பித்தலுக்கு திட்டமிடும் போது பலவிதச் செயல்களைத் திட்டமிட்டால் கற்றல் எல்லா மாணவரிடத்தும் இயல்பாக நிகழும்.

அலகுத்திட்டம் தயாரித்தல்

அலகுத்திட்டம் என்பது பாடப்பகுதியின் ஓர் அலகைக் கற்பிக்கத் திட்டமிடுவதாகும்.

ஓர் அலகு என்பது ஒரு குறிப்பிட்ட பாடக்கருத்தை மையமாகக் கொண்ட பாடம் கற்பிப்புத்திட்டங்களின் தொகுப்பாகும்.

நாற்பத்தைந்து நிமிடங்களுக்கு ஒரு பாடப்பகுதியை மட்டும் தேர்ந்தெடுத்து அதற்குக் கற்பிக்கத் திட்டமிடுவதே பாடகற்பிப்புத்திட்டமிடுதல் ஆகும். பாடம் கற்பிப்புத்திட்டங்கள் ஆசிரியருக்குக் கற்பித்தல் நோக்கங்களை நிறைவேற்றுவதற்கு துணை புரிகின்றன.

அலகுப் பாடத்திட்டம்: வரையறை

பாடப்பொருள் கற்பித்தலுக்குத் தகுந்தவாறு பிரிக்கப்படாமல் இருக்கும் போது ஆசிரியர் அதனைச் சரியான அலகுகளாகத் திருத்தி அமைக்க வேண்டும். **பிரஸ்டன்** என்பவர் கருத்துப்படி, **"ஓர் அலகு என்பது தொடர்புடைய பாடக் கருத்துக்கள் அமைந்த பெரிய பாடப்பகுதியாகும். ஒரு குறிப்பிட்ட கருத்தினை மையமாகக் கொண்ட பாடத்திட்டங்களின் தொகுப்பாக இது அமையும்."**

ஓர் அலகுத்திட்டம் என்பது ஒரு குறிப்பிட்ட தலைப்பிலுள்ள, ஒன்றுக்கொன்று தொடர்புடைய பாடம் கற்பிப்புத்திட்டங்களைக் கொண்டது. அலகுத்திட்டம் அப்பாடப்பகுதியைக் கற்றுக் கொடுப்பதற்குக் கிடைக்கும் பாடவேளைகளைப் பொறுத்து அமையலாம்.

பாடப் புத்தகத்திலுள்ள பாடப் பகுதிகளைத் தனித்தனியாகப் பிரித்துக் கற்பிக்கும் பொழுது கருத்துக்களின் இடையே தொடர்பில்லாமல் போகலாம். எனவே, ஒரு குறிப்பிட்ட அலகிலுள்ள பகுதிகளின் முழுக் கருத்தினையும் புரிந்து கொள்ளும்படி அலகுத்திட்டம் தயாரிக்க வேண்டும்.

நல்ல அலகுத்திட்டத்தின் தன்மைகள்

1. மாணவர்களின் நிலை, சமுதாயச் சூழலிற்கேற்ப பாடப் பகுதியை அமைத்துக்கொள்ள வேண்டும்.

2. மாணவர்களின் முன்னறிவை மையமாக வைத்து எளிய கற்றல் அனுபவங்கள் மூலம் அறியச் செய்யும்படி வைக்க வேண்டும்.

3. மாணவர்களின் நிகழ்காலத் தேவைகளைப் பூர்த்தி செய்து வளமான வருங்காலத்திற்கு வகை செய்ய வேண்டும்.

4. பாடப்பகுதியின் வளர்ச்சி படிப்படியாக எளிமையானதில் இருந்து கடினம் நோக்கி செல்ல வேண்டும்.

5. அலகுத்திட்டம் கடினமானதாக இல்லாமல் ஆசிரியர் தேவைகளுக்கும், செயல் முறைகளுக்கும் ஏற்ப நெகிழும் தன்மை உடையதாக இருக்க வேண்டும்.

அலகுத்திட்டத்தின் பயன்கள்

- கற்பித்தல் பொது நோக்கங்களையும், சிறப்பு நோக்கங்களையும் தெளிவுபடுத்துதல்

- மாணவர்களின் தேவை, ஆர்வம், மனப்பாங்கு ஆகியவற்றைக் கருத்தில் கொண்டு ஆசிரியர் திட்டமிட உதவுதல்

- ஆசிரியரும், மாணவர்களும் இணைந்து சுதந்திரச் சூழ்நிலையில் செயல்படத் துணைநிற்றல்

- கற்றலில் ஆர்வத்தை ஏற்படுத்துதல்

- காலவிரயம் தடுக்கப்படுதல்

- மாணவர்களின் உள்ளுணர்வுகளைத் தூண்டுதல்

- செயல்திறன் மேம்படுதல்

- அறிவை வாழ்க்கைச் சூழ்நிலையுடன் இணைத்துப் பயன்படுத்த உதவுதல்

- மாணவர்களின் தன்னம்பிக்கையை வளர்த்தல்

- செயல்திட்ட வேலைகளுக்குத் திட்டமிட உதவுதல்

- கற்பிப்பதற்குத் தேவையான கருவிகளைத் தயாரிக்க ஆசிரியருக்கு உதவுதல்

- பாடம் கற்பிப்புத்திட்டத்தினைச் சிறப்பாக அமைக்க உதவுதல்.

அலகுத்திட்டம் தயாரித்தலிலுள்ள படிநிலைகள்

ஆசிரியர் அலகுத்திட்டம் தயாரிக்கும் முன் பாடப்பொருளைப் பற்றி நன்கு அறிந்திருக்க வேண்டும். அலகுத்திட்டம் தயாரித்தலில் உள்ள படிநிலைகள் பின்வருமாறு:

1. **தயாரித்தல்:** இது மாணவர்களை ஆர்வத்துடன் கற்றலில் தயார் செய்ய உதவுகிறது. புதிய தலைப்புகளுக்கு அலகுத்திட்டமிடும் பொழுது வாழ்க்கைச் சூழ்நிலையுடன் இணைத்துக் கற்பித்தலை மேற்கொள்வது நன்று.

2. **முன்னறிவைச் சோதித்தல்:** ஒரு புதிய அலகை மாணவர்களுக்குக் கற்பிக்கும் முன், எந்த அடிப்படையில் கற்பித்தலைத் தொடங்குவது என்பதைத் திட்டமிட மாணவர்களின் முன்னறிவைச் சோதிக்க வேண்டும்.

3. **பாடவளர்ச்சி:** பாடப்பொருளைக் கற்பிப்பதற்குத் தேவையான கற்பித்தல் கருவிகள், செயல்கள், பயிற்சி முறைகள், கற்பித்தல் முறைகள் ஆகியன திட்டமிடப்படுகின்றன.

4. **தொகுத்துக் கூறுதல்:** ஒரு குறிப்பிட்ட பாட அலகின் கீழ் அமைந்த அனைத்து உட்தலைப்புகளையும், ஓர் ஒழுங்கு முறையில் தொகுத்துக்கூற அலகுத்திட்டம் துணை செய்கிறது.

5. **மீள்பார்வை:** முழு அலகையும் கற்பித்த பிறகு, கற்பித்த பகுதிகளில் மாணவர்களின் புரிந்து கொள்ளும் தன்மையை மீண்டும் மீட்டறிவதற்கு மீள்பார்வை உதவுகிறது. பாடப்பொருளை ஒட்டிய சிறு வினாக்களின் மூலம் மீள்பார்வை செய்யலாம்.

6. **மதிப்பிடுதல்:** பாட இறுதியில் கற்பித்தல் நோக்கங்களின் அடிப்படையில் மதிப்பிடுதல் அமைகிறது. மதிப்பிடுதலின் முடிவுகளை ஆராய்ந்து அதற்கு மீண்டும் பாடத்தை திட்டமிடுதல் வேண்டும்.

அலகுத் திட்டம் எழுதுதல்

ஓர் அலகுத் திட்டத்தை எழுதுவதற்குப் பல்வேறு வடிவமைப்புகள் உள்ளன. எனினும் ஒரு நல்ல அலகுத்திட்டம் கீழ்க்கண்ட கூறுகளைப் பெற்றிருக்க வேண்டும்:

- அலகின் தலைப்பு
- அலகின் நோக்கங்கள்
- பாடத்தலைப்பில் அடங்கியுள்ள கருத்துக்கள்
- மையக்கருத்து
- கற்பித்தல் முறைகள்
- துணைக்கருவிகள்
- கால அளவு
- ஒப்படைப்பு
- மதிப்பிடுதல்

அலகுத்திட்டத்தின் வடிவமைப்பு
மாதிரிப் படிவம் -1

அலகின் பெயர்   :
அலகின் நோக்கங்கள்   :
பாடம்   :
வகுப்பு   :

வ. எண்.	பாடத் தலைப்புகள்	பாடங்களின் எண்ணிக்கை	பாடப்பொருளின் மையக்கூறுகள்	கற்பித்தல் முறைகள்	கற்பித்தல் கருவிகள்	கால அளவு
1. 2. 3. 4. 5.						

மாதிரிப்படிவம் 1 ஐ நிரப்பிய பின் படிவம் 2ன் அடிப்படையில் அலகுத்திட்டம் அமைக்கப்படல் வேண்டும்.

படிவம்-2

அலகின் பெயர்   :
அலகின் நோக்கங்கள்   :
பாடம்   :
வகுப்பு   :

வ. எண்.	பாட உட்கருத்துகள்	பாட எண்ணிக்கை	கற்றல் கற்பித்தல் முறைகள்	ஒப்படைப்புகள்	மதிப்பீடுகள்
1. 2. 3. 4. 5.					

பாடம் கற்பிப்புத் திட்டம் வடிவமைத்தல்

பாடப் பொருளுக்கு ஏற்பவும், மாணவர்களின் தரம், வயது, வகுப்பு, மனவளர்ச்சி, உணர்வு அடிப்படையிலும் வகுப்பறைச் செயல்களை அமைக்கும் திட்டமே பாடம் கற்பிப்புத் திட்டமாகும்.

கார்டர் வி.குட்: "கற்பிப்பதற்கு முக்கியமான கருத்துக்களை ஓர் ஒழுங்கு முறைப்படி அமைக்கும் திட்டமாகும். இதில் கற்பித்தல் நோக்கங்கள், படிக்க வேண்டிய மேற்கோள் நூல்கள் மற்றும் ஒப்படைப்புகள், வினாக்கள் போன்றவைகள் அடங்கும்."

பாடம் கற்பிப்புத்திட்டமிடுதலில் அடங்கியுள்ள கூறுகள்

ஒரு பாடம் கற்பிப்புத்திட்டம் என்பது கீழ்க்காணும் கூறுகளைக் கொண்டு அமைக்கப்பட வேண்டும்.

* ஆசிரியரின் செயல்கள்
* ஆசிரியரின் பாடப்புலமை
* மாணவர்களைப் பற்றி ஆசிரியர் அறிந்தவை
* ஆசிரியர் அறிந்துள்ள கல்வி நோக்கங்கள்
* கற்பிக்க வேண்டிய பாடப்பொருள்
* கற்பித்தல் முறைகளைப் பயன்படுத்துதல்.

புளும் என்பாரின் கற்பித்தல் நோக்கங்களின் வகைப்பாடு

கல்வியாளர்கள் வரையறுத்த நோக்க வகைப்பாடு பல இருந்தாலும் அவற்றுள் சிறந்ததாக பெஞ்சமின் புளும் வடிவமைத்து ஏற்றுக்கொள்ளப்படுகிறது. இவருடைய வகைப்பாட்டில் மாணவரின் வளர்ச்சி மூன்று பெரிய பிரிவுகளாகப் பிரிக்கப்பட்டுள்ளது. அவை

1. அறிவுப் பகுதி
2. உணர்வுப் பகுதி
3. உள-இயக்கப் பகுதி எனப்படும்.

அறிவுப்புலம் சார்ந்த நோக்கங்கள்

கல்வியில் மாணவர்கள் செய்திகளைப் பாடமாக மட்டும் கற்காமல் அவற்றைப் புதிய சூழ்நிலைகளில் பயன்படுத்தவும், வாய்ப்பு கிடைத்தால் அவர்களுடைய மேல்நிலைப் படிப்பிற்கும் பயன்படுத்துவதாக உள்ளது.

1. **அறிந்து கொள்ளுதல்**

   அடிப்படை அறிவைக் குறிப்பிடும் இதில் கருத்துகள், கோட்பாடுகள் ஆகியவற்றை அறிந்து கொள்ளுதலை குறிப்பிடுவது. நினைவாற்றலை அடிப்படையாகக் கொண்டுள்ளது.

2. **புரிந்து கொள்ளுதல்**

   செய்திகளுக்கு விளக்கம் கூறுதல், எடுத்துக்காட்டுகள் தருதல், செய்திகளைத் தொடர்புபடுத்துதல் போன்ற விவரங்களை அடக்கியது.

3. **பயன்படுத்துதல்**

   கற்பித்தலின் முக்கிய நோக்கமே பெற்ற அறிவைப் புதிய சூழலில் பயன்படுத்துதல் ஆகும். இது மாணவர்களின் படைப்பாற்றலை ஊக்கப்படுத்துவதற்கு பயன்படக்கூடியதாகும்.

4. **பகுத்தாராய்தல்**

   பொதுவான கருத்துகளில் இருந்து அதன் பகுதிகளைப் பல்வேறு பிரிவுகளாகப் பிரித்து, அந்த பிரிவுகளுக்கிடையே உள்ள தொடர்புகளை அறியச் சொல்வது ஆகும்.

5. **தொகுத்தாராய்தல்**

   ஒரு தலைப்பில் அமைந்த தனித்தனி செய்திகளை ஒருங்கிணைத்து பொதுக் கருத்துகளை செய்திகளை அமைக்கும் திறன் ஆகும். பகுத்தலுக்கு நேர் எதிரான செயல் ஆகும்.

6. **மதிப்பிடுதல்**

   கற்றல் கற்பித்தல் நிகழ்வினை அறிய அளவிடுதலை அடிப்படையாகக் கொண்டு மதிப்பிடுதல் நடைபெறுகின்றது.

உணர்வுப்புலம் சார்ந்த நோக்கங்கள்

மாணவர்களின் மன எழுச்சியை வளர்க்கின்றன. இது அடிப்படையில் மாணவர்களுடைய பாராட்டுணர்வை வளர்த்து, அவர்களுக்கு கருத்துகளின் மீது ஆர்வத்தை ஏற்படுத்தி அவற்றை நன்குணர்ந்து ஆராய்ச்சி செய்யும் மனப்பான்மையை ஏற்படுத்துகிறது

1. **ஏற்றுக்கொள்ளுதல்**

   சில சூழ்நிலைகளையும், தூண்டல்களையும் ஆர்வத்துடன் ஏற்றுக்கொள்வதற்கான உணர்நுட்பம் ஆகும். தூண்டலைப்பெற வேண்டுமாயின் கவனத்தை மேற்கொள்ள வேண்டும். கவனம் தூண்டலை நீட்டிக்கிறது.

2. **துலங்கல்**

   ஏற்றுக்கொள்ளப்பட்ட செயல், புலன்களால் நன்கு உணரப்பட்டபின் தொடர்ந்து துலங்கல் நடைபெறும். இந்நிலை தொடர்ந்து கவனத்துடன் துலங்கல்களுக்காக எழுச்சி அடைவதாகும்.

3. **மதிப்பளித்தல்**

   மதிப்பளித்தல் என்பது ஒரு செயலைப் பற்றி மதிப்பிடுதல் என்பதைக் குறிக்கும். மதிப்பளித்தலில் மதிப்பை ஏற்றுக்கொள்ளுதல், மதிப்பிற்கு முன்னுரிமை கொடுத்தல், பொறுப்புணர்தல் என்ற மூன்று கூறுகள் உள்ளன.

4. **ஒழுங்கப்படுத்தல்**

   மதிப்பிடுதலில் கிடைத்த செய்திகளை இணைத்து முடிவுகளை உருவாக்குவது ஒழுங்குப்படுத்துதலாகும்.

5. **பண்பாக்குதல்**

இது பண்பினை வளர்த்தல் என்பதைக் குறிக்கும். சரியான மதிப்பிடுதலிலிருந்து ஒழுங்குப்படுத்தப்பட்ட செய்திகளைத் தொடர்ந்து பயன்படுத்தும் தன்மை வாழ்க்கையில் பண்பாக உருவாகிறது.

உள-இயக்கப்புலம் சார்ந்த நோக்கங்கள்

இது மன இயக்கத்துடன் உடல் தசைகள் ஒருங்கிணைவதால் செய்யப்படும், மனப்பாங்கின் அடிப்படையில் செயல்படுத்தப்படும் செயல்களைக் கொண்டது.

1. **புலக்காட்சி**

உற்றுநோக்குதல் திறன், பிரச்சனையை உணருதல் திறன் மற்றும் சுய ஆர்வத்தை வளர்த்தல் திறன் ஆகியவைகளைப் புலன் காட்சி செயல்படுத்துகின்றது.

2. **போலச்செய்தல்**

திரும்பத்திரும்ப, ஒரே மாதிரியான செயல்களை நிகழ்த்துவதற்கும், சிந்தனை அடிப்படையில் ஒத்திசைவுச் செயல்களை உருவாக்குவதற்கும் இப்பகுதி காரணமாகிறது.

3. **தானே செய்தல்**

சூழ்நிலைக்கு உகந்தவாறு நுண்ணறிவைப் பயன்படுத்தி அதே மாதிரியான ஆனால் மாறுபட்ட வழிமுறைகளை உள்ளடக்கிய செயல்கள் யாவும் இப்பகுதியைச் சேர்ந்தது.

4. **துல்லியமாகச் செய்தல்**

இதில் சோதனைகள் அமைத்தலில் பொருத்தமுடைமை, செயற்படுத்துதலில் துல்லியம், கருவிகளைத் தவறின்றிக் கையாளும் திறன் ஆகியவை அடங்கும்.

5. **கலையாக்கல்**

கலையாக்கலில் தர்க்கரீதியான சிந்தனை, கணக்கிடுதல் திறன், மனத்திறன் போன்ற உட்கூறுகள் அடங்கும்.

6. **இயல்பாக்குதல்**

ஒரு செயலைத் திரும்பத்திரும்பச் செய்யும் போது அது இயல்பான பழக்கமாகிவிடுகிறது. வெற்றி அடைதல் திறன், பல்வகை செயல்களை நிர்வகித்தல் திறன், ஒருங்கிணைத்தல் திறன் போன்ற உட்கூறுகள் இதில் காணப்படுகின்றன.

நான்கு கட்ட கற்பிப்புத்திட்ட அட்டவணையின் அமைப்பு

ஒவ்வொரு ஆசிரியரும் வகுப்பறைக் கற்பித்தலை மேற்கொள்ளுவதற்கு முன்பாக, மேற்கொள்ள வேண்டிய கற்பித்தல் செயல்களை நன்கு திட்டமிட்டுப் பாடம் கற்பிப்புத்திட்டத்தை எழுத வேண்டும். தமிழ் கற்பித்தலின் நவீன நுட்பங்களை வெளிப்படுத்தும் வகையில் பாடம் கற்பிப்புத் திட்டம் எழுதப்பட வேண்டும். பாடம் கற்பிப்புத் திட்டம் பின்வரும் வடிவத்தில் எல்லோராலும் எழுதப்பட்டு வருகிறது.

பாடம் கற்பிப்புத்திட்டம் வடிவமைப்பு

கற்றல் - கற்பித்தல் அனுபவங்கள் நோக்கங்களைப் பொறுத்தும், நோக்கங்களை அடைவதற்கான கற்றல் அனுபவங்கள் பாடப்பொருளைப் பொறுத்தும் அடிப்படையில் அமைகின்றன. நோக்கங்களின் அடைவை அளந்தறிய மதிப்பிடுதல் பயன்படுகிறது. எனவே பாடப்பொருள், நோக்கக்கூறுகள், கற்றல் அனுபவங்கள், மதிப்பீடு ஆகிய நான்கும் வரிசை அடிப்படையில் தொடர்புடையன. 45 நிமிடங்களுக்கான பாடப்பொருள் சிறுசிறு பகுதியாகப் பிரிக்கப்படுகிறது. ஆசிரியர் பாடத்திட்டத்தை எழுதுவதற்கு முன் அப்பாடப்பகுதியைப் பற்றிய

ஆழ்ந்த அறிவைப் பெற்றிருக்க வேண்டும். எனவே கற்பிக்க வேண்டிய பாடப்பகுதியை நன்கு படித்துப் பொருளுணர்ந்த பின்னர் தான் பாடம் கற்பிப்புத் திட்டத்தை எழுத வேண்டும்.

கற்பித்தல்

கற்பித்தல் என்பது மாணவருடைய நடத்தையில் (அறிவுப்புலம், உணர்வுப்புலம், உடலியக்கப் புலம் ஆகிய புலங்களில்) மாற்றங்களை ஏற்படுத்துவதற்காக ஆசிரியர் வகுப்பறையில் வழங்குகின்ற செய்கைகளும் செயல்களும் ஆகும்.

இன்று, பொதுவாக ஆசிரியர்கள் கற்பிப்பதற்கு ஆசிரியர் மையக் கற்பித்தல் முறைகளையும், குழந்தை மையக் கற்பித்தல் முறைகளையும் வகுப்பறையில் பயன்படுத்துகின்றனர்.

கற்றல்

ஆசிரியரது செயல்களின் தூண்டலினால், மாணவர்களின் நடத்தைகளில் வெளிப்படும் நிரந்தரமான மாற்றங்கள் கற்றல் எனப்படும். ஒரு பாடத்தைக் கற்ற பின்பு மாணவர்கள் வெளிப்படுத்தும் நடத்தைகளை ஆசிரியர் கண்ணால் பார்க்க இயலும்: அந்நடத்தைகளைச் சில அளவுகோல்களால் அளக்க முடியும். பொதுவாக, மாணவர்கள் தாங்கள் கற்றதைப் பேசுதல், எழுதுதல், ஒப்பித்தல், செய்து காட்டுதல் போன்ற நடத்தைகளில் வெளிப்படுத்துவர்.

கற்பிப்புத் திட்டத்தின் நான்கு முக்கிய கூறுகள்

ஒர் ஆசிரியர் தனது கற்பிப்புத் திட்டத்தை நான்கு கூறுகள் உள்ள முறையில் எழுதித் தயாரிக்க வேண்டும்.

1. **பாடப்பொருள்:** ஒரு பாடத்தில் ஆசிரியர் மாணவர்களுக்குக் கற்பிக்க விரும்பும் மிக முக்கிய பாடக்கருத்துக்கள் பாடப்பொருள் எனப்படும். இதைக் கற்பிப்பதால் ஒரு மாணவரிடம் அறிதல் புலம், உணர்வுப் புலம், உடலியக்கப் புலம் ஆகியவற்றில் மாற்றம் ஏற்படுகிறது. அதாவது, மாணவர்களிடம் அறிவு, உணர்வு, திறன் ஆகியன வளர்ச்சி அடைகின்றன.

2. **நடத்தை விளைவுகளைக் குறிப்பிடுதல்:** பாடத்தைக் கற்கும் மாணவரிடம் ஏற்படும் நடத்தையின் விளைவுகளைக் குறிப்பிட்டு எழுத வேண்டும். பொதுவாக, நடத்தை விளைவுகளைக் குறிப்பிடும்போது கண்ணால் காணக்கூடிய செயல் சார்ந்த வினைச் சொற்களைத் 'தல்' விகுதி பயன்படுத்தி எழுத வேண்டும். (எ.கா. கூறு-கூறுதல், எழுது-எழுதுதல், பாடு-பாடுதல், வரை-வரைதல், ஒப்பிடு-ஒப்பிடுதல், ஒப்பி-ஒப்பித்தல்.)

3. **கற்றல் அனுபவங்கள்:** கற்றல் அனுபவங்கள் என்பது ஒரு பாடப்பொருளைக் கற்க வகுப்பறையில் ஆசிரியர், மாணவர் ஆகிய இருவரும் செய்யும் செயல்களால் கிடைக்கும் பயிற்சிகளாகும். ஆசிரியர் கற்பிக்க விரும்பும் பாடப்பொருளை எப்படி கற்பிக்கப் போகிறார் என்ற குறிப்புகள் இடம் பெற வேண்டும்.(இது ஆசிரியர் செயல்) கற்பித்த பாடப்பொருளை மாணவர்கள் கற்பதற்குச் செய்யும் பயிற்சிகள் என்னென்ன என்பதைக் குறிப்பிட வேண்டும் (இது மாணவர் செயல்.)

4. **மதிப்பீடு:** வகுப்பில் மாணவர்கள் பெற்ற கற்றல் அனுபவங்களின் காரணமாக அவர்களிடையே கற்றல் நிகழ்ந்துள்ளதா என்பதை அறிந்து கொள்வதற்காக, ஆசிரியர் என்னென்ன கேள்விகளைக் கேட்பார் என்பதைக் குறிப்பிட வேண்டும். ஒரு நல்ல கற்பிப்புத்திட்டம் நேர்கோட்டு உறவில் கீழ்க்கண்டவாறு அமையும்.

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பாடம் கற்பிப்புத்திட்டம் - மாதிரிப்படிவம்

</div>

மாணவ ஆசிரியர் பெயர்	:	
வகுப்பு∴ பிரிவு மற்றும் காலம்	:	
பள்ளியின் பெயர்	:	
பாடம்	:	
அலகு	:	
தலைப்பு	:	

கற்பித்தலின்   நோக்கங்கள்:

மாணவர்

- ❖ …………………………………………நினைவுகூர்தல்
- ❖ …………………………………………விளக்குதல்
- ❖ …………………………………………உதாரணம் தருதல்
- ❖ …………………………………………வரிசைப்படுத்திக் கூறுதல்
- ❖ …………………………………………வேறுபடுத்திக்காட்டுதல்
- ❖ …………………………………………சுட்டிக்காட்டுதல்

வழிகாட்டலுக்கு தேவைப்படும் ஆதாரங்கள் ∴ வளங்கள்:

இருபரிமான, முப்பரிமாண மாதிரிகள், வரைபடங்கள், சுழலட்டைகள், சொல்லேணி, படத்தொகுப்பு போன்ற வழிகாட்டலுக்கு தேவைப்படும் வளங்களைப் பட்டியலிடுதல்.

கற்பவருக்கான முந்தைய அறிவு :

மாணவர்களைக் கற்றலுக்குத் தயார்படுத்துவதற்காகவும், பாடப்பொருள் தொடர்பான முன்னறிவைச் சோதிப்பதற்காகவும் ஆசிரியர் மாணவர்களை எளிமையான வினாக்களைக் கேட்டு ஊக்குவிக்க வேண்டும்.

பாடப்பொருள்	கற்றலின் நடத்தைக் கூறுகள்	கற்றல் அனுபவம்	மதிப்பீடு

தொடர் செயல்பாடுகள் (ஏதேனும்):

வழிகாட்டி ஆசிரியர் கையொப்பம்   மாணவ ஆசிரியர் கையொப்பம்

நான்கு கட்ட அட்டவணையின்படி மாதிரி கற்பிப்புத் திட்டம் தயாரித்தல்

முடிவுரை

பாடங்கற்பிக்கச் செல்லும் ஆசிரியர், வகுப்பறைக்குச் செல்லுமுன் பாடப்பகுதி தொடர்பாக மேற்கொள்ள வேண்டிய செயல்களை முன் கூட்டியே திட்டமிட்டு எழுதி வைத்துக் கொள்ளும் துணைக்கையேடே பாடம் கற்பிப்புத்திட்டம் ஆகும். இது மாணவர்கள் அடைய வேண்டிய கற்றல் விளைவுகளைக் கருத்தில் கொண்டு, புளுமின் கற்றல் கோட்பாடுகளை பயன்படுத்தி எழுதப்படுகிறது. இதன் மூலம் ஆசிரியர் கற்பித்தலை தொடங்குமுன் எதை, எவ்வாறு, எப்படிக் கற்றுக் கொடுக்க வேண்டும் என்பதைத் தெரிந்து கொள்ள வேண்டியது அவசியம் என்பதை அறியலாம். இது காலவிரயத்தைத் தடுப்பதுடன், வகுப்பறை வேலைகளை வரிசையாகவும், ஒழுங்காகவும் செயல்படுத்த உதவும்.

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(உரைநடை) பாடம் கற்பிப்புத்திட்டம்

</div>

மாணவ ஆசிரியர் பெயர்	:	ஒஒஒஒஒஒஒ
பள்ளியின் பெயர்	:	சாரதா மேல்நிலைப்பள்ளி
வகுப்பு∴பிரிவு மற்றும் காலம்	:	ஒன்பதாம் வகுப்பு 'அ' பிரிவு
பாடம்	:	உரைநடை
அலகு	:	உணவே மருந்து
தலைப்பு	:	உணவின் இன்றியமையாமை

கற்பித்தலின் நோக்கங்கள்:

மாணவர்:

❖ உணவே மருந்து பாடத்தில் உணவின் இன்றியமையாமை என்ற பாடப்பகுதியை **வாசித்துக்காட்டுவார்.**

❖ உடல்நலம், உளநலம் பெறும் முறைகளைப்பற்றி கற்பித்தப் பாடப்பகுதியில் ஆசிரியர் கேட்கும் வினாக்களுக்குப் **பதிலுரைப்பார்.**

❖ பொருந்திய உணவு, பொருந்தா உணவை தனது **சொந்த வாக்கியத்தில் எழுதுவார்.**

❖ தவிர்க்க வேண்டிய உணவு வகைகளை **கண்டறிந்து எழுதுவார்.**

❖ உணவின் இன்றியமையாமைப் பாடப்பகுதியை **தொகுத்துக்கூறுவார்.**

வழிகாட்டலுக்கு தேவைப்படும் ஆதாரங்கள்∴ வளங்கள்:

❖ சமச்சீர் உணவு   - வரைபடத்தாள்
❖ உணவு அவற்றின் பயன்கள் - பொருத்தட்டை
❖ மருந்தான உணவுப் பொருட்கள் - மாதிரிகள்
❖ நோய்களும், நோய் நீக்கும் மருந்துகளும் - சுழலட்டை

கற்பவருக்கான முந்தைய அறிவு :

ஆசிரியர் கீழ்க்காணும் வினாக்கள் மூலம் மாணவர்களின் முந்தைய அறிவினை சோதித்தல்

உங்களுக்கு தெரிந்த மருந்து வகைகள் யாவை?
உணவில் மருந்துப் பொருட்கள் உண்டா?

உணவில் உள்ள மருந்துப் பொருட்கள் சில கூறுக.

பாடப்பொருள் ∴கருத்து	கற்றலின் நடத்தைக் கூறுகள்	கற்றல் அனுபவம்	மதிப்பீடு
மருந்துப் பொருட்கள்	வாசித்தல் கூறுதல் நினைவுகூர்தல் எழுதுதல்	ஆசிரியர் உணவில் உள்ள மருந்துப் பொருட்கள் எவையெவை என வினவுகிறார். ஆசிரியர் தயாரித்த வாசிப்பு, கரும்பலகையில் எழுதுதல். மாணவர்கள் மருந்துப் பொருட்களை நினைவு கூர்கின்றனர்.	1.மருந்தாகப் பயன்படும் உணவுப் பொருட்களுக்கு இரண்டு உதாரணம் கூறுக. 2. மருந்தான உணவுப் பொருட்களின் பெயர்களை எழுதிக்காட்டுக.
உணவின் இன்றியமையாமை	வாசித்தல், விளக்கிக்கூறுத ல்எழுதுதல்	ஆசிரியர் உணவின் இன்றியமை-யாமையை விளக்கிக்கூறுகிறார். கரும்பலகையில் எழுதுகிறார். மாணவர்கள் கேட்டுக் குறிப்பெடுக்-கின்றனர். உணவு உண்ண வேண்டிய அவசியத்தை வாசித்துப் பழகுகின்றனர்.	1.உடலுக்கு வலிமை தரு- பவை யாவை? 2.உணவின் இன்றியமை-யாமையை வாசித்துக்-காட்டுக. 3.உணவின் இன்றியமை -யாமையை குறிப்பேட்டில் எழுதுக.
இயற்கை உணவு முறை	வாசித்தல் தெளிவாக்குதல் எழுதுதல்	ஆசிரியர் இயற்கை உணவு முறை-யினையும், இயற்கையோடு இயைந்த பழக்கவழக்கங்களையும் தெளிவாக வாசித்துக்காட்டுகிறார். உணவும் அவற்றின் பயன்களும் எழுதிய பொருத்தட்டையை காட்டுகிறாார். மாணவர்கள் இயற்கை உணவை கடைபிடிப்பதன் மூலம் கிடைக்கக்-கூடிய உடல் நலத்தையும், உள-நலத்தையும் குழுவாக அமர்ந்து வாசித்து பழகுகின்றனர்.	1.இயற்கையான உணவு முறையின் பயனைக் கூறுக. 2.உடல்நலம் பெறும் முறையைக் கூறுக. 3.உளநலம் பெறுவதற்கான காரணங்களை எழுதிக்காட்டுக.
நோய் நீக்கும் மருந்துப் பொருட்கள்	வாசித்தல், உதாரணம் கூறுதல், எழுதுதல்	ஆசிரியர் நோய் நீக்கும் மருந்து பொருட்களுக்கு உதாரணம் கூறி மாதிரிகளைக் காட்டுகிறார். மாணவர்கள் நோய் நீக்கும் மாதிரி மருந்துகளைக் கவனித்து	1.நோய் நீக்கும் மருந்துப் பொருட்ளுக்கு இரண்டு உதாரணம் தருக. 2. நோய் நீக்கும் மருந்துகள் பாடப்பகுதியை

		மேலும் சிலவற்றை உதாரணமாகக் கூறுகின்றனர்.	வாசித்துக்காட்டுக.
நாம் உண்ண வேண்டிய உணவு	வாசித்தல், வரிசைப்படுத்திக் கூறல், எழுதுதல்	ஆசிரியர் நாள்தோறும் நாம் உண்ண வேண்டிய உணவு முறைகளை வரைபடத்தாள் மூலம் வரிசைப்படுத்திக் கூறுகிறார். மாணவர்கள் ஆசிரியர் வாசிப்பதை கவனித்துக் குழுவாகப் பிரிந்து வாசித்துப் பழகுகின்றனர்.	1.காலையில் நாம் உண்ண வேண்டிய உணவு வகைகளைக் கூறுக. 2.இரவில் நாம் உண்ண வேண்டிய உணவு முறைகளை எழுதிக்காட்டுக.
துரித உணவுமுறை	வாசித்தல் சுட்டிக்கூறுதல் எழுதுதல்	ஆசிரியர் தவிர்க்க வேண்டிய உணவு வகைகளை சுட்டிக்கூறுகிறார். மாணவர்கள் ஆசிரியர் கூறிய துரித உணவுகளின் தீங்கினை குழுவுடன் பேசிப்பகிர்ந்து கொள்கின்றனர்.	1.உடலிற்கு பொருந்தும் பொருந்தா உணவுகளைக் சுட்டிக்கூறுக. 2.தவிர்க்க வேண்டிய உணவு முறைகளுக்கு இரண்டு உதாரணம் தருக. 3.துரித உணவுமுறையின் தீங்கினைப் பற்றி எழுதுக.
சரிவிகித உணவுகள்	வாசித்தல் பட்டியலிட்டுக் கூறல்	ஆசிரியர் வரைபடத்தாளில் சமச்சீர் உணவினை பட்டியலிட்டு வாசித்துக் காட்டுகிறார். கரும்பலகையில் எழுதுகிறார். மாணவர்கள் நமது உடலிற்கேற்ற சரிவிகித உணவுகளை விளக்கிக் கூறுகிறார்.	1.சமச்சீர் உணவு என்றால் என்ன? 2.சரிவித விகித உணவிற்கு உதாரணம் தருக. 3.உடலிற்கேற்ற சரிவித உணவு பட்டியலை எழுதுக.
கற்பித்த பாடப் பகுதியிலுள்ள முக்கியக் கருத்துக்கள்	தொகுத்துக் கூறல் சுருக்கிக்கூறல்	படித்த பாடப்பகுதியிலுள்ள முக்கியக் கருத்துக்களைச் சுருக்கியும் தொகுத்தும் சொல்லி மாணவர்கள் குழுவாகப் பயிற்சி செய்கின்றனர்.	கற்பித்த பாடப்பகுதியில் இருந்து உணவின் இன்றியமையாமைப் பற்றி தொகுத்துச் சொல்லுக. 2.கற்பித்த பாடப்பகுதியில் இருந்து உணவே மருந்து பற்றி சுருக்கி எழுதுக.

தொடர் செயல்பாடுகள் (ஏதேனும்):

கற்பித்த பாடப்பகுதியின் அடிப்படையில்

1. உணவின் இன்றியமையை பற்றி ஒரு சிறு கட்டுரை வரைக.

2. மருந்தாகப் பயன்படும் உணவுப் பொருட்களைப் பற்றி உன் வீட்டில் உள்ள பெரியவர்களிடம் கேட்டு எழுதி வருக.

3. பொருந்தும்-பொருந்தா உணவுப் பொருட்களைப் பற்றிய செய்திகளை நாளிதழ்களிலிருந்து சேகரித்து வருக.

வழிகாட்டி ஆசிரியர் கையொப்பம்   மாணவ ஆசிரியர் கையொப்பம்

(செய்யுள்) பாடம் கற்பிப்புத்திட்டம்

மாணவ ஆசிரியர் பெயர்   : ஓஓஓஓஓஓஓ
பள்ளியின் பெயர்   : சாரதா மேல்நிலைப்பள்ளி
வகுப்பு:.பிரிவு மற்றும் காலம்   : ஒன்பதாம் வகுப்பு 'அ' பிரிவு
பாடம்   : செய்யுள்
அலகு   : பாஞ்சாலி சபதம்
தலைப்பு   : விதுரனைத் தூதுவிடல்

கற்பித்தலின் நோக்கங்கள்:

மாணவர்:

❖ பாரதியார் பற்றிய **ஆசிரியர் குறிப்பினைக் கூறுவார்.**

❖ பாஞ்சாலி சபதத்தின் **நூற்குறிப்பினைக் கூறுவார்.**

❖ 'விதுரனைத் தூதுவிடல்' செய்யுளை ஒலியம் தோன்ற **வாசித்துக்காட்டுவார்.**

❖ 'தம்பி' எனத்தொடங்கும் செய்யுளிலுள்ள புதிய சொற்களுக்கு **சொற்பொருளைக் கூறுவார்.**

❖ செய்யுளின் மையக் கருத்தினை **விளக்கிக் கூறுவார்.**

❖ செய்யுளில் இடம்பெறும் சொற்களுக்கு இலக்கணக்குறிப்பினை **தெளிவாக எடுத்துரைப்பார்.**

❖ செய்யுளில் இடம்பெறும் சொற்களுக்கு பகுபத உறுப்பிலக்கணத்தை **சுட்டிக்காட்டுவார்.**

❖ செய்யுளின் கருத்தினை **தொகுத்துக் கூறுவார்.**

வழிகாட்டலுக்கு தேவைப்படும் ஆதாரங்கள்.: வளங்கள்:

- ❖ பாரதியார் பற்றிய குறிப்பு (அல்லது) உருவப்படம்   - வரைபடத்தாள்
- ❖ அருஞ்சொற்பொருள்   - பொருத்தட்டை
- ❖ இந்திர மாநகர் மண்டபம்   - மாதிரி

கற்பவருக்கான முந்தைய அறிவு :

ஆசிரியர் கீழ்க்காணும் வினாக்கள் மூலம் மாணவர்களின் முந்தைய அறிவினை சோதித்தல்

மகாபாரதம் யாரைப் பற்றிய கதை என்று தெரியுமா?

பாண்டவர்களின் பெயர்களைக் கூறுக.
பாண்டவர்களின் மனைவி யார்?
திரௌபதியின் வேறு பெயர் என்ன?

பாடப்பொருள் .:கருத்து	கற்றலின் நடத்தை கூறுகள்	கற்றல் அனுபவம்	மதிப்பீடு
ஆசிரியர் குறிப்பு	நினைவு கூர்தல், ஆசிரியர் குறிப்பு கூறுதல்	ஆசிரியர் வரைபடத்தாளி-லிருந்து பாரதியாரைப் பற்றி கூறுகிறார். மாணவர்கள் வரைபடத்தாளை பார்த்து பாரதியார் பற்றிய கருத்துக்களை நினைவு-கூர்கின்றனர்.	பாரதியார் பற்றிச் சில குறிப்புகளைக் கூறுக.
நூல் குறிப்பு	நூற்குறிப்பு கூறுதல்	ஆசிரியர் வாசிப்பு அட்டையிலிருந்து நூற்குறிப்பினைக் கூறுகிறார். பாஞ்சாலி சபதம் நூலின் தோற்றம் பற்றிய நூற்குறிப்பினை மாணவர்கள் தங்களுக்குள் படிக்கின்றனர்.	1.பாஞ்சாலி சபதம் என்னும் நூல் எந்த நூலைத் தழுவி எழுதப்பட்டது? 2. பாஞ்சாலி சபதம் நூல் குறிப்பினைக் கூறுக.

'தம்பி' எனத் தொடங்கும் செய்யுள்	ஒலிநயம் தோன்ற வாசித்துக் காட்டுதல்	ஆசிரியர் செய்யுளை ஒலிநயம் தோன்ற வாசித்துக் காட்டுகிறார். மாணவர்கள் சிறு குழுக்களாகப் பிரிந்து ஒலிநயத்துடன் வாசித்துப் பழகுகின்றனர்.	'தம்பி' எனத் தொடங்கும் செய்யுளை ஒலிநயம் தோன்ற வாசித்துகாட்டுக.
செய்யுளில் உள்ள புதிய சொற்கள்	சொற்பொருள் கூறுதல்	ஆசிரியர் செய்யுளில் இடம்பெற்ற மடப்பிடி, களிக்க, நுந்தை போன்ற புதிய சொற்களுக்கு சொற்பொருள் விளக்கம் கூறுகிறார். மாணவர்கள் செய்யுளிலுள்ள புதிய சொற்களுக்கு பொருள் விளக்கம் சொல்லியும், எழுதியும் காட்டுகின்றனர்.	1.மடப்பிடி, நுந்தை – பொருள் விளக்கம் கூறுக. 2. களிக்க- என்பதன் பொருளை கரும்பலகையில் எழுதுக.
செய்யுளின் பொருள்	செய்யுளின் மையக் கருத்தினைக் கூறுதல்	ஆசிரியர் செய்யுளின் மையக் கருத்தினைக் கூறுகிறார். அதை மாணவர்கள் குறிப்போட்டில் எழுதுகின்றனர். எழுதியதை மாணவர்கள் குழுவாகச் சேர்ந்து படித்து மகிழ்கின்றனா	1.'தம்பி' எனத் தொடங்கும் செய்யுளை ஒலிநயம் தோன்ற வாசித்துக்காட்டுக. 2.செய்யுளின் மையக் கருத்தினைக் கூறுக.
இலக்கணக்குறிப்பு	தெளிவாக எடுத்துரைத்தல்	ஆசிரியர் செய்யுளில் வரும் சொற்களுக்கு இலக்கணக் குறிப்பினை தெளிவாக எடுத்துரைக்கிறார்.	1.'மாநகர்' - இலக்கணக் குறிப்பு கூறுக. 2.'சார்ந்தவர்' - இலக்கணக்குறிப்புக் கூறுக.
பகுபத உறுப்பிலக்கணம்	சுட்டிக் காட்டுதல்	மாணவர்கள் செய்யுளில் வரும் இலக்கணக்குறிப்புகளை கையேட்டில் எழுதுகின்றனர்.	1.கடந்து – பகுபத உறுப்பிலக்கணம் கூறுக.

		ஆசிரியர் செய்யுளில் இடம்பெறும் சொற்களுக்கு பகுபத இலக்கணத்தினை கரும்பலகையில் சுட்டிக்காட்டி விளக்கம் அளிப்பார். மாணவர்கள் அவ்விலக்கணத்தை நன்கு கவனித்து தனது குறிப்பேட்டில் குறித்துக்கொள்வார்.	2.செல்வான் - பகுபத உறுப்பிலக்கணத்தை குறிப்பேட்டில் எழுதிக்காட்டுக.
கற்பித்த செய்யுள் பகுதியின் முக்கிய கருத்துக்கள்	தொகுத்துக் கூறுதல் சுருக்கமாகக் கூறுதல்		1.விதுரனைத் தூதுவிடல் செய்யுள் பகுதியின் கருத்தினை சுருக்கமாகக் கூறுக. 2.விதுரன் வழியில் கண்ட காட்சிகளை தொகுத்துக் கூறுக.
		படித்த செய்யுள் பாடப்பகுதியிலுள்ள முக்கியக் கருத்துக்களைச் சுருக்கியும் தொகுத்தும் சொல்லி மாணவர்கள் குழுவாகப் பயிற்சி செய்கின்றனர்.	

தொடர் செயல்பாடுகள் (ஏதேனும்):

கற்பித்த பாடப்பகுதியின் அடிப்படையில்

1. மகாபாரதக் கதையை மூல நூலிலிருந்து அல்லது பெரியோர்களிடம் கேட்டுத் தெரிந்து வருக.

2. பாரதியாரின் வாழ்க்கை வரலாற்றினைப் பற்றி ஒரு சிறுகுறிப்பு வரைக.

3. சூழ்ச்சிச் சருக்கத்தின் கதைச் சுருக்கத்தை கலந்துரையாடல் செய்க.

வழிகாட்டி ஆசிரியர் கையொப்பம்   **மாணவ ஆசிரியர் கையொப்பம்**

பயிற்சி வினாக்கள்

1. ஹெர்பார்டின் பாடம் கற்பித்தலுக்கான படிநிலைகளை விளக்குக.

2. அலகுத்திட்டம் என்றால் என்ன? ஒன்பதாம் வகுப்பு பாடத்திற்கு அலகுத்திட்டம் ஒன்று தயாரிக்க.

3. புளுமின் கற்பித்தல் வகைப்பாட்டினை விளக்குக.

4. ஒன்பதாம் வகுப்பு செய்யுள் பாடம் ஒன்றிற்கு பாடம் கற்பிப்புத்திட்டம் ஒன்று தயாரிக்க.

பரிந்துரைக்கப்பட்ட நூல்கள்

- **கலைச்செல்வி.வெ** ,(2014) *பொதுத்தமிழ் கற்றல்-கற்பித்தல்,* ஈரோடு: சஞ்சீவ் வெளியீடு.

- **பழனிவேலு.ஞா (2011),***செந்தமிழ் கற்பித்தல் பொதுத்தமிழ்,* தஞ்சாவூர்: நதிபப்ளிர்ஸ்.

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- **மகாகவி பாரதியார்** ,(1997), *பாரதியார் பாடல்கள்* , சென்னை: குமரன் பதிப்பகம்.

- **புலவர் குழந்தை,** (2007), நீதிக்களஞ்சியம், சென்னை: சாரதா பதிப்பகம்

- **வா.செ.குழந்தைசாமி,** இது கல்வி யுகம், சென்னை: பாரதி பதிப்பகம்.

அலகு–3 கற்பித்தல் திறன்களில் பயிற்சி பெறுதல்

நோக்கங்கள்

இப்பாடத்தைக் கற்றப் பின்னர் மாணவ ஆசிரியர்கள்,

- ○ தமிழ் மொழி கற்பித்தல் திறன்களை வெளிப்படுத்துவர்.
- ○ குறுநிலைக் கற்பித்தலின் படிநிலைகளைப் பின்பற்றுவர்.
- ○ உரைநடை, கட்டுரைக் கற்பித்தலுக்குப் பொருத்தமான முறைகளைப் பின்பற்றுவர்.
- ○ செய்யுள் கற்பித்தலுக்குரிய சிறப்பு உத்தியை மேற்கொள்வர்.
- ○ இலக்கணத்தின் இனிமையை எடுத்துரைப்பர்.

முன்னுரை

கற்பித்தல் ஒரு திறன் மட்டுமன்றுஞ கலையுமாகும்.நூலறிவு மட்டுமே கற்பித்தல் திறனை வளர்த்து விடாது. பேருந்து ஓட்டக் கற்பவர், பேருந்தின் உறுப்புகள், இயக்கம் ஆகியன பற்றிய செய்திகள் அடங்கிய நூலைப் படித்து அடைவு பெற்று விட்டோ, பேருந்து ஓட்டலில் ஏற்படும் சிக்கல்கள் என்பது பற்றி நூலளவில் தெரிந்துகொண்டோ பேருந்தை ஓட்டிவிட முடியாது. பேருந்து ஓட்டும் திறன், பேருந்து ஓட்டிப் பார்த்துப் பழகுவிப்போர் அறிவுரைகளாலும் பழகுவோர் முனைப்பாலும் நடைமுறைச் சிக்கல்களை எதிர்கொள்ளும் திறத்தாலும் பெறுவதாகும்.அதேப்போல் கற்பித்தல் திறனும் அத்தன்மையதே!ஆசிரியர் கல்வி பெறும் நாள்களில் குறுநிலைக் கற்பித்தல் திறன்களிலும் படிநிலைகளிலும் பயிற்சி பெறல், உரைநடை ,செய்யுள், இலக்கணம், கட்டுரை ஆகியனகற்பிக்கப் பயிற்சி பெற்றால் எதிர்நாளில் கற்றலைத் தயக்கமின்றி கற்பிக்க இயலும் ஊக்கம் பிறக்கும். ஊக்குவிக்கும் இவற்றை, ஆசிரியர் கல்வி பெறும் காலத்து அறிந்து தேர்வது இன்றியமையாததாகும்.

கற்பித்தல் - விளக்கம்

"மாணவருக்கு அறிவைப் புகட்டும் நோக்கில், ஆசிரியர் மாணவருக்கிடையே நிகழும் ஊடாட்டமே கற்பித்தல்"என வரையறுக்கப்படுகிறது.மாணவன் மனத்தில் நிலைபெறச் செய்யவேண்டுமாயின்,ஐம்புலன்களும் உணருமாறுகற்பித்தல் வேண்டும்.

கற்பித்தல் செயல்பாட்டில் பல்வேறு கற்பித்தல் திறன்களை ஒருங்கிணைத்து ஏதேனும் ஒரு பாடப்பொருளை விளக்குவது சிறந்தது ஆகும்.

கற்பிப்பு நடத்தைகளாக வெளிப்படும் செயல்களைக் கல்வியாளர்கள் தத்தம் அணுகுமுறைகளுக்கு ஏற்ப வகைப் படுத்தியுள்ளனர். அவற்றைக் கற்பித்தல் ஆற்றல் என்னும் கற்பித்தல் உத்திகள் என்றும் கொள்வர்.

முக்கிய கற்பித்தல் திறன்களைப் புரிந்து கொள்ளல்

முக்கிய கற்பித்தல் திறன்களாக கீழ்கண்டத் திறன்கள் அமைகின்றன.அவை:

1. தொடங்குதல் திறன்
2. விளக்குதல் திறன்
3. பொழிப்புரைத் திறன்
4. வினாக் கேட்டல் திறன்
5. தூண்டல் மாற்றுத் திறன்
6. மொழிச்சாராக் குறிப்புத் திறன்

7. வலுவூட்டல் திறன்
8. முடிக்கும் திறன்
9. சரளமாகப் பேசும் திறன்

இவை, ஒன்பது திறன்களையும் ஆசிரிய மாணவர் பெறுவதற்காகக் குறுநிலைக் கற்பித்தலை மேற்கொள்ள வேண்டும்.

தொடங்குதல் திறன்

கற்பித்தல் செயல்முறையில் பாடத்தைத் தொடங்கும் முறை சிறப்பான இடத்தைப் பெறுகிறது. பாட அறிமுகம் செய்யும் தன்மையால், ஆசிரியர் சிலர் மாணவர்களின் கவனத்தை அப்பாடம் முழுவதும் ஈர்த்து விடுகின்றனர். "நல்ல தொடக்கம் பாதிப் பணியை முடித்ததற்கு ஒப்பாகும்" என்பது கற்பித்தலிலும் பொருத்தமாக அமைகிறது.

• முன்னறிவுத் தொடர்

புதிய அறிவை ஏற்றுக்கொள்வது எளிய செயலன்று. எனவே, புதிய அறிவுப்பகுதியைக் கற்பிக்கத் தொடங்கும் பொழுது மாணவர்களது முந்தைய அறிவையும் தகுந்த முறையில் இணைத்துத் தருதல் வேண்டும்.

• ஏற்ற விடை தந்தமை

முன்பு பெற்ற அறிவை நினைவூட்டுதலுக்காக வினாக்கள் கேட்கப்படும்பொழுது, அவற்றில் ஏற்ற விடை தந்ததனை எத்தனை என அறிதல் வேண்டும். ஏற்ற விடை தந்தவை மிகுதியாயிருப்பின் பாடம் நன்கு தொடங்கப்படுகிறது என்றும், ஏற்ற விடைகள் இல்லையாயின் தொடக்கம் சரியில்லை என்றும் நாம் அறியலாம்.

• தொடர்ச்சி

ஆசிரியர் கூறும் தொடர்கள்மூலம், பெறும் புதிய அறிவு, மாணவர்கள் ஏற்கெனவே பெற்ற அறிவின் தொடர்ச்சி போன்றதாக அமைதல் வேண்டும். தொடர்கள், அத் தொடர்ச்சியை உணர்த்துகின்றனவா என்று அறிதல் வேண்டும். ஒரு கருத்தை, அடுத்த கருத்து தொடர்ந்து இயல்பாக அமையுமாறு பேச்சு அமைதலையே தொடர்ச்சி என்கிறோம்.

• பொருத்தமான தொடர் - புறம்பான தொடர்

பொருத்தமான தொடர்கள் மிகுதியாக வரும்படியும், பாட நோக்கத்திற்குப் பொருத்தமில்லாத தொடர்கள் வராதபடியும் திட்டமிட்டுக் கொள்ளுதல் வேண்டும்.

• தொடங்குமுறை

- ▪ புதிய பாடத்துடன் ஒப்புமையுடைய கருத்துகளைக் கூறித் தொடங்குதல்
- ▪ வினாக்கள் கேட்டு விடைகளை வரவழைத்துத் தொடங்குதல்.
- ▪ விளக்குதல், வருணித்தல், சொற்பொழிவுகள் மூலம் தொடங்குதல்.
- ▪ குதைக் கூறி தொடங்குதல்.
- ▪ நடித்தல் முறை மூலம் தொடங்குதல்
- ▪ துணைக்கருவிகளைப் பயன்படுத்தித் தொடங்குதல்
- ▪ செய்துகாட்டல் மூலம் தொடங்குதல்

எனப் பாடத் தலைப்புக்கேற்ற முறையைப் பின்பற்றித் தொடங்குதல் சிறப்புடையது எனப் பயிற்சிபெற்ற ஆசிரியர் பலர் தம் பட்டறிவினால் கூறுகின்றனர்.

விளக்குதல் திறன்

ஆசிரியர் பாடம் கற்பித்தலில், விளக்குதல் திறன் சிறப்பிடம் பெறுகிறது. திறம்பெற விளக்குதல் நடைபெற்றால், மாணவர்கள் பாடப்பொருளை நன்கு உணர்வார்கள்.

வகுப்பறையில் விளக்குதலுக்கு நிறைய வாய்ப்புகள் உள்ளன. ஷெவ்வாறு, எப்போது, யார், எவை, ஏன், எப்படி, எது' என்னும் வினாக்களை எழுப்பி விளக்குவதால், அவற்றிற்கு உரிய விடையைச் சொல்லுவதால் மாணவர்கள் விளக்கம் பெறுகின்றனர்.மொழிப்பாடத்தில் பாடல்களைக் கற்பிக்கும்பொழுதும், விளக்கங்கள் மிகுதியாக இடம் பெறுகின்றன. எனவே, விளக்குதலில் திறன்பெறுதல் இன்றியமையாததாகிறது.

- ### தொடங்கும் தொடர்

பாடப்பகுதி எவையாயினும் சரி, விளக்கும்போது தொடங்குதொடர் மையக்கருத்தை உள்ளடக்கியதாக இருத்தல் வேண்டும். எதனைப்பற்றி விளக்க இருக்கிறோம் என்பதனைத் தொடங்கும்பொழுதே அறிதல் வேண்டும்.

- ### இணைப்புச் சொற்கள்

ஒன்றை விளக்கும்போது, ஒரு கருத்தோடு மற்றொரு கருத்தை இணைத்து, இயைபுபடுத்திக் கூறுவதற்கு இணைப்புச் சொற்களைப் பயன்படுத்துவோம். அத்தகைய இணைப்புச் சொற்களுள் ஏற்றவற்றை இடமறிந்து பயன்படுத்த வேண்டும். சில தொடர் இணைப்புச்சொற்கள், கீழே கொடுக்கப்பட்டுள்ளன.

ஆனால்,   ஆகவே,   அவ்வாறு,   இவ்வாறு,

அதோடு,   ஆகையால்,   எனவே,   பின்னர்,

பின்,   முன்,   ஏனெனில்,   எப்படியெனில்,

எவ்வாறெனில்,   இதன் காரணமாக,   இதிலிருந்து,

இது தொடர்பாக,   அதன் காரணமாக,   இதன் விளைவாக,

அத்தகைய,   இப்படியிருப்பின்,   இல்லாதிருந்தால்,

இதனால்,   இருந்திருந்தால்,   அதோடுகூட.

- ### முற்றுவிக்கும்தொடர்

கற்பித்தல் பகுதி எப்படி நல்ல தொடக்கம் அமைகிறதோ, அதேபோன்று தெளிவாக முடிவு பெறுதலும் வேண்டும். முடிவுபெறுதல் திறம்பட அமைந்தால், மாணவர்கள் கற்றவற்றைத் தொகுத்துக்கொள்ள முடியும்.

- ### விளக்குதலில் வினாக்கள்

விளக்குதலில் அமைந்த வினாக்கள் அனைத்தும் ஏற்ற விடைகள் பெறுமாயின், விளக்குதல் திறம்பட நடைபெற்றது எனக் குறிப்பிடப்படுகிறது.

3. பொழிப்புரைத் திறன்

செய்யுளுக்கு உரைநடை வடிவில் பொருள் விளக்கம் அமையும்.இது செய்யுளுக்கே பொருத்தமுடையதாகும்."செய்யுள் முதலியவற்றின் பொருளைத் திரட்டி, தொகுத்துக் கூறுதல்பொழிப்புரைத் திறன்" எனப்படும்.

எடுத்துக்காட்டு,"தொட்டனைத் தூறும் மணற்கேணி மாந்தர்க்குக்

கற்றனைத்தூறும் அறிவு".

பொழிப்புரை

மணிலின்கண் கேணி தோண்டிய அளவிற்கு நீர் ஊறும் அது போல மக்களுக்குக் கற்ற அளவிற்கு ஏற்ப அறிவு மிகுதியாகும்.

4.வினாக்கேட்டல் திறன்

ஆசிரியர் கற்பித்தலுக்கு உறுதுணையாக அமைவது வினாக் கேட்டல் திறன் ஆகும். பாடப்பொருளைக் கற்பிப்பதற்கு அவர் வினாக்கள் கேட்கின்றார். அவற்றைக் கற்பித்தல் வினாக்கள் என்பர். கற்பித்த பின்னர் அவர்கள் பாடப் பொருளை நன்கு அறிந்துள்ளனரா என அறியவும் வினாக்கள் கேட்கின்றார். அவற்றைத் தேர்ந்தறி வினாக்கள் என்பர். இவ்வாறு வினாக்களை ஆசிரியர் மிகுதியும் பயன்படுத்துகின்றார்.

எதிர்பார்க்கும் விடைகளைப் பொறுத்து வினாக்களைப் பின்வருமாறு அமையும்.

- **எளிய நிலை வினாக்கள்,**

எளிய நிலை வினாக்கள் நினைவாற்றலை மையமாகக் கொண்டு விடை பெறுவன. ஏற்கெனவே இருக்கும் அறிவு நிலையைச் சோதிப்பன. இவ்வினாக்களுக்கான விடைகளில் மாணவரதுக் கருத்துகள் வெளியாவதில்லை.

- **இடைநிலை வினாக்கள்,**

இவை கருத்துணர்தல் நிலையில் விடைகளைப் பெறுவன. ஒரு தொடரின் பொருளை விளக்குதல், தொடரின் பொருள் உணர்ந்து ஒப்பிடல் போன்றவை இந்த வகையைச் சாரும்.மாணவர்தம் அறிவைப் புதிய சூழ்நிலையில் பயன்படுத்தும் தன்மையானவற்றைக் குறிக்கும் வினாக்களை இடைநிலை வினாக்கள் என்பர்.

- **உயர்நிலை வினாக்கள்**

உயர்நிலை வினாக்கள் மாணவர் அறிந்ததிலிருந்து அதற்கு அப்பாற்பட்ட அறிவுப் பகுதிகளை அடையத் தூண்டுவனவாகும். தாங்கள் பெற்ற அறிவினின்று மேலும் சென்று பகுத்தல், தொகுத்தல், மதிப்பிடுதல் போன்ற வற்றைச் செய்து விடை தரும்படியாக இவை அமையும். புதிர்தீர்த்தல், முன்கூட்டியே உய்த்துணர்தல், தீர்மானித்தல், தானே படைக்குமாற்றலைத் தருதல் போன்றவை உயர் நிலை வினாக்களால் விளைவனவாம்.மேலும்

- அறிவு நிலை வினாக்கள்
- கருத்துணர்தல் வினாக்கள்
- அறிவைப் பயன்படுத்தும் வினாக்கள்
- சிந்தனை வினாக்கள்

இவ்வகை வினாக்களுள் அறிவு நிலை வினாக்களை,எளிய நிலை வினாக்கள் என்றும், கருத்துணர்தல், அறிவைப் பயன்படுத்துதல் போன்ற வினாக்களை இடைநிலை வினாக்கள் என்றும், சிந்தனை வினாக்களை உயர்நிலை வினாக்கள் என்றும் கூறுவர்.

5.தூண்டல் மாற்றுத் திறன்

இத்திறன் பல்வகை தூண்டல் எனவும் பெயர் பெறும். அவை:

• ஆசிரியர் இட மாற்றம்

ஆசிரியர் ஒரே இடத்தில் நிலையாக நின்று கற்பிக்காமல் நகருதல் வேண்டும். கரும்பலகையில் எழுதுதல், மாணவர்கள் அருகே சென்று பாராட்டல், நாட்டுப்படத்தில் ஒர் இடத்தைக் காட்டுதல், ஒரிடத்திலிருந்து மற்றோரிடம் செல்லுதல் போன்ற செயல்கள் இடநிலைமாற்றம் அல்லது அசைவு எனப்படும்.

• மெய்ப்பாடுகள்

பாடப்பொருளின் தன்மைக்கேற்ப உணர்வுகளை ஆசிரியர் வெளிப்படுத்துவதும், சைகைகளைப் பயன் படுத்துவதும் உண்டு. இவற்றையே மெய்ப்பாடு என்பர். ஷகுறுகலானது, அகன்றது, உருண்டையானது, நீளமானது' என்னும் தொடர்களைக் கூறும்போது, ஆசிரியர் சைகைகளைக் காட்டுவதும், உணர்வுகளைக் குறிப்பிடும் பொழுது முகம் சுளித்தல், முகமலர்ச்சி ஆகியவற்றை முகக்குறிகளால் காட்டுவதும் மெய்ப்பாடுகளையே சாரும். எனவே, உணர்வை வெளியிடும்போதும், அளவு, இயக்கம், வடிவம் ஆகியவற்றைக் குறிக்கும்போதும் மெய்ப்பாடுகளைப் பயன்படுத்தலாம். சொற்களோடுகூட, மெய்ப்பாடுகளும் இணையும்போது கவன ஈர்ப்பையும், கவன நிலைப்பையும் அதிகரிக்கச் செய்கிறது. கைகளால் மட்டுமன்றி, தலை, உடல் ஆகிய உறுப்புகளின் மூலமும் மெய்ப்பாடுகள் தோன்றுமாறு செய்யலாம்.

• குரல் ஏற்றத் தாழ்வு

ஒரே சீரான பேச்சு, ஒலிப்பு என்பது சலிப்புத் தன்மையைத் தோற்றுவிக்கும். அதன் காரணமாகக் கவனம் நிலைக்காதுளூ கற்றலும் நிகழாது. எனவே, கற்பித்தலின் போது குரலில் ஏற்றத்தாழ்வுகள், மாறுதல்கள் வேண்டும். வீர உரையைப் படிக்கும்பொழுதும், இரக்க உணர்ச்சிபற்றிக் கூறும் பொழுதும், கோபத்தை உணர்த்தும் சொற்களைப் படிக்கும் பொழுதும் குரலில் ஏற்றத்தாழ்வு ஏற்பட வேண்டும். வினா, உணர்ச்சி வாக்கியங்களை அவை வெளிப்படுத்தும் உணர்வுக்கு ஏற்ப ஒலிக்க வேண்டும். உயிர்ப்புடனும் உணர்வுடனும் குரல் ஒலியில் ஏற்ற இடங்களில் ஏற்றத்தாழ்வுகள் அமைந்தால், கவன ஈர்ப்பு ஏற்பட்டு, கற்றல் மிக அதிக அளவில் நடைபெறும்.

• கவனம் ஈர்த்தல்

ஆசிரியர் பாடம் கற்பிக்கும்போது,"இப்பொழுது சொல்வது மிகமுக்கியம் கவனியுங்கள்" என்னும் சொற்களின் மூலம் மாணவர்களின் கவனத்தை ஈர்க்கலாம்ளூ அல்லது சொற்களில் அழுத்தம் கொடுத்தும் கரும்பலகையில் எழுதியவற்றுள் சிலவற்றை அடிக்கோடிட்டுக் காட்டியும்

வண்ணங்களால் எழுதிக்காட்டியும் மாணவர்கள் கவனத்தை ஈர்க்கலாம். வரைபடம், படம் ஆகியவற்றில் சுட்டிக்காட்டுதலும் மாணவர்களின் கவனம் ஈர்த்தலுக்கே யாகும். இவ்வாறு பலவழிகளில் மாணவர்கள் கவனத்தை ஈர்க்கலாம்.

- **இடைவினை மாற்றம்**

கற்பித்தலின்போது ஆசிரியர் பேசுகிறார்ௗ மாணவர்கள் கேட்கின்றனர். எனவே, கற்பித்தலின்போது தாம் செயல்படுவதோடு, மாணவர்களும் செயல்படத் திட்டமிட வேண்டும். மாணவர்களிடம் வினாக்கள் கேட்டு, அவர்களைப் பதில் கூறச்செய்தல், மாணவர்களைக் கரும்பலகையில் எழுதச் செய்தல், ஒருவரை வினா கேட்கச்செய்தல் போன்றவற்றின் மூலம் மாணவர்கள் செயல்பட வாய்ப்பளிக்கலாம். இதுவே ஷவினைமாற்றம்' எனப்படும். இதனை ஷஇடை வினைமாற்றம்' எனவும், ஷமாணவர் பங்களிப்பு' என்றும் கூறுவர். இவ்வினை மாற்றத்தை,

ஆசிரியர் - வகுப்பு   ஆசிரியர் - மாணவர்

மாணவர் - மாணவர் என்னும் அமைப்பில் கொள்ளலாம்

- **நிறுத்தம்**

ஆசிரியர் தொடர்ந்து பேசிக் கொண்டிருக்கும்போது இடையில் சற்றுப் பேச்சை நிறுத்தினால்..... மாணவர்கள் அனைவரும் கவனிக்கத் தொடங்குவர். விளக்கம் தரும்போதோ, நிகழ்ச்சியைக் குறிப்பிடும்போதோ, வினாக்கள் கேட்கும்போதோ, தொடர்ந்து பேசிக் கொண்டிருக்கும் போதோ, திட்டமிட்டு வேண்டுமென்றே பேச்சு நிறுத்தம் செய்வது கவனத்தை ஒருமுகப்படுத்துவதோடு சிந்தனையையும் தூண்டும்.

- **புலன் மாற்றம்**

வகுப்பில் ஆசிரியர் பேசும்பொழுது மாணவர்கள் கேட்கின்றனர். மாணவர்களது செவிப்புலன் (கேட்டல்) பயன்படுகிறது. கரும்பலகையில் எழுதும்பொழுதும், படங்களைக் காட்டும்பொழுதும், பொருள்களைக் காட்டும்பொழுதும் அவற்றைப் பார்க்கின்றனர். அப்பொழுது மாணவர்களது கட்புலன் (பார்த்தல்) பயன்படுகிறது. இவ்வாறு செவிப்புலனும் கட்புலனும் (கேட்டல், பார்த்தல்) செயல்பட வாய்ப்பளிப்பதே ஷபுலன்மாற்றம்' எனப்படும்.

எந்தப் பாடமாக இருந்தாலும் காட்சி, கேள்வி அமைப்பில் கற்பித்தல் நிகழ்ந்தால் கற்றல் சிறப்புறும். காட்சி - கேள்வி நிகழ்வுகள் மாறிமாறி அமைதல் நல்லது. கீழ் வகுப்புகளில் முகர்தல் புலனையும், தொடுதல் புலனையும் கையாளும் வாய்ப்பு ஏற்படின், ஆசிரியர் அவற்றையும் நன்முறையில் பயன்படுத்த வேண்டும். இவ்வாறு அமைவதனைப் ஷபுலன்வகைத் தூண்டல் மாற்றம்' என்றும், சுருக்கமாகப் ஷபுலன்மாற்றம்' என்றும் கூறுவர்.

6.மொழிச்சாராக் குறிப்புத் திறன் அல்லது சைகை மொழித்திறன்

ஆசிரியர் கற்பிக்கும் போது வகுப்பறையில் அவருடைய தோற்றம், மெய்ப்பாடு முதலியன மாணவரின் கவனித்தலையும் கற்றலையும் ஊக்குவிப்பனவாகும்.

ஆசிரியர் மாணவர்கள் கவனிப்பதை உறுதிசெய்யவும் கற்பிப்பின் பால் மாணவர்கள் ஈர்க்கவும் பல உத்திகள் உள்ளன. அவற்றுள் மெய்ப்பாடுகள் சிறப்பிடம் வகிக்கின்றன. மெய்ப்பாடுகளின் மூலம் ஆசிரியர் பல கருத்துகளை வலிமையாக உணர்ந்த முடியும்.

இவற்றை "சைகைமொழி" எனவும் கூறுவர். வகுப்பில் 40 மேற்பட்ட மாணவர்கள் இருக்கின்ற சூழலில் ஆசிரியர் ஒவ்வொரு மாணவரையும் பெயரிட்டு அழைக்க முடியாத சூழலில் விரலால் சுட்டி அழைக்கலாம்.

வகுப்பறையில் கவனிக்காது குறும்பு செய்யும் மாணவர்களை ஆசிரியர் தம் பார்வையினால் எச்சரிக்கை இயலும்.

விரலை நீட்டுதல், சொடுக்குதல், முகத்தை திருப்புதல், மாணவரின் துலங்களுக்கு ஏற்ப முகப்பாவணைகளை வெளிப்படுத்துதல், ஓரக்கண்ணால் பார்த்தல், முறைத்து பார்த்தல் போன்ற சைகைமொழிகளும் ஆசிரியருக்கு தேவையாகும்.

ஆசிரியர் ஒரே போக்கில் உரையாடி கொண்டு இருக்காமல் அவ்வப்போது மெய்ப்பொருள் மூலம் பாடம் பொருக்கு ஏற்ற சுவைகளை வெளிப்படுத்துவதலும் கற்பித்தலை வளப்படுத்த முடியும். சுருங்கக்கூறின் வகுப்பறை ஆசிரியர் தனி நடிப்பு நிகழ்த்தும் ஒரு மேடையாகும்.

7.வலுவூட்டல் திறன்

ஆசிரியர் வகுப்பில் கற்பிக்கும் பொழுது வினாக்கள் கேட்கின்றார். வினாக்களுக்கு மாணவர் விடை யளிக்கின்றனர். மிகச் சரியான விடை அளிக்கின்றபோது ஆசிரியர் ஒன்றும் சொல்லாது, அடுத்து வேறு வினா கேட்டால் மாணவர் மகிழ்ச்சி அடையார். கற்றலில் ஊக்கம் பெறார். சரியான விடையானது ஆசிரியரால் ஏற்றுக் கொள்ளப்பட்டது என ஆசிரியர் சொல்லாலோ, பிற குறிப்புகளாலோ தெரிவிப்பின் மாணவர் மகிழ்வுறுவர். அவ்வாறு நன்கு படித்து முறையாக விடையளித்தலுக்கு ஆசிரியரது செயல் வலுவூட்டுகிறது. அதனை 'வலுவூட்டி' என்பர். பாராட்டல் என்றும் கூறலாம்.

வலுவூட்டிகள் சரியான முறையில் பயன்படுத்தப் படுமானால்,

- தங்கள் விடை சரி என்று தெரிந்து கொள்ள வாய்ப்பு உண்டு.
- மேலும் படிக்க மாணவரைத் தூண்டும்
- மாணவர் நடுவில் சமூக ஏற்பு நிகழ்வதால் கற்றல் சூழலில் விருப்பம் ஏற்படும்.
- மாணவருக்கு மகிழ்ச்சி ஏற்படும்
- நல்ல செயல்கள், நடத்தைகள் வலுப்படும்
- வகுப்பு நடைமுறைச் செயலில் மாணவர் பங்கேற்பு மிகுதியாகும்
- அடுத்து வரும் வினாக்களுக்கான விடைகளை எதிர்நோக்கச் செய்யும். இதனால் கவனம் பெருகும்.

ஆனால், எதிர்மறையிலான வலுவூட்டிகள் (தவறு-தப்பு-சரியில்லை போன்றவை) கற்றலுக்குத் துணைபுரிவ தில்லையூ இதனால் மாணவர் வேறொரு நிலையில் விடைதரத் தயங்கிப் பின் வாங்கி விடுவர். எனவே வலுவூட்டிகளைப் பொருந்தமாகப் பயன்படுத்தினால் கற்றல் சிறக்கும். தேவையில்லாத போதும், அதிகமாகவும் இவற்றைப் பயன்படுத்துதல் கூடாது.

வலுவூட்டிகளைப் பயன்படுத்தும் போது கீழ் உள்ள கருத்துகளை மனத்தில் கொள்வது நன்று.

1. வலுவூட்டிகளை மாணவர் பலரும் பெறுமாறு செய்தல் வேண்டும். சிலர் மட்டுமே பெற்றால், நாளடைவில் மற்றவர்கள் விடை தருவதில் கலந்து கொள்ள மாட்டார்கள்.

2. வலுவூட்டிகளில் பலவற்றையும் பயன்படுத்த வேண்டும். விடையின் தரத்திற்கேற்ப, இவற்றின் தகுதியும் அமைதல் வேண்டும். இல்லையேல் மாணவர் ஆர்வம் குறைந்து விடும்.

3. வலுவூட்டிகளைக் கண்டபடி பயன்படுத்துதல் சிறந்ததன்று. அவ்வாறாயின் இதன் வலு குறைந்துவிடும்.

- **மொழிச் சார்புடைய வலுவூட்டிகள்**

மாணவர் சரியான விடையளிக்கும் போது, நன்று, சரி, மிக நன்று. அருமை, ஆகா, மிக அருமை, சிறப்பானது, அழகு, ஆம் மேலும் தொடர்க, மேலும் சொல்லுக... முதலிய தொடர்கள் மொழிச் சார்புடைய வலுவூட்டிகளாம். இவற்றை ஆசிரியர் நன்கு பயன்படுத்துதல் வேண்டும்.

- **திரும்பக் கூறல்**

மாணவர் கூறும் சரியான விடையை ஆசிரியர் கேட்டு அதனை வகுப்பு முழுமைக்கும் திரும்பக் கூறுகிறார். அப்படிக் கூறும் பொழுது மாணவன்,"தன் விடையை, மாணவர் அனைவரும் அறிய ஆசிரியர் கூறினார்" என்று மகிழ்கிறான். இவ்வாறும் பாராட்டலாம்.

- **வேறு வகையில் கூறல்**

மாணவன் ஓரளவு சரியான விடை கூறினால், ஆசிரியர் அதைத் திருத்திச் செம்மையாக்கிக் கூறலாம். தன்னுடைய விடையிலுள்ள சொற்களையே பயன்படுத்தி ஆசிரியர் விளக்கினார் என்று அறிந்து மாணவன் மகிழ்வான். எடுத்துக்காட்டு,

ஆ: நாகரிகத்துக்கும் பண்பாட்டுக்கும் உள்ள வேறுபாடு யாது?

மா: நாகரிகம் என்பது புற ஒழுக்கம். பண்பாடு என்பது எல்லோருக்கும் பொதுவானது.

ஆ: நாகரிகம் என்பது புற ஒழுக்கம் பண்பாடு என்பது அக ஒழுக்கம். புறஒழுக்கம் நாட்டுக்கு நாடு வேறுபடும். அக ஒழுக்கம் மனித இனத்துக்கே பொதுவானது.

இவ்வாறு மாணவன் விடையை ஏற்று வேறுவகையில் கூறலாம்.

- **மொழிச் சார்புடை ஒலிகள்**

மாணவன் விடை கூறும் போது ஆசிரியர் ஷம்' ஷம்'எனக் கூறி மாணவனை மேலும் விடையைக் கூறும்படி செய்தலே மொழிச் சார்புடை ஒலியாகும்.

- **உதவும் சைகைக் குறிகள்**

மாணவன் சரியான விடை கூறும் போது ஆசிரியர் தம் தலையசைப்பால் ஏற்றல், சிறிது புன்முறுவல் செய்து மேலே சொல்லும்படி கையால் காட்டுதல், அருகே சென்று தட்டிக் கொடுத்தல் போன்றன மாணவனைப் பாராட்டும் சைகைக் குறிகளாம்.

8.முடிக்கும் திறன்

கற்பிக்கும் ஒரு பாடத்தின் பாடப்பகுதியின் சிறப்பான கருத்துகள், கொள்கைகள் கற்பிக்கப்பட்டு விட்டன என்னும் நிலை தோன்றும்போது அவற்றை முடித்துக் காட்டுவது கற்றலுக்குப் பெருந்துணைப் புரியும். அவ்வாறு முடித்துக் காட்டும் பொழுதுதான் பாடங்

கற்போருக்கு ஒரு நிறைவு ஏற்படும். முடிக்குந் திறனின் உட்கூறுகளாகக் கீழ் உள்ளனவற்றைக் குறிப்பிடுகின்றனர்.

- ### கருத்துகளைத் தொகுத்துக் கூறுதல்

பாடம் கற்பிக்கப்படும் பொழுது ஆசிரியரும், மாணவரும் பல கருத்துகளைக் கூறியிருக்கலாம். பாட இறுதியில் அவற்றைத் தொகுத்துக் கூறுதல் வேண்டும். அப்பொழுதுதான் கற்போர் எவற்றை நாம் கற்றுக் கொண்டோம் என்று அறிந்து, அறிவை ஒழுங்குபடுத்திக் கொள்ள முடியும்.

- ### புதிய அறிவைப் பயன்படுத்த வாய்ப்பு

புதிய செய்தி, கருத்து, விதிகள் கற்பிக்கப் பட்டிருக்குமாயின் அவற்றைப் பயன்படுத்தக்கூடிய வாய்ப்புகளைக் குறிப்பிடல் வேண்டும். இன்னின்ன சூழ்நிலையில் இன்னின்ன வகையில் இந்தப் புதிய அறிவைப் பயன்படுத்தலாம் எனக் கூறி அவ்வித வாய்ப்புகளை ஏற்படுத்த வேண்டும். தாங்கள் கேட்டோ, பார்த்தோ பெற்ற அறிவைப் பயன்படுத்தும் பொழுதுதான் அதனை அவர்கள் உறுதிப்படுத்திக் கொள்ள முடியும்.

- ### முன்னறிவுடன் இணைப்பு

பாட வேளையில் கற்ற புதிய அறிவை மாணவரிடையே முன்னர் அது தொடர்பாக ஏற்கெனவே உள்ள அறிவுடன் இணைத்தல் வேண்டும். இவ்வாறு இணைத்துக் காட்டும் பொழுது அந்தப் புதிய அறிவு தெளிவாக உணரப்பட முடியும். மாணவர் அறிவில் வளர்ச்சி பெற்றதாக உணர முடியும்.

- ### மேலும் கற்றலுக்கு வாய்ப்பு

மாணவர் பெற்ற புதிய அறிவை, அடுத்துப் பெறப் போகும் அறிவோடு தொடர்புபடுத்துதல் வேண்டும். இன்னின்னவற்றை அறிந்து கொண்டீர்கள், இவற்றைத் தொடர்ந்து, இன்னின்னவற்றை நீங்கள் மேலும் அறிந்து கொள்வீர்கள் என்று கூறும் பொழுது மாணவர் அறிவு நிலையில் மென்மேலும் வளர்ச்சி பெறத் தயாராகிறார்கள்.

சிறப்பாகப் பாடம் முடித்தலைக் குறுகிய தொகுப்பு என்று கூறலாம். கற்பித்தலின் சாரம் என்று அழைக்கலாம். பாட இறுதியில் தான் இவ்வாறு முடித்தலைத் திரட்டித் தரல் வேண்டுமென்பதில்லை. பாடமானது குறிப்பிட்ட கருத்துகளைக் கொண்ட பாடப் பகுதிகளாக விளங்கும். அப்பாடப்பகுதிகளை எல்லையாகக் கொண்டு அவ்வெல்லைக்குட்பட்ட பகுதியை உடனேயே முடித்து விடலாம். அவ்வாறு முடிப்பது இன்னும் சிறப்புடைய தாகும்.

இவ்வாறு செய்வதால், திட்டமிட்ட பாடம் பாடப்பகுதி நிறைவு பெறும்போது மாணவர் பெற்ற புதிய அறிவு தெளிவு பெறுகின்றது. அவ்வறிவைப் பயன்படுத்தத் தூண்டல் நேரிடுகிறது. மேலும், இவ்வாறு முடித்தல் மாணவரிடையே ஒரு சாதனையைச் செய்த உணர்வைத் தோற்றுவிக்கிறது.

9. சரளமாகப் பேசும் திறன்

ஆசிரியர் வகுப்பறையில் சரளமாக பேச கற்றுக் கொடுக்க வேண்டும்.தங்குதடையின்றி பேசுதல் நன்று. கேட்பவர்கள் எளிதாக புரிந்து கொள்ளும் விதத்தில் வார்த்தைகளைக் கூறுதல் சிறந்தது.பேச்சு உறுப்புகளைச் சரிவர பயன்படுத்த வேண்டும். அதோடு சொல் அமைப்பைப் புரிந்து வைத்தல் அவசியமாகும்.

பேசும்போது தலையை நிமிர்த்து பேசுவது சிறந்தது,வாயை போதியளவு திறந்து, உங்கள் கழுத்து,தாடை,உதடுகள்,முக தசைகள்,தொண்டை தசைகள் ஆகியவற்றை தளர்த்த பழகுங்கள்.உங்கள் நிலையைச் சோதித்தறிவதற்கு,சத்தமாக வாசித்துப் பார்ப்பது உதவியாக இருக்கும்.

கற்பித்தல் திறன்களை இணைத்துக் குறுநிலைக் கற்பித்தலில் (சிறு பாடம் நடத்துதல்) பயிற்சி பெறுதல் (20 மணித்துளிகள்) பின் வரும் பகுதியில் விளக்கப்படுகிறது.

குறுநிலைக் கற்பித்தலின் முக்கிய படிகளைப் புரிந்துகொள்ளல்

குறுநிலைக் கற்பித்தலில் படிநிலைகள் பின்வருமாறு அமைந்துள்ளன. அவை:

1. ஊக்கப்படுத்துதல்
2. பாடக் கருத்துகளை வழங்குதல்
3. இடைவினைப் பேச்சு
4. மீளச் சிந்தித்தல்
5. தொகுத்துக் கூறல்

1. ஊக்கப்படுத்துதல்

கற்றலுக்கு ஆதாரமாகவும் கற்பித்தலுக்கு உறுதுணையாகவும் அமைவது ஊக்குவித்தல் ஆகும்.சிறு பாடம்(ஆலை டளளழ) கற்பிக்கும் போது பாடத்தை முன்பு அறிந்த செய்திகளுடன் நினைவுப் படுத்தி கற்பிக்க வேண்டும்.ஊக்கப்படுத்தி, நல் உரையாடிக் கற்பிக்கும் பாடமே சிறப்பான கற்றலுக்கு வழிவகுக்கும். இந்தப்படிநிலை,கற்போர் அனைவரின் மனநிலைச் சிதறாமல் தங்களின் முழுகவனத்தையும் ஒருமுகப்படுத்துவதாகும். மேலும் கற்றலுக்கு ஆர்வத்தைத் தூண்டுவதாகும்.

2. பாடக்கருத்துகளை வழங்குதல்

ஊக்குவித்த பின் கற்பிக்கப்போகும் பாடத்தின் தலைப்பினைக் கரும்பலகையில் எழுதி பிறகு பாடத் தலைப்பிற்கான நோக்கங்களை மாணவர்களுக்குத் தெளிவாகப் புரியும் வண்ணம் எடுத்துக் கூற வேண்டும் அல்லது நாளும் வளர்ந்து வரும் தகவல் தொழில் நுட்பம்(வு) கொண்டும் கற்பிக்கலாம்.

"பாடத் தொடக்க வேளையிலிருந்து நிறைவு வரைச்செல்லும் கற்பித்தல் வளர்ச்சியைப்பாடக்கருத்துகளை வழங்குதல்" என பட்டறிவு மிக்க கல்வியாளர் கூறுகின்றனர்".

பாட வளர்ச்சியின் குறிக்கோளாக அமைவது, கற்பிக்கும் பாடத்தை நன்குப் புரிந்து கொள்ளுதலாகும். இதன் தொடர்ச்சியாக உள் வளர்ச்சிகளைக் கொண்டு அமையும். கற்பிக்கும் துணைக்கருவிகள் கொண்டு கற்பிக்க வேண்டும். கற்பிக்கும் முறை, காட்சிப் பொருளிலிருந்து கருத்துப் பொருளுக்குச் செல்லுதல்,தெளிவிலிருந்து சிக்கலுக்குச் செல்லுதல் என்பதாக அமையும்.

3. இடைவினைப் பேச்சு

இடைவினை என்பது கற்பித்தல் கற்றல் இடையே நிகழும் சொல்லாடல்(னுளௌஉழரசளந) ஆகும்."ஆசிரியர் வகுப்பறையில் கற்பித்தல் செயலை நோக்கிய பின்னர், கற்பவருக்கு ஏற்படும் ஐயங்களைத் தீர்த்துக் கொள்வதற்கும் அவர் மேற்கொண்ட கற்பிப்பு முறைகளின் அடிப்படைக் காரணங்களை அறிவதற்கும் பயன்படுவதாகும்".ஆசிரியருடன் கலந்துரையாடிகிறபோது

வாழ்க்கையோடுத் தொடர்புடைய புதிய செய்திகளைக் கற்போர் அறிய வாய்ப்பு ஏற்படுகிறது. குறிப்பாக, இடைவினைக் குறுநிலைக் கற்பித்தலை அச்சமின்றி கற்பிக்க ஆசிரிய மாணவரிடையே வழிவகுக்கிறது. மாணவர்களின் பங்களிப்பு ஏற்படுகி.

4. மீளச்சிந்தித்தல்

மீளச்சிந்தித்தல் என்பது கற்றவற்றை மீண்டும் சிந்தனையில் ஏற்றுதலாகும். பாடத்திலிருந்து கிளர் வினாக்களைக் கேட்டு கற்போரைமீளச் சிந்திக்கச்செய்யமுடியும், மீளச் சிந்திப்பதன் வாயிலாகப் புதியனவற்றை உருவாக்கும் திறன் ஏற்படுகிறது.

5.தொகுத்துக்கூறல்

"தொகுப்பு" என்பது பாட முடிப்பு ஆகும்.சிறு பாடம் முடிவுறும் தருவாயில் நடத்திய அனைத்துக் கருத்துகளையும் தொகுத்துக் கூறுவதாகும்.

கற்பித்தல் படிகளை இணைத்துக் குறுநிலைக் கற்பித்தலில் (சிறு பாடம் நடத்துதல்) பயிற்சி பெறுதல் (20 மணித்துளிகள்) — குறுநிலைக் கற்பித்தலை உற்றுநோக்கிப் பின்னூட்டம் வழங்குதல் பின் வருமாறு அமைந்துள்ளது.

குறுநிலைக் கற்பித்தல் - விளக்கம்

- இது பாடம் கற்பிப்புத் திறன்களைப் பெறுவதற்குரிய ஒரு பயிற்சி உத்தியாகும்.

- இது நடைமுறையிலான கற்றல் சூழ்நிலைகளை ஏற்படுத்தி கற்றல் திறன்களை மேம்படுத்துகிறது.

- இது கற்பித்தலுக்கான ஆழ்ந்த திறனை உருவாக்குகிறது.

- பெரிய பாடத்தைக் கற்பதற்கு முன்னோட்டமான பயிற்சியாக இது விளங்குகிறது.

- சில நிமிடங்களில் கற்பிக்கும் போக்காகும் ஆனால் இது பின்னாளில் வகுப்பறையில் பாடங்களைக் கற்பிக்க வழிகாட்டுகிறது.

- இப்பயிற்சி 20 நிமிடங்கள் மேற்கொள்வது வழக்கமாகும்.

- இக்கற்பிப்புக் காலம் 20 நிமிடங்களே ஆயினும் முறையான கற்பித்தலுக்கு சிறந்த அடிப்படையை அமைத்துத் தருகிறது.

சிறு பாடம் (ஆவை டுநளஎழடு) -மாதிரி

மாணவ ஆசிரியர் பெயர்:....................

பாடம்: தமிழ்

தலைப்பு: திருக்குறள்

உட்தலைப்பு: ஒழுக்கமுடைமை (முதல் திருக்குறள்)

தேதி:....................

காலம்:காலை 10.00மணி முதல் 10.20 வரை

நோக்கங்கங்கள்

மொழிப்பாடத்தில் கற்றல் நோக்கங்களை மொழித்திறன், பாடப்பொருள் ஆகியன சார்ந்து தனித்தனியே வரையறுக்க வேண்டும்.

- o திருக்குறளின் சிறப்புகளைப் எடுத்துரைத்தல்.
- o குறளில் அமைந்துள்ள காரண,காரிய மொழி அமைப்பினைப் பயன்படுத்துதல்.
- o திருவள்ளுவரின் பெருமையை உணர்த்தும் எடுத்துக்காட்டுகளைத் தருதல்
- o ஒழுக்கத்தின் சிறப்பை எடுத்துக் கூறல்.
- o நல்லொழுக்கத்தை மேற்கொள்ளுதல்.

துணைக் கருவிகள்

- ❖ பவர் பாயிண்ட் நழுவம் (ீவு)
- ❖ மின் அட்டைகளில் சொற் - பொருள்

முதலியன .இவை உள்ளடக்கத்திற்கு ஏற்ப துணைக்கருவிகளைத் தேர்ந்தெடுக்கின்றன.

உள்ளடக்க வரைவு :ஒழுக்கமுடைமை(முதல் செய்யுள் மட்டும்)

- ➢ குறள் வெண்பாவின் அமைப்பு.
- ➢ திருக்குறள், திருவள்ளுவரின் பெருமை.
- ➢ ஒழுக்கத்தின் சிறப்பு –விளக்கம்
- ➢ வாழ்க்கையோடு இயைபுப் படுத்தி ஒழுக்க உயர்வைக் கற்பித்தல்

கற்பித்தல் திறன்கள்:

- ▪ தொடங்குதல் திறன்
- ▪ விளக்குதல் திறன்
- ▪ பொழிப்புரைத் திறன்
- ▪ வினாக் கேட்டல் திறன்
- ▪ பல்வகைத்தூண்டல்களைப் பயன்படுத்தும் திறன்
- ▪ முடிக்கும் திறன்

கற்பித்தல் முறைகளும் செயல்பாடுகளும்

1. **ஊக்கப்படுத்துதல்**

வணக்கம் மாணவர்களே,

ஆசிரியர்: உங்களுக்குத் தெரிந்த பதிணென் கீழ்க்கணக்கு நூல்கள் குறித்துக் கூறுங்கள்?

மாணவர்: நாலடியார்,திரிகடுகம்,இன்னா நாற்பது,இனியவை நாற்பது,ஏலாதி,நான்மணிக்கடிகை,திருக்குறள்.

ஆசிரியர்: திருவள்ளுவர் சிலையை எங்கெல்லாம் பார்த்திருக்கிறீர்கள்?

மாணவர்: சென்னை வள்ளுவர் கோட்டம்,கன்னியாகுமரி கடலில் 133 அடி உயர சிலை.......

ஆசிரியர்:திருக்குறள் எப்பாவகையில் அமைந்துள்ளது?

மாணவர்: திருக்குறள் குறள் வெண்பா அமைப்பில் உள்ளது.

ஆசிரியா: திருக்குறளில் உள்ள அதிகாரங்களை கூறுக?

மாணவர்: திருக்குறள் 133 அதிகாரங்கள் ஆகும்.

ஆசிரியர்: திருக்குறள் எத்துணைப் பிரிவுகளாக பிரிக்கப்பட்டுள்ளது? கூறுக.

மாணவர்: திருக்குறள் 3 பிரிவுகளாக பிரிக்கப்பட்டுள்ளன.

ஆசிரியர்: அறத்துப்பாலில் ஒழுக்கமுடைமை எந்த அதிகாரத்தில் உள்ளன.

மாணவர்: ஒழுக்கமுடைமை 14 வது அதிகாரத்தில் உள்ளது.

ஆசிரியர்: இன்றைய வகுப்பில் திருக்குறளில் *"ஒழுக்கமுடைமை"* பற்றி படிப்போம்.

(தொடங்குதல் திறன்)

2. பாடக் கருத்துகளை வழங்குதல்

ஆசிரியர் : குறள் வெண்பா என்பது வெண்பா வகையின் இரண்டு அடி உள்வகையாகும்.இவ்வகையின் அடிப்படையில் அமைவது திருக்குறள் ஆகும்.
(விளக்குதல் திறன்)

ஆசிரியர்: திருக்குறளில் "ஒழுக்கமுடைமை" அதிகாரத்தின் முதல் திருக்குறள்,

"ஒழுக்கம் விழுப்பம் தரலான், ஒழுக்கம்
உயிரினும் ஓம்பப் படும்"

- என்பதாகும்

பொருள்: ஒருவற்கு அனைத்துச் சிறப்புகளையும் தருவது ஒழுக்கமே ஆதலால், அவ்வொழுக்கத்தை உயிரினும் மேலானதாகக் கருதிக் காத்தல்வேண்டும்.

(பொழிப்புரைத் திறன்)

நம் ஒவ்வொருவருடைய வாழ்க்கையிலும் ஒழுக்கமே தலைச்சிறந்த கருவியாகும்.

3. இடைவினை

ஆசிரியர் : இத்திருக்குறளில் மிகுதியாக அமைந்துள்ள சொல் எது?

மாணவர் : ஒழுக்கம்

ஆசிரியர் : உயிரை விட மிகுதியாக பாதுகாக்கப்பட வேண்டியது எது?

மாணவர்: உயிரை விட மிகுதியாக பாதுகாக்கப்பட வேண்டியது ஒழுக்கமாகும்.

ஆசிரியர் : ஓம்பப்படும் என்பதன் பொருள்?

மாணவர்: பாதுகாக்கப்படுதல்

(வினாக் கேட்டல் திறன்)

4. மீளச்சிந்தித்தல்

ஆசிரியர் :குறள் வெண்பா என்றால் என்ன?

ஆசிரியர் :திருக்குறள் உனக்குத் தெரிந்த திருக்குறளைக் கூறுக.

ஆசிரியர் :ஒழுக்கம் விழுப்பம் தரலான் - இவ்வடியில் கூறப்படுவது ஒழுக்கத்தின்

சிறப்பா?தேவையா?

ஆசிரியர்:திருக்குறளைப் படித்து காண்பிக்க.

ஆசிரியர்: ம்ம்ம்…………(பல்வகைத்தூண்டல்களைப் பயன்படுத்தும் திறன் -சைகை மொழி)

5. தொகுத்துக்கூறல்(ஆசிரியர் மையக் கருத்தைத் தொகுத்துக் கூறல்)

"உலகப் பொதுமறை" என அழைக்கப்படும். இது 1330 திருக்குறள்களை உடையது. தெய்வப்புலவர் திருவள்ளுவர் *ஒழுக்கத்தை உயிரினும் மேலானதாகக்* கூறுகிறார். இதனால் வாழ்க்கையில் ஒழுக்கத்தைக் கடைப்பிடிக்க வேண்டியது அவசியம்."

(முடிக்கும் திறன்)

குறுநிலைப் பாடத்தை, பயிற்சி பெரும் நோக்கில் பழகுவதே வகுப்பறை உயிரோட்டம் ஆகும்.ஆசிரியர் கல்வி பெறுவோர், பல்வேறு கற்பித்தல் திறன்களையும் படிநிலைகளையும் ஒருங்கிணைத்து சிறு பாடம் ஒன்றிணைத் தயார் செய்து கற்பித்தலைப் பழகுவர். குறுநிலைப் கற்பித்தலைக் குறைந்தது 20 நிமிட அளவிலாவது பழகுதல் வேண்டும். இதை வகுப்பறை உயிரோட்டம் எனவும் கூறலாம். வகுப்பறை உயிரோட்டத்தை ஆசிரியர் கல்வியாளர் கணிப்பது பயன்தரத் தக்கதாய் அமையும்.கொடுக்கப்பட்ட படிவத்தைப் பயன்படுத்தி,குறுநிலை கற்பித்தலுக்கான பின்னூட்டம் பெறலாம். ஆசிரியரும் உடன் பயில்வோரும் குறுநிலை கற்பிப்பினை உற்றுநோக்கி பின்னூட்டம் வழங்குவது சிறப்பாக இருக்கும். கீழே கொடுக்கப்பட்டுள்ளப் படிவங்களில் உள்ள கூறுகள் சிறு பாடத்தைக்கற்பிக்க மேற்கொள்ளும் திறன்களைக் கணிப்பதற்கு உரியதாகும்.

குறுநிலைக் கற்பித்தலை உற்றுநோக்கிப் பின்னூட்டம் வழங்கும் படிவம்

குறுநிலைக் கற்பித்தல் பயிற்சி

கற்பித்தல் திறன்களை ஒருங்கிணைத்தல்

உடன் பயில்வோர் ∴ ஆசிரியர் கணிப்பு

குறிப்பு: இப்படிவத்தை பயன்படுத்தும் போது வெளிப்படும் கற்றல் கூறுகளுக்கு எதிரே பொருத்தமான இடத்தில் (✔) இக்குறியிட்டுக் காட்டுக.

மதிப்பிடுதல் : சராசரி ஸ்ரீ 1, நன்று ஸ்ரீ 2, மிக நன்று ஸ்ரீ 3

மாணவ ஆசிரியர் பெயர்: 　　　　　　　　　　காலம்: 20 மணித் துளிகள்

கற்பித்தல் திறன்கள்	சராசரி	நன்று	மிக நன்று	மொத்தம்
தொடங்குதல்				
விளக்குதல்				
வினவுதல்				
பல்வகைத் தூண்டல்				

மொழிச்சாராக் குறிப்புத் திறன் அல்லது சைகை தொழித்திறன்				
வலுவூட்டல்				
முடித்தல்				
சரளமாகப் பேசுதல்				
மொத்தம்				

மதிப்பெண் வீச்சு : 8-24

சிறுநிலை கற்பித்தலின் பொது கணிப்பு

சராசரி:   நன்று:   மிக நன்று:

மதிப்பெண்களை நுணுகுதல்

சராசரி   :   8

நன்று   :   9-16

மிக நன்று :   17-24

உற்றுநோக்குபவர் கையொப்பம்

குறுநிலைக் கற்பித்தல் பயிற்சியின் கற்பித்தல் படிநிலைகளை ஒருங்கிணைத்தல் படிவம்

கற்பித்தல் திறன்களை ஒருங்கிணைத்தல்

உடன் பயில்வோர் ∴ ஆசிரியர் கணிப்பு

குறிப்பு: (✔) இக்குறியை இடுக.

மதிப்பிடுதல் : சராசரி ஸ்ரீ 1, நன்று ஸ்ரீ 2, மிக நன்று ஸ்ரீ 3

மாணவ ஆசிரியர் பெயர்:   காலம்: 20 மணித்துளிகள்

கற்பித்தல் படிநிலைகள்	சராசரி	நன்று	மிக நன்று	மொத்தம்
ஊக்குவித்தல்				
வழங்குகுதல்				
இடைவிணைப்பேச்சு				
சிந்தனையில் ஏற்றல்				
தொகுத்தல்				
மொத்தம்				

மதிப்பெண் வீச்சு: 5-15

கற்பித்தல் படிநிலைகளின் பொதுக் கணிப்பு

     சராசரி: நன்று:   மிக நன்று:

மதிப்பெண்களை நுணுகுதல்

சராசரி   :   5

நன்று   :   6-10

மிக நன்று :   11-15

உற்றுநோக்குபவர் கையொப்பம்

உரைநடை கற்பித்தல்

     இதில்,உரைநடையின் பொருள் ,உரைநடைக் கற்பித்தலின் நோக்கம் , உரைநடை கற்பித்தலிலுள்ள படிகள் , சொற்களஞ்சியத்தைக் கற்பித்தல் , அருஞ்சொற்களை கற்பித்தல் ,சொற்களஞ்சியத்தைப் பெருக்குவதற்கான வழிமுறைகள் ஆகியன விளக்கப்படுகிறது.

உரைநடையின் பொருள்

     பாடநூலில் மிகப் பெருமளவில் இடம்பெறும் மொழிவடிவம் உரைநடையாகும். கட்டுரை,உரையாடல்,நாடகம் ஆகியன பாடநூல்களில் உரைநடை வடிவில் இடம்பெறும் வடிவங்களாகும்.இவற்றுள் ஒவ்வொன்றும் மொழிக் கல்வியில் மொழித்திறன் வளர்ச்சிக்குப் பொரும்பங்கு வகிக்கிறது, நடைமுறைப் பயன்பாடு கருதியும், பல இலக்கிய வடிவங்களைத் தன்னகத்தே கொண்டுள்ள மையாலும் உரைநடை மொழிக் கல்வியின் இன்றியமையாத வடிவமாகக் கருதப்படுகிறது.

உரைநடை கற்பித்தலின் நோக்கம்

- ○ மொழித் தூய்மை அறிதல்
- ○ சொற்களஞ்சியப் பெருக்கம் அடைதல்
- ○ பிழையறப் பேசும் எழுதும் திறன் பெறுதல்
- ○ நடைமுறை இலக்கணத்தில் பயிற்சி பெறல்
- ○ ஒலியமைவினை அறிதல்
- ○ சொல் மரபினை அறிதல்.
- ○ பாடப்பகுதியின் மையக்கருத்தினை அறிந்து கொள்ளல்
- ○ சொற்றொடர் அறிதல்
- ○ பத்தி அமைக்கும் விதத்தினை அறிதல்

உரைநடை கற்பித்தலிலுள்ள படிகள்

     ஒவ்வோர் உரைநடைப் பாடத்தையும் மாணவர் விரும்பி ஏற்கும் வண்ணம் தக்க ஆர்வமூட்டித் தொடங்கிக் கற்பிக்க வேண்டும். கற்பிக்கும் பொழுது பாடத்திற்கேற்ப முறைகளை

ஆசிரியர் வகுத்துக் கொள்ளுதல் நன்று. எனினும் பொதுவாகப் பின்பற்றுவதற்குரிய கற்பித்தல் படிகள் வருமாறு:-

- **ஆர்வமூட்டல்**

மாணவர்களுடன் இயல்பான சூழ்நிலையில் உரையாடத் தொடங்கிப் பாடத்துக்கேற்ப கருத்துகளை நினைவூட்டலாம். பாடக் கருத்துகளை விரும்பி ஏற்றுக் கொள்வதற்கேற்ற செய்திகளைக் கூறி ஆர்வமூட்டலாம். எடுத்துக்காட்டாக, ஷமாமல்லபுரம்' என ஒரு பாடம் இருப்பதாகக் கொள்வோம். இங்கு பல அழகான சிற்பங்களின் படங்களைக் காட்டிச் சிற்பக்கலை சிறப்புப் பற்றி மாணவரிடம் உரையாடுதல் ஆர்வமூட்டுதலாக அமையும்.

- **முன்னுரை**

மேற்கூறியவாறு பாடத்திற்கேற்ற செய்திகளைக் கூறி ஆர்வமூட்டிய பின்னர், அக்குறிக்கப்பட்ட பாடத்துக்குத் தேவையான முன்னுரையைக் கூற வேண்டும். சில பாடங்களில் ஆர்வ மூட்டுதலில் கூறும் செய்திகளே முன்னுரையாக அமைதல் கூடும். மேற்குறிப்பிட்ட ஷமாமல்லபுரம்' பாடத்திற்கு ஆர்வமூட்டிய பின்னர் மாமல்லபுரம் பற்றியும், பல்லவ மன்னர் பற்றியும் கூறுதல் பாட முன்னுரையாக அமையும்.

குறிப்பு:- ஆர்வமூட்டல், பாட முன்னுரை ஆகியவை ஒவ்வோர் உரைநடைப் பாடத்தையும் புதிதாகத் தொடங்கும் பொழுது மேற் கொள்ளப்படும். தொடர் பாடமாக அமையின் முன் நடந்த பாடப் பகுதியில் சில வினாக்கள் கேட்டுக் கற்ற பாடப்பகுதிப் பொருளை நினைவூட்டித் தொடர்ந்து கற்பித்தல் வேண்டும்.

- **பாடப்பகுதியை ஆசிரியர் படித்தல்**

அடுத்து, ஆசிரியர் புதிய பாடப் பகுதியைப் படிக்க வேண்டும். உரைநடைப் பாடம் முழுமையும் படிக்க வேண்டிய தில்லை. தாம் கற்பிக்கும் பாடத்தில் அப்பாட வேளையில் எத்தனை பத்திகளைக் கற்பிக்கிறாரோ அவற்றை மட்டும் படிக்க வேண்டும். ஆசிரியர் இருமுறை படித்துக் காட்டுதல் நன்று. பின்னர், பத்தி பத்தியாகப் படித்துக் கற்பிக்கத் தொடங்க வேண்டும். இவ்வாறு ஒரு பத்தியைப் படிக்கத் தொடங்குமுன் மாணவரிடம் ஷநான் முதற்பத்தியைப் படித்ததும், அதன் மையக் கருத்து யாது என உங்களைக் கேட்பேன் பகுதியை நன்கு கவனிக்க', என்று கூறிப் படித்தல் நன்று. அவர்களிடம் மையக்கருத்தைத் தகுந்த வினாக்கள் மூலம் வரவழைக்க முயல வேண்டும். முடியவில்லையெனில் நேரத்தை வீணாக்காது ஆசிரியர் மையக் கருத்தைக் கூறிக் கரும்பலகையில் எழுத வேண்டும்.

- **செய்திகளைக் கூறி விளக்குதல்**

பத்தியைப் படித்து அதன் மையக் கருத்தை மாணவரிடமிருந்து வரவழைத்தோ, ஆசிரியரே கூறியோ கரும்பலகையில் எழுதிய பின்னர் ஒவ்வொரு வாக்கியமாகப் படித்துப் புதிய சொற்களையும், சொற்றொடர்களையும் விளக்க வேண்டும்.

மேற்கோளாக வேறு நூல்களிலிருந்து சில அடிகள் கொடுக்கப் பெற்றிருப்பின் அந்நூல் பற்றிய குறிப்பு, மேற்கோளாகவுள்ள அடிகள் தவிர அச்செய்யுளின் பிற அடிகள் ஆகியவற்றைக் கூற வேண்டும்.

பாடக் கருத்துகளை மட்டும் அப்படியே விளக்கிச் செல்லாது வாழ்க்கையுடன் தொடர்பு படுத்துதல் வேண்டும். தேவையான இடங்களில் தகுந்த நாட்டுப்படம். பிறநாட்டுக் காட்சிப்

படங்கள், பொருள்கள், இடங்களின் படங்கள் போன்ற துணைக்கருவிகளைப் பயன்படுத்துதல் வேண்டும்.

• இணைத்துக் கற்பித்தல்

பாடப்பகுதியின் கருத்து, செய்யுட் பகுதியில் இருப்பின் அத்துடன் இணைத்தும், இலக்கண விதிகளைக் கற்பிப்பதற்கு ஏற்றதாக இருப்பின், இலக்கணப் பாடத்துடன் இணைத்து கற்பித்தல் வேண்டும். அறிவியல் செய்திகள், வரலாற்றுச் செய்திகள் இருப்பின் அவ்வப்பாடங்களுடன் இணைத்துக் கற்பித்தல் நன்று. இவ்வாறு இணைத்துக் கற்பித்தல் மாணவருக்குப் பாடத்தில் ஆர்வமூட்டுவதுடன், பாடப்பொருள் மனத்தில் நன்கு பதியவும் உதவும்.

• மொழிப் பயிற்சியளித்தல்

ஒரு பாடவேளையில் கற்பிக்க வேண்டிய பகுதியைக் கற்பிக்கும் பொழுதே அரிய சொற்களை வாக்கியங்களில் அமைக்கச் செய்தல், தொடர்களை வாக்கியங்களில் அமைக்கச் செய்தல், மரபுத் தொடர்கள், பழமொழிகள், உவமைகள் இருப்பின் அவற்றை அமைத்து வாக்கியங்கள் எழுதச் செய்தல் முதலிய மொழிப் பயிற்சியளித்தல் வேண்டும் மற்றும் வாக்கிய வகைகளைச் சுட்டிக்காட்டி வாக்கிய மாற்றங்கள் பயிற்சியும் அளிக்கலாம். உடன்பாடு-எதிர்மறை, செய்தி-வியப்பு, நேர்கூற்று-அயற்கூற்று, செய்வினை-செயப்பாட்டு வினை வாக்கிய மாற்றங்கள் வகுப்பு நிலைக்கு ஏற்றாற்போல் இம்மொழிப் பயிற்சியில் இடம் பெறும். உரைநடைப் பாடத்தில் மொழிப் பயிற்சியளித்தல் மாணவர் மொழித்திறன் பெறப்பெரிதும் உதவும்.

• மாணாக்கரைப் படிக்கச் செய்தல்

பெரும்பாலான ஆசிரியர்கள் தாம் பாடப்பகுதியைப் படித்ததும் சில மாணவரைப் படிக்கச் செய்கின்றனர். இம்முறை அத்துணை சிறந்ததன்று. ஏனெனில், புதிய பாடப்பகுதியில் புதிய சொற்களும், அருஞ்சொற்றொடர்களும் இருக்கலாம். பாடப்பகுதியின் கருத்தும் புதியதாக இருக்கும். புதிய சொற்களை ஒலிப்பதில் சிக்கல் ஏற்படும். பொருள் விளங்கும் பகுதியைச் சேர்த்துப் படிப்பதிலும் மாணவர் தவறு செய்தல் கூடும். ஆதலின், அப்பத்தி முழுமையையும் ஆசிரியர் நன்கு கற்பித்த பின்னரே மாணவரைப் படிக்கச் செய்தல் வேண்டும்.

• துணைக்கருவிகளைப் பயன்படுத்துதல்

பாடம் கற்பிக்கும் பொழுது ஆசிரியர் துணைக்கருவிகளையும் பயன்படுத்துதல் வேண்டும். அரிய சொற்களை எழுதிக் காட்டவும், புதிய சொற்களுக்குப் பொருள் எழுதவும், சொற்களைப் பிரித்துக் காட்டவும் ஆசிரியர் கரும்பலகையைப் பயன்படுத்துதல் வேண்டும். வேறுபாடு உணர்த்தவும், கவனத்தை இழுக்கவும் வண்ணங்களைப் பயன்படுத்துதல் நன்று.

ஊர் இருக்கும் இடம் காட்டவும், செல்லும் வழியைக் காட்டவும், நாட்டின் எல்லைகளையும் காட்டவும், நாட்டுப் படங்களைப் பயன்படுத்துதல் வேண்டும். இவ்வாறு பாடப்பொருளுக்கேற்ற துணைக்கருவிகளை ஆசிரியர் தகுந்த முறையில் பயன்படுத்துதல் நன்று.

• பாடத்தைத் திருப்புதல்

பாடத்தைக் கற்பித்து முடித்த பின்னர், கற்பித்த பகுதியை அறிந்து கொண்டனரா எனத் தேர்ந்தறிய வினாக்கள் கேட்டல் வேண்டும். இதனையே பாடத்தைத் திருப்புதல் என்போம். புதிய சொற்களின் பொருள் கேட்டல், சொற்களை, தொடர்களை வாக்கியத்தில் அமைக்கச் செய்தல், பாடக் கருத்து பற்றிய வினாக்கள் கேட்டல் ஆகியன திருப்புதலில் அடங்கும். பாடத்தைக்

கற்பித்த பின்னர் ஆசிரியர் கட்டாயமாகத் திருப்புதல் வினாக்கள் கேட்டல் வேண்டும். இது நல்ல வாய்மொழிப் பயிற்சியாகவும் அமையும்.

- ## கரும்பலகை வேலை

பாடத்திற்குஆர்வமூட்டிய பின்னர் பாடத்தலைப்பினைக் கரும்பலகையில் எழுதுதல் வேண்டும். பத்தியின் மையக் கருத்து எழுதுதல், அருஞ்சொற்களும் பொருளும் எழுதுதல், சொற்களைப் பிரித்துக் காட்டுதல், ல,ள,ழ, ஒலிவேற்றுமையால் பொருள் வேறுபடும் சொற்களை எழுதிக் காட்டுதல், தேவையான படம் வரைந்து காட்டுதல் முதலிய பல செயல்கள் கரும்பலகை வேலையாக அமையும், காதால் கேட்பதைவிடக் கண்ணால் பார்ப்பது செய்தி மனத்தில் நன்கு புதிய உதவுவதால் ஆசிரியர் கரும்பலகையைப் பயன்படுத்துதல் வேண்டும்.

- ## வீட்டு வேலை

பாட இறுதியில் திருப்புதல் வினாக்களாகக் கேட்ட வற்றிற்கு மாணாக்கர் வாய்மொழியாக விடை கூறினர். அவ்வினாக்களுக்கு வீட்டில் விடை எழுதி வரும்படி வீட்டு வேலையாகக் கொடுக்கலாம். அதன் மூலம் மாணவர் எழுத்துப் பயிற்சி பெறுவர். வினாக்களுக்குரிய விடைகளைப் படித்து வரச் செய்யலாம். அவர்களது மனப்பாட ஆற்றல் வளரும். இவ்வாறு மொழிப் பாடத்தில் வீட்டு வேலை அளித்தல் வேண்டும்.

உரைநடை, செய்யுள் என்பன வடிவம் பற்றிய வேறுபாட்டை உணர்த்துவன. வரலாறு, மருத்துவம், சோதிடம், இலக்கியம் போன்றவை பொருள் பற்றிய வேறுபாட்டை உணர்த்துவன. வரலாறு செய்யுள் நடையிலும் உரைநடையிலும் அமையும். பழங்காலத்தில் இலக்கியங்கள் செய்யுள் வடிவத்திலேயே அமைந்தன. இக்காலத்தில் அவை உரைநடையிலும் அமைகின்றன. சிறுகதை, புதினம், பயணக் கட்டுரை முதலியன உரைநடையிலும் அமைகின்றன. சிறுகதை, புதினம், பயணக் கட்டுரை முதலியன உரைநடை இலக்கியங்கள் ஆகும்.

சொற்களஞ்சியத்தைக் கற்பித்தல்

ஒருவர் மிகுதியான சொற்களை அறிந்திருந்தால்தான் பிறர் பேசுவதைக் கேட்டறியவும், புத்தகங்களைப் படித்தறியவும் முடியும். இவ்வாறு செய்திகளையும் கருத்துகளையும் அறிந்து கொள்வதற்கு உதவும் சொல் தொகுதியை அறிந்த சொற் களஞ்சியம் என்பர். கருத்துகளையும், உணர்ச்சியையும் வெளிப்படுத்தும் சொல் தொகுதியைப் பயன்படுத்தும் சொற் களஞ்சியம் என்பர். இவ்வாறு அறிந்த சொற்களஞ்சியம் பயன்படுத்தும் சொற்களஞ்சியம் என இரு வகைப்படும். அறிந்த சொற்களஞ்சியத்தை மிகுதிப்படுத்துவதுடன் அவற்றைப் பயன்படுத்தும் சொற்களஞ்சியமாக மாற்றுவதே மொழிப் பாடத்தின் நோக்கமாகும். சொற்களஞ்சியத்தைப் பெருக்கும் முறைகளைப் பொது நோக்கங்களின் இறுதியில் படித்தீர்கள். அவற்றுள் ஏற்ற முறைகளைப் பயன்படுத்திச் சொற்களஞ்சியத்தைப் பெருக்குதல் வேண்டும்.

அருஞ்சொற்களைக் கற்பித்தல்

எந்த ஒரு உரைநடை பாடத்தைக் கற்பிக்கும்போதும் அதில் அமைந்துள்ள புதியச் சொற்களுக்கு இணையான எளிய சொற்களைக் கற்பிக்க வேண்டும்.

சொற்களஞ்சியத்தைப் பெருக்குவதற்கான வழிமுறைகள்

உரைநடைப் பாடம் கற்பித்தலின் முக்கிய நோக்கமே சொற்களஞ்சியப் பெருக்கம் செய்வது அன்றாட மாணவர்கள் பயன்படுத்தும் சொற்களைப் பட்டியலிட்டுக் காட்ட வேண்டும்.

மாணவர்கள் விரைவாகப் படிக்க இச்சொற்களஞ்சியப் பெருக்கம் உதவுகிறது. ஒரு சொல் பல பொருள் உடைய சொற்களை மாணவர்க்கு எழுத பயிற்சி அளிக்க வேண்டும்.

செய்யுள் கற்பித்தல்

இதில் செய்யுளின் பொருள் - செய்யுள் கற்பித்தலின் நோக்கம் - செய்யுள் கற்பித்தலிலுள்ள படிகள் - செய்யுள் கற்பித்தலை இனிமையாக்கும் முறைகள் ஆகியன விளக்கப்படுகிறது.

செய்யுள் பொருள்

செய்யுள் என்பது எடுத்துக்கொண்ட பொருள் விளங்கச் சுருக்கமாகச் செய்யப்படுவது.ஓசையை அடிப்படையாக கொண்டுப் பாடப்படுவது செய்யுள். இது ஒரு இலக்கண வரம்புக்கு உட்பட்டே அமையவேண்டும். செய்யுள் ஓசை நயம் மிக்கதாக விளங்குகிறது.

செய்யுள் கற்பித்தலின் நோக்கங்கள்

- o இலக்கிய நயம் கூறல்
- o கற்பனை ஆற்றலை வளர்த்தல்
- o சொற்சுவைக் கூறல்
- o தொடை நயம் அறிதல்
- o இறையுணர்வினை ஊட்டல்
- o அணி நலம் காணல்
- o அழகுணர்ச்சியை வளர்த்தல்
- o நாட்டுப் பற்றினை வளர்த்தல்
- o மொழிப்பற்றினை வளர்த்தல்
- o பண்பாட்டினைப் போற்றல்
- o ஓசை நயம் பெறல்

செய்யுள் பகுதியிலுள்ள பனுவல்களை மூன்று வகைகளாகப் பிரிக்கலாம். அவை செய்யுள், கவிதை, அருட்பாடல் என்பனவாம். ஒவ்வொரு வகைச் செய்யுளையும், தனித்தனிப் பாடல்களையும் கற்பிக்கும்பொழுது, சிறப்பு நோக்கம் பாடலைப் பொருத்து வேறுவேறாக அமையும். எனவே, சிறப்பு நோக்கங்கள் அவ்வப் பாடலைப் பொறுத்து அமையும்ஞு

செய்யுள் கற்பித்தலிலுள்ள படிகள்

செய்யுளைக் கற்பிக்கும் நோக்கங்கள், உரைநடையைக் கற்பிக்கும் நோக்கங்களினின்றும் வேறுபட்டவை. எனவே, செய்யுளைக் கற்பிக்கும்முறை, அந்நோக்கங்களை நிறைவேற்றுவதாக அமைதல் வேண்டும். செய்யுளின் கருத்துணர்தலுக்கு இம்முறைகள் தேவை. எனினும், செய்யுளைக் கற்பிக்கும்போது, பதவுரை பொழிப்புரை கூறுதலையே முதன்மையான வேலையாகக் கொள்ளுதல்கூடாது. இவற்றிற்கு மாறாக, செய்யுள் கருத்துணர்தல், உணர்ச்சியில் ஒன்றுபடுதல், நயம் உணர்ந்து போற்றுதல், பாடிப்பாடி இன்பமடைதல் ஆகிய நோக்கங்களும் நிறைவேறும்வண்ணம் கற்பித்தல் வேண்டும். செய்யுளைக் கற்பிக்கும்பொழுது கீழுள்ள முறைகளில் ஏற்புடையவற்றைக் கையாளலாம்.

செய்யுள் கற்பித்தலுக்கேற்ற சூழ்நிலையமைத்தல்

எந்தச் செய்யுளையும் மாணவர்களுக்குக் கற்பிக்கும்முன்பு தகுந்த சூழ்நிலையை உருவாக்கிக்
கொள்ள வேண்டும். கற்பிக்கவிருக்கும் செய்யுளின்கருத்தை அறிந்துகொள்ள வேண்டும் என்கிற

ஆர்வத்தைத் தோற்றுவிக்க வேண்டும். குறம், பள்ளு, குறவஞ்சி, கலம்பகம் முதலான சிற்றிலக்கியங்களுள் ஒரு பகுதியினையோ, தனிப்பாடல்களையோ, வருணனைப் பாடல்களையோ கற்பிக்கும்பொழுது இது சிறந்த முறையாகும்.

· முன்னுரை கூறல்

தகுந்த சூழ்நிலையமைத்த பின்னர், கற்பிக்க எடுத்துக்கொண்ட செய்யுள், எச்செய்யுள் பகுதியின் தொடர்ச்சி என்பதைச் சொல்லுதல் வேண்டும். தொடர்நிலைச் செய்யுள் பகுதியாயின் முன்கதைப் பகுதியைக் கூறுதல் வேண்டும். தனிப் பாடலாயின், அப்பாடல் பாடப்பெற்ற சூழல் நிகழ்ச்சியைக் கூறல் வேண்டும். தேவையான இடங்களில் தேவையான முன்னுரையைக் கூறிச் செய்யுளைக் கற்பிக்க வேண்டும்.

· செய்யுளை இலக்கியம் நயம் தோன்றப் படித்தல்

பாடப்பகுதியாய் அமைந்த செய்யுளைக் கற்பிப்பதற்குரிய சூழ்நிலையை உருவாக்கியபின்னர், முதன்முதல் அறிமுகப்படுத்தும்போது அதனை இசையுடன் பாடுதல் சிறந்தது. உரைநடையைப் படிப்பதுபோல் படித்தால், சொற்களின் ஒலி நயத்தினை மாணவர்கள் உணர முடியாது. இசையுடன் பாடுதலில் தகுந்த திறமை தமக்கில்லையென ஆசிரியர் கருதினால், சீர்பிரித்துச் சந்தஅமைப்போடு குரல் ஏற்றத்தாழ்வுடன் படித்துக்காட்ட வேண்டும். அப்பொழுது தான் உரைநடையினின்றும் செய்யுள் வேறுபட்டது என்பதனை மாணவர்கள் உணர்வர்.

· கற்பித்தலைத் தொடரும்முறை

கற்பிக்க எடுத்துக்கொண்ட செய்யுட்குரிய ஓசையில் படித்துக் காட்டிய பின்னர், செய்யுட் கருத்தை, பாடலின் உணர்ச்சியை, மாணவர்கள் அறியச்செய்வதுடன், அதன் நயத்தினையும் உணரத் தூண்டுதல் வேண்டும். இதுவே செய்யுள் கற்பித்தலின் மிகச்சிறந்த, சுவை மிகுந்த பகுதியாகும். ஆசிரியர் செய்யுள் நயத்தில் ஈடுபட்டு உரைப்பதாலும், மாணவர்கள் தொடர்ந்து கேட்டு வருவதாலும் செய்யுள்நயம் அறியப்படுகிறது.

· பாடத்தைத் திருப்புதல்

செய்யுளைக் கற்பித்து முடித்தபின்னர், சில வினாக்களை எழுப்பி, மாணவர்களை பாடல் கருத்தை முழுமையாகக் கூறச் செய்யலாம். உவமையைப் பொருளொடு பொருத்திக்காடச் செய்யலாம். அருஞ்சொற்களுக்குப் பொருள் கூறும்படி கேட்கலாம். இவையனைத்தும், திருப்புதல் வினாக்களாக அமையும்.

· துணைக்கருவி

செய்யுள் பகுதியைக் கற்பிப்பதற்குத் தயாரித்த துணைக்கருவிகளை உரிய இடத்தில் பயன்படுத்திப் பாடத்தைக் கற்பித்தல் வேண்டும். செய்யுள்பகுதி இடம்பெற்ற நூலைப் பற்றிய காலக்கணிப்புச் செய்திகள் இருப்பின், அவற்றை முதலில் சுட்டிக்காட்டி, எக்காலத்தில் தோன்றிய நூலைப் படிக்கிறோம் என அறியச்செய்யலாம். நூல் விளக்கப் படத்தைக் காட்டி, அதில் எப்பகுதியை நாம் படிக்கிறோம் எனக் கூறிப் பாடத்தைத் தொடங்கலாம். சிலேடை நயம் அமைந்த பாடப்பகுதி தக்க விளக்கப் படங்களைத் துணைக்கருவிகளாகப் பெற்றிருக்குமாயின், ஒவ்வோர் அடியை விளக்கும்பொழுதும், தொடரின் இரு பொருள்களைக் காட்டும் படங்களைக் காட்டி விளக்குதல் வேண்டும். இவ்வாறு துணைக்கருவிகளை ஆசிரியர் தக்கமுறையில் கையாண்டு பாடத்தைச் சிறப்பாகக் கற்பித்தல் வேண்டும்.

· வீட்டு வேலை

செய்யுளைக் கற்பித்து முடித்தபின்னர், மாணவர்களுக்கு வீட்டு வேலையாகச் சில பயிற்சி வினாக்கள் கொடுத்தல் வேண்டும். அவ்வினாக்களைக் கருத்துணர் வினாக்கள், நயமுணர் வினாக்கள், செய்முறை வேலை வினாக்கள் என மூவகையாக அமைக்கலாம். தொடர்களின்

பொருளையோ, பாடல் கருத்தையோ எழுதிவரச் செய்தல் கருத்துணர் வினாக்கள் வகையைச் சார்ந்தவை யாகும். நயமுள்ள தொடர்களை எடுத்தெழுதுதல், எதுகைத் தொடர்களை எழுதுதல் போன்றவை நயமுணர் வினாக்கள் வகையைச் சாரும். செய்யுள் கருத்துக்கேற்ற படம் வரையச்செய்தல், சிலேடையை விளக்கப்படம் வரையச்செய்தல், காட்சியைப் படமாக வரையச்செய்தல் போன்றவை செய்முறை வேலைப் பயிற்சியைச் சேர்ந்தவையாகும். தகுந்த வீட்டுவேலையை முன்னதாகவே ஆசிரியர் திட்டமிட்டுக் கொடுத்து, பாடலின் கருத்தையும் நயத்தையும் மாணவர்கள் உணர உதவுதல் வேண்டும்.

செய்யுள் கற்பித்தலை இனிமையாக்கும் முறைகள்

· ஆசிரியர் வரலாறு கூறித் தொடங்குதல்

பண்டைக் காலத்தில் எச் செய்யுளைக் கற்பிப்பதாயினும் அதனைப் படைத்த ஆசிரியர் வரலாற்றைக் கூறியே கற்பிக்கத் தொடங்குவர். ஆசிரியர் வரலாறு, அவரியற்றிய பிறநூல்கள், அவர் காலத்துப் பிறபுலவர்கள், ஆதரித்த வள்ளல், அவரது காலம் போன்றவற்றைக் கூறி முடித்துவிட்டுச் செய்யுள் பகுதியைத் தொடங்கும்பொழுது, மாணவர்கள் களைப்படைவர். குறிப்பிட்ட ஆசிரியரின் வரலாற்றை அறிய வேண்டுமென்ற ஆர்வம் மாணவர்கள் உள்ளத்தில் எழாதாகையால், அச்செய்திகள் சலிப்புத் தருவனவாக அமையும். எனவே, ஆசிரியர் வரலாற்றைக் கூறிச் செய்யுள் பகுதியைத் தொடங்கும்முறை சிறந்ததன்று. அவ்வாறாயின் ஆசிரியர் பற்றிய குறிப்பை எப்பொழுது கூறுவதென்ற வினா எழுமன்றோ? செய்யுளைக் கற்பித்தபின், இறுதியில், இவ்வளவு சுவைமிகுந்த பாடலைப் பாடியவர் யார் தெரியுமா? என்ற வினாவை யெழுப்பி ஆர்வமூட்டி, அவர் வரலாற்றைக் கூறலாம். தொடக்கநிலை வகுப்புகளில், ஆசிரியர் பற்றிய குறிப்புகள் குறைவாகவும், உயர் வகுப்புகளில் அந்த ஆசிரியர் காலத்துப் பிறபுலவர்கள், நூலியற்றிய வரலாறுபோன்ற குறிப்புகளுடன் விரிவாகவும் கூறுதல் நன்று.

· அருஞ்சொற்பொருள் விளக்கித் தொடங்குதல்

சில ஆசிரியர்கள், கற்பிக்க வேண்டிய செய்யுளில் இடம்பெற்றுள்ள அருஞ்சொற்கள் அனைத்தையும் கரும்பலகையில் எழுதி, அவற்றிற்குப் பொருள்களைக் கூறிவிட்டுச் செய்யுளைக் கற்பிக்கின்றனர். இம்முறையில் கற்பிக்கும்பொழுது செய்யுளைப் படித்ததும் மாணவர்கள் பொருள் உணர்ந்து கொள்வர் என எதிர்பார்க்கின்றனர். ஆனால், ஒருவிதத் தொடர்புமற்ற நிலையில் சில சொற்களையும் அவற்றின் பொருள்களையும் முதலில் கற்பிக்கத் தொடங்குவதால், மாணவர்களுக்குச் சலிப்புத் தோன்றும். அன்றியும், சொற்கள் தனிப்பட்டமுறையில் உணர்த்தும் பொருளும், செய்யுளில் அது அமைந்த இடத்தையொட்டி உணர்த்தும் பொருளும் வேறுபடுதல் கூடும். ஆதலின், இம்முறையும் சிறந்ததன்று. செய்யுளைக் கற்பித்துக்கொண்டு செல்கின்றநிலையில், பாடலின் கருத்தை உணர்ந்து போற்றுவதற்கேற்ற வகையில், அதில் கையாளப்பட்டுள்ள அருஞ்சொற்களின் பொருளை உணர்த்துதலே நன்று.

· பின்னணி கூறித் தொடங்குதல்

கவிஞரின் உணர்ச்சி அடிப்படையில் தோன்றுகிற செய்யுள், ஒரு குறிப்பிட்ட சூழ்நிலையில் உருப்பெற்றிருக்கும். அச் சூழ்நிலையை மொழிஆசிரியர் அறிந்து விளக்கி, அதன்பின் செய்யுளைக் கற்பிக்கத் தொடங்கலாம். இதுவே, சூழ்நிலை கூறித் தொடங்கும் முறையாகும். கவிஞர் எந்தச் சூழ்நிலையில் செய்யுளைப் பாடினார் என அறிந்துகொண்டால், செய்யுளின் உணர்ச்சியைப் பெறுதலும், நயம் உணர்ந்து போற்றுதலும் எளிமையாகும். இது சிறந்ததொரு

முறையே. பெரும்பாலும் தனிப்பாடல் செய்யுள்களை இம்முறையைப் பின்பற்றித் தொடங்கலாம். இவை தவிர, பிறசெய்யுள்களுக்கு இம்முறை பொருந்தும் என்று கூறுவதற்கில்லை. ஆதலின், தனிப் பாடல்களாக அமைந்த செய்யுள்நீங்கலாக வேறு செய்யுள்களுக்கு, வேறு தகுந்த முறையைக் கையாள வேண்டும்.

· ஆர்வமூட்டித் தொடங்குதல்

கற்பிக்க இருக்கின்ற செய்யுளின் கருத்தினை அறிந்துகொள்ள வேண்டுமென்ற ஆர்வத்தை மாணவர்களிடத்தில் எழுப்பிப் பின்னர்ச் செய்யுளைக் கற்பிக்கத் தொடங்குதலே ஆர்வமூட்டித் தொடங்குதல் முறையாகும். இதற்குத் தகுந்த சூழ்நிலையை உருவாக்க வேண்டும். எனவே,இதனைச் சூழ்நிலையமைத்துத் தொடங்கும்முறை என்றும் கூறலாம்.

ஏனெனில், தகுந்த சூழ்நிலை யமைந்தால்தான், மாணவர்களுக்குச் செய்யுளைப் படிக்க வேண்டுமென்ற ஆர்வம் எழும். தொடர்நிலைச் செய்யுள்களின் ஒரு பகுதியினையோ, குறம், குறவஞ்சி, கலம்பகம் ஆகிய சிற்றிலக்கியங்களின் ஒரு பகுதியினையோ, வருணனைச் செய்யுள்களையோ கற்பிக்க இது சிறந்த முறையாகும். இலக்கியங்களின் சுவைமிகுந்த பகுதிகளை நன்கு விளக்குவதன்மூலம் ஆர்வமூட்டலாம். மாணவர்களுக்குச் சிறந்த ஆர்வத்தை தூண்டிவிடுவோமாயின் பாடப் பகுதியாகவுள்ள செய்யுள்களைப் படிப்பதில் பெருவிருப்பத்துடன் ஈடுபடுவர். அத்துடன் கற்பிக்கப்பட்ட காவியத்தின் பிற பகுதிகளையோ, அக்கவிஞர் இயற்றிய வேறு நூல்களையோ படிக்கவும் முற்படுவர்.

· பிரித்துக் கூறும்முறை

செய்யுளைப் படித்து, பதவுரை, பொழிப்புரை, கருத்துரை, இலக்கணக் குறிப்பு, தொடை நயம், அணி நயம் எனப் பிரித்துப் பிரித்துச் செய்யுளைக் கற்பிக்கும் முறையைப் பிரித்துக்கூறும் முறையென்பர். இம்முறை செய்யுளைக் கற்பித்தலுக்கு ஏற்ற சிறந்த முறையன்று. எனினும், மிகக் கடினமான செய்யுட்கள் இம்முறையால் கற்பிக்கப்படுகின்றன.

தமிழ்மொழி கல்வியில் சிறப்பிடம் பெறுவது செய்யுள் கற்பிப்பதாகும். முந்தைய பாடத்தில் கூறப்பட்ட மொழி கற்பித்தல் நோக்கங்கள் பல செய்யுள் கற்பதால் நிறைவேறு கின்றன. செய்யுள் பாடங்களை கற்பிக்காமல் தமிழ் மொழி கல்வி நிறைவு பெறாது. ஆகையால் செய்யுள் கற்பிப்பு முறைகளும், நோக்கங்களும் இப்பகுதியில் இடம்பெறுகின்றன.மேலும்,

உரைநடை,செய்யுள் கற்பித்தலின் வேறுபாடுகள்

செய்யுள்	உரைநடை
1.ஓசை நயம், சொற்சுவை,பொருள்சுவை,அழகுணர்வு ஆகியவற்றின் வழியாக மாணவர்களின் பண்பாட்டை வளர்ப்பது செய்யுள் பாடத்தின் சீரிய நோக்கமாகும்.	ஒலியமைதி, சொல் மரபு, தொடர் மரபு,பத்தி மரபு,மொழித்தூய்மை,சொற்களஞ்சியப் பெருக்கம், நடைமுறை இலக்கணம் ஆகியவற்றின் வாயிலாக மாணவர்களின் மொழியறிவை வளர்த்து முழுமை பெறச்செய்து உரைநடைப் பாடத்தின் உயரிய நோக்கமாகும்.
2. செய்யுட் பாடத்தில் நயமுணர்ந்து போற்றுதல் தலையாய நோக்கம்.	உரைநடைப் பாடத்தில் சொற்களஞ்சியம் பெருக்குதலும், சொல்லாட்சித்திறன் வளர்த்தலும் தலையாய நோக்கங்கள்.
3.செய்யுளில் சொல்லுக்குச் சொல் உரை சொல்வ உரைநடையாக்குவது	உரைநடைப் பாடத்தில் சொல்லுக்குப் பொருள் சொல்வது, சொற்களைத் தொடர்களில்

செய்யுட் படிப்பைச் சுவையற்றதாக்கும்.	அமைக்கச்செய்வது போன்றவை பின்பற்றப்படும்.
4. செய்யுட் பாடத்தை ஆசிரியர் இசையுடன் படித்து,நயமான பகுதிகளைக் கூறி மகிழ, மாணவர்கள் அவ்வழியில் ஈடுபடுவர்.	உரைநடைப் பாடத்தைப் பத்தி பத்தியாகப் படித்து ஆசிரியர் விளக்கிச் சொல்வார்.
5. செய்யுளில் இடம்பெறும் சொல்லின் பண்புப்பொருள் சிறப்பிடம் பெறும். அதனை விளக்குதல் வேண்டும்.	உரைநடைப் பாடத்தில் சொல்லின் நேர்பொருளுக்குச் சிறப்பிடம் அளிக்கப்படும்.
6.செய்யுட் ஒலிநயம் உணர்ந்து மகிழ வேண்டுமாகையால், வாய்விட்டுப் படித்தல் சிறப்பிடம் பெறும்.	உரைநடைப் பாடத்தில் கருத்துணர்தல் நோக்கமாகையால், வாய்க்குட் படித்தல் படிப்படியாகச் சிறப்பிடம் பெறும்.

இலக்கணம்கற்பித்தல்

இதில் இலக்கணத்தின் பொருள் - இலக்கணம் கற்பித்தலின் நோக்கங்கள் - இலக்கணம் கற்பிக்கும் முறைகள்: விதிவருமுறை,விதிவிளக்குமுறை - இலக்கணப் பாடத்தை இனிமையாக்குதல் ஆகியன விளக்கப்படுகிறது.

இலக்கணத்தன் பொருள்

ஒரு மொழியின் பயன்பாட்டு விதிகளை இலக்கணம் எனலாம். மொழியின் அமைப்பையும் பயன்படுத்தும் விதத்தையும் வரையறை செய்யும் விதிகளைச் சுட்டுகிறது.மொழிக்கு இலக்காகப் பொருந்திய இயல்தனை இலக்கணமெனத் தமிழ்ப் பெரியோர் வழங்குவர்.

தமிழ் மொழி,இயற்றமிழ்,இசைத்தமிழ்,நாடகத்தமிழ் என 3 பிரிவுகளை உடையது.இவையே முத்தமிழ் என அழைக்கப்பட காரணமாக விளங்குகிறது. செய்யுள்,உரைநடை ஆகியவற்றின் இயற்றமிழாகும். தொல்காப்பியம் இயற்றமிழில் கிடைத்துள்ள மிகப்பழைய இலக்கண நூலாகும்.

இலக்கணம்கற்பித்தலின் நோக்கம்

- பிழையில்லாமல் பேசுவதற்கும் எழுதுவதற்கும் எடுத்துரைத்தல்.
- நடைமுறை எடுத்துக் காட்டுகளைக் கூறுதல்.
- கருத்துப் பரிமாற்றத்திற்கு ஏற்றதை உரைத்தல்.
- ஒலி அமைப்பு, சொற்றொடர் அமைப்பு இலக்கண விதிகளின் அடிப்படையில் உணரவைத்தல்.

இலக்கணம்கற்பிக்கும் முறைகள்

இலக்கண கற்பிக்கும் பொழுது விதிவருமுறை ,விதிவிளக்கு முறை ஆகிய இரு முறைகளைப் பின்பற்றுகின்றோம். அவ்விரு முறைகளையும் பற்றி விரிவாக அறிந்து கொள்வோம்.

- ### விதிவரு முறை

மாணவர்களுக்குத் தெரிந்த எடுத்துக் காட்டுகளைக் கொண்டு அவற்றிடையேயுள்ள ஒற்றுமை, வேற்றுமைகளை ஆராய்ந்து ஒரு பொது விதியினை வருவித்துக் கற்பித்தல் விதிவரு

முறையாகும். விதியினை முதலில் கூறாது மாணவர் வாழ்க்கையில் பயன்படுத்தும் சொற்றொடர்களிலிருந்து மாணவர்களே விதியினை அறிந்து கொள்ளச் செய்வதால் இது சிறந்த முறையாகிறது. சிறந்த பேச்சு முறையில், திருந்திய எழுத்து முறையில் அமைந்துள்ள இயல்பினை வரையறுத்துக் கூறுவதே, இலக்கண விதியென்பதனையும் மாணவர் நற்குணர்வர்.

சொற்றொடர்களை அல்லது எடுத்துக் காட்டுகளைக் கரும்பலகையில் எழுதுவதற்கு மாணவரிடம் இயல்பாக உரையாடுவது போல் ஆசிரியர் தொடங்க வேண்டும். உரையாடலின் இடையே சில தொடர்களை ஆசிரியர் திட்டமிட்டுப் பயன்படுத்த வேண்டும். ஆனால், மாணவர் அஃது இயல்பாக ஏற்பட்டதாக என்னும் படியமைதல் நன்று. இவ்வாறு அமையின் பாடம் சுவைமிக்கதாக விளங்கும்.

ஆசிரியர் ஒரு நிகழ்ச்சியைக் கூறுவதாகத் தொடங்கலாம் "வரும் வழியில் ஒரு சிறுவன் மாமரத்தின் மீது கல்லெறிந்தான்�△ தோட்டக்காரன் வருவது கண்டு ஓடினான்ஃ கீழே விழுந்தான் அவன் காலொடிந்தது..." இவ்வாறு சிலவற்றைச் சொல்லி நிறுத்திச் சிறுவன் என்ன செய்தான்? கல்லெறிந்தான் என்னும் அவனுக்கு என்ன நேர்ந்தது? காலொடிந்தது என்று வினாக்கள் மூலம் விடை வரவழைத்துத் தனித்தனியே கரும்பலகையில் எழுதிப் பிரித்து எழுதச் செய்யலாம். கல் எறிந்தான். கால் ஒடிந்தது எனவும் எழுதுவர். இதனைத் தொடர்ந்து பொன்னாசை, தன்னியல்வு, பொய்யுடல், பல்லாண்டு போன்ற தொடர்களையும் பயிருயர்ந்தது. வாயகன்றது, பழமினித்தது போன்ற தொடர்களையும் கரும்பலகையில் வகைப்படுத்தி எழுதலாம். நிலை மொழியில் தனிக்குறிலின் பின் வரும் ஒற்று, வருமொழி முதலில் உயிர் வந்தால் இரட்டிக்கும் தன்மையை அவர்களையே கூறச் செய்தல் வேண்டும். இறுதியில் "தனிக் குறில் முன் ஒற்று உயிர்வரின் இரட்டும்" என்னும் விதியினைக் கூறச் செய்யலாம்.

விதிவரு முறையின் நன்மைகள்

இவ்விதிவரு முறையைப் பின்பற்றிக் கற்பிப்பதில் பல நன்மைகள் உள்ளன. (1) மாணவர்கள் தாங்கள் அறிந்த பல சொய்திகளிலிருந்து, அறியாத ஒரு பொது விதியினை அறிந்து கொள்வர். கற்பித்தலில் தெரிந்ததிலிருந்து தெரியாததற்குச் செல்லுதல் வேண்டும் என்ற உளவியல் கொள்கைக்கு இது பொருத்தமாயுள்ளது. (2) மாணவர் புதிய விதியினைத் தாமே எண்ணிப் பார்த்து அறிந்து கொள்வதால் அவர்கள் மனத்தில் அது நன்றாகப் பதிகிறது (3) இம்முறையில் மாணவர்களுக்குப் பாடத்தில் ஆர்வம் ஏற்படுகிறது. தாங்களாகவே ஒரு விதியைக் கண்டு பிடித்ததாக உணர்ச்சி ஏற்படுவதால் அவர்களது தன்னம்பிக்கை வளர்கிறது.

இம்முறையின் மூலம் கற்பிப்பதில் சில குறைகளும் உள்ளன. (1) இம்முறையின்படி பல எடுத்துக்காட்டுகளைப் பார்த்து, மாணவர் ஒவ்வொரு பொதுவிதியினை அறிவதற்கு நீண்ட நேரமாகும். (2) இம்முறையைப் பின்பற்றிக் கற்பித்தால் மாணவர் பெற வேண்டிய இலக்கண அறிவு முழுமையையும் குறிப்பிட்ட காலத்திற்குள் கற்பித்து முடித்தல் இயலாததாகும். (3) மாணவனைக் ஷகண்டு பிடிப்போன்' நிலையில் வைத்து, எடுத்துக் காட்டகள் மூலம் அவனையே பொது விதியினைக் கண்டுபிடிக்கச் செய்வதற்கு ஆசிரியர் தனித்தனிமை வாய்ந்தவராதல் வேண்டும். மேலும் ஆசிரியர் ஒரு பாடத் தலைப்புக்கே நீண்ட நேரம் தயாரித்தல் தேவைப்படும்.

விதிவிளக்கு முறை:

மாணவர்களே எளிதில் கண்டுணர முடியாத சில விதிகளை ஆசிரியர் விதிவிளக்கு முறையில் கற்பிக்கலாம். இலக்கண விதியொன்றைக் கூறி அதனைப் பல எடுத்துக் காட்டுகள் மூலம் விளக்குதல் விதிவிளக்கு முறையாகும் இம்முறையே பழங்காலத்தில் இலக்கணம் கற்பித்தலில் பின்பற்றப்பட்ட முறையாகும்.

மெய்யீற்றுப் புணர்ச்சியில் ண, கர, ன கர ஈற்றுப் புணர்ச்சியைக் கூறும் நன்னூல் விதி,

"ண ன வல்லினம் வரட்டறவும், பிறவரின்

இயல்புமாகும் வேற்றுமைக்கும்ஞூ அல்வழிக்கு

அனைத்து மெய்வரினும் இயல்பாகும்மே"

என்று கூறி, அதன் பின்னர் ஒவ்வொன்றுக்கும் எடுத்துக் காட்டு கொடுத்தல் வேண்டும்.

வேற்றுமைப் புணர்ச்சியில் வல்லினம் வர ணகர மெய்-டகர மெய்யாகவும், னகர மெய் றகர மெய்யாகவும் மாறும்.

மண் ‍ குடம் - மட்குடம்ஞூ பொன் ‍ குடம் - பொற்குடம்.

வேற்றுமைப் புணர்ச்சியில் மெல்லினமும் இடையினமும் வரணகரமும், னகரமும் இயல்பாகவேயிருக்கும்.

மண் ‍ மலை - மண்மலைஞூ பொன் ‍ வன்மை - பொன்வன்மை

அவ்வழிப் புணர்ச்சியில் வருமொழி முதலில் மூவினமும் வரணகரமும், னகரமும் இயல்பாகவே இருக்கும்.

பொன் சிறந்ததுஞூ விண் நிறைந்தது.

இவ்வாறு விதியைக் கூறி எடுத்துக் காட்டின் மூலம் விளக்கிச் செல்வதால் வரும் நன்மைகளாவன:

(1) இலக்கணப் பாடப்பகுதியை மிக விரைவாகக் கற்பிக்கலாம்.

(2) இலக்கண விதிகளும் எடுத்துக் காட்டுகளும் நூலில் கொடுக்கப் பட்டிருப்பதால் ஆசிரியர் மிக எளிதாகக் கற்பித்தல் கூடும்ஞூ நீண்ட நேரத் தயாரிப்பு தேவையில்லை.

விதிவிளக்கு முறையில் சில குறைகளும் உள்ளன

(1) கற்பித்தலில் தெரிந்ததிலிருந்து தெரியாததற்குச் செல்லுதல் வேண்டும் என்னும் உளவியல் கொள்கைக்கு இம்முறை முற்றிலும் மாறானது. (2) ஆசிரியர் இலக்கண விதியை விரைவாகக் கற்றுக் கொடுத்து விடலாம். ஆனால், மாணவர் விதியை நன்றாக அறிந்து கொண்டார்கள் என்று உறதியாகச் சொல்ல முடியாது. (3) இம்முறையின் படி ஆசிரியர் சொல்வதை மாணவர் கேட்டுக் கொண்டிருப்பதைத் தவிர வேறு வேலை செய்வதில்லை. ஆதலால், கற்பிக்கப்படும் இலக்கண அறிவு நெடுநாள்களுக்கு நிலைத்திருக்கும் என்று சொல்வதற்கில்லை.

விதிவிளக்கு முறை, விதிவருமுறை ஆகிய இரு முறைகளிலும் குறைகளும், நிறைகளும் உள்ளன. ஆசிரியர் இலக்கணப் பாடத்தைக் கற்பிக்கும் பொழுது ஒவ்வொரு பகுதிக்கும் ஏற்ற முறையைக் கையாளுதல் வேண்டும். விதிவரு முறையும், விதி விளக்கு முறையும் கலந்ததொரு முறைப்படி கற்பித்தலும் நலம் பயப்பதாகும்.

இருமுறைகளுக்குமுள்ள வேறுபாடுகள்

விதிவிளக்கு முறை	விதிவரு முறை
1. பொது விதியைக் கூறி எடுத்துக் காட்டுகளை விளக்குகிறது.	1. எடுத்துக்காட்டுகளைக் கூறி அவற்றினின்றும் பொது விதியை அமைக்கிறது.
2. புதிய அறிவு முதலிலேயே வழங்கப்படுகிறது.	2. பாட முடிவில் புதிய அறிவு பெறுகின்றனர்.
3. விரைவாகக் கற்பிக்கலாம். காலச் செலவு குறைவு.	3. மெதுவாகச் செல்லும் முறை நேரம் அதிகமாகும்.
4. பெறும் இலக்கண அறிவு உறுதியாக நிலை பெற்றிருக்கும் எனக் கூற முடியாது.	4. பெற்ற இலக்கண அறிவு உறுதியாக நிலை பெற்றிருக்கும்.
5. தெரிந்ததிலிருந்து தெரியாததற்குச் செல்லுதல் போன்ற உளநூல் கொள்கைகளுக்கு ஏற்றமுறையன்று.	5. உளநூல் கொள்கைகளுக்கு ஏற்றமுறை.
6. சுய சிந்தனைக்கு இடமில்லை	6. சிந்தனை செய்து பொது விதியைக் கண்டு பிடிப்பதால் தன்னம்பிக்கையை வளர்க்கின்றது.
7. இலக்கண நூலில் உள்ள நூற்பாவினையும் எடுத்துக் காட்டுகளையும் கூறுவதால் ஆசிரியர் வேலை எளிதாகின்றது.	7. மாணாக்கர் தம் வயதுக்கும் அறிவு நிலைக்கும் ஏற்ப எடுத்துக் காட்டுகளைத் தயாரிக்க வேண்டியிருப்பதால் ஆசிரியருக்கு வேலை அதிகமாகின்றது.

இலக்கணப் பாடத்தை இனிமையாக்கல்

மக்கள் தங்களிடம் இயல்பாக அமைந்திருந்த ஒலியெழுப்பம் திறனைச் சிறிது சிறிதாகப் பொருள் தரும் ஒன்றாகச் செய்து மொழியைப் படைத்துக் கொண்டனர் எனக் கண்டோம். ஒலிக் குறியீடுகள் செப்பமடைந்தபின் பேச்சு மொழி உண்டாயிற்று. காலம் செல்லச் செல்ல மக்கள் தம செவிகளால் உணரவல்ல ஒலிவடிவமான குறியீடுகளுக்குக் கண்களால் அறிந்து கொள்ளக் கூடிய வரிவடிவக் குறியீடுகளை அமைக்க முயன்று வெற்றி பெற்றனர். இதன் விளைவாக எழுத்து மொழி உண்டாயிற்று. முந்தையோர் பேசி வந்த அதே முறையில் பேசி ஒருவருடன் ஒருவர் கலந்து பழகினர். எந்தச் சொல்லை, எப்பொருளில், உயர்ந்தோர் வழங்கி வந்தனரோ அச்சொல்லை அதே பொருளில் மற்றவரும் வழங்கினர்.

எள்ளினின்றும் எண்ணெய் எடுப்பது போன்று இலக்கியத் தினின்றும் எடுக்கப்படுவது இலக்கணம்' என்று பேரகத்தியம் நூல் கூறுகின்றது. எள் நல்ல எள்ளாக இருப்பின், எண்ணெய் நல்லதாக அமைவது போன்று இலக்கியம் சிறந்ததாக இருப்பின் இலக்கணமும் சிறந்த ஒன்றாக அமையும் என்பது தெளிவு. நன்னூல் இயற்றிய பவணந்தி முனிவரும்' இலக்கியம் கண்டதற்கு இலக்கணம் இயல்பலின்' என்று கூறியுள்ளார்.

இலக்கணம் - தேன்

வேறு சிலர் இலக்கணப் பாடத்தைக் கற்பிக்க வேண்டு மென்கின்றனர். இப்பாடத்தில் மாணவர் நல்ல தேர்ச்சி பெறுதல் இன்றியமையாதது என்றும், இலக்கணப் பாடத்தில் தேர்ச்சி பெற்ற பின்பே இலக்கியம் கற்பிக்கப்பட வேண்டுமென்றும் இவர்கள் கூறுகின்றனர். பழங்காலத்தில் தொல்காப்பியம், நன்னூல் கற்ற பின்பே இலக்கியம் கற்பிக்கப்பட்ட தென்பதையும், சில நாடுகளில் தொடக்கப் பள்ளிகளை இலக்கணப் பள்ளிகள் என்றே

அழைத்தமையையும் இவர்கள் சுட்டிக் காட்டுகின்றனர். இலக்கண விதிகளை முறையாகப் பயிலாவிடில் மொழியைச் செம்மையுறக் கற்றதாகக் கொள்ளல் முடியாது. எனவே இலக்கணப் பாடத்தை அனைத்து வகுப்புகளிலும் ஒரு தனிப்பாடமாகக் கற்பிக்க வேண்டும் என்பது இவர்கள் கருத்தாகும்.

ஷஇலக்கணம் தேன்' என்பாருக்கும் இடைப்பட்ட நிலையில் சிலர் மொழியைப் பிழையறப் பேசவும், எழுதவும் தேவைப்படும் இலக்கண அறிவைப் பாடத்தோடு இணைத்துக் கற்பிக்க வேண்டுமென்று சொல்கின்றனர். மொழியறிவை உறுதிப்படுத்துவதற்கு இலக்கணம் ஒரு துணையாகவே உள்ளது என்பதனை நாம் நினைவில் கொள்ள வேண்டும்.

இலக்கணம் என்பது மொழியின் பொது விதிகளைக் கூறுவதால் அவற்றை அறிந்து கொள்ளக் கூடிய பருவத்தில் இலக்கண அறிவு வழங்கப் பட வேண்டும் என்று கொள்ளலாம். முறையான இலக்கணப் பாடம் தொடங்கப் பெறுவதற்கு முன் இலக்கணப் பாடத்தில் பயன்படுத்தப்படும் சொற்களை, அறிமுகப்படுத்தல் வேண்டும்.

மேற்கூறப்பட்ட குறைகள் நேராதவாறு இலக்கணப் பாடத்தைக் கற்பித்தால் இலக்கணப் பாடம் மாணாக்கர் விரும்பிக் கற்கும் இனிய பாடமாக மாறும். கீழ் உள்ளவற்றுக்கு ஆசிரியர் சிறப்புக் கவனம் செலுத்துதல் நன்று.அவை:

➢ வாழ்க்கையோடு இணைந்த எடுத்துக் காட்டுகள் கூறுதல்.
➢ உரைநடை, செய்யுள் பாடத்தோடு இணைத்துக் கற்பித்தல்.
➢ சுழலட்டைகள், விளக்க அட்டைகள் போன்ற துணைக் கருவிகளைப் பயன்படுத்துதல்.
➢ இலக்கண விதிகளை மாணாக்கர் விரும்பும் மெல்லிசை மெட்டுகளில் அமைத்துக் கூறுதல்.
➢ விளையாட்டு முறைகளைப் பயன்படுத்துதல்
➢ பெரும்பான்மையும் விதிவருமுறையைப் பயன்படுத்துதல்.
➢ ஆசிரியர் இலக்கணப் பாடத்தில் ஈடுபாடுக் கொண்டு பேரார்வத்துடன் கற்பித்தல்.

கட்டுரை கற்பித்தல்

இதில் கட்டுரையின் பொருள் ,கட்டுரையினுடைய வகைகள், குறிப்புகளையொட்டி கட்டுரை எழுதுதல்,வழிகாட்டுதலையொட்டி கட்டுரை வரைதல், சொந்தமாகக் கட்டுரை வரைதல் ஆகியன விளக்கப்படுகிறது.

கட்டுரையின் பொருள்

"உள்ளத்தில் தோன்றுவதைக் கட்டுரைப்பது கட்டுரை". அழகு நிரம்பிய தன்மையைக் கட்டழகு என்று சொல்வது போன்று அமைப்பழகு நிரம்பிய உரையைக் கட்டுரை என்கிறோம். சுருக்கமாகக் கூறினால், குறிப்பிட்ட ஒரு பொருளைப் பற்றி ஒரு கட்டுக் கோப்புடன் யாவரையும் கவரும் முறையில் அமைக்கப் படுவதைக் கட்டுரை எனலாம்.

ஒருவரது பேச்சு எதிரே கேட்பவரைத் தம் பால் பிணித்துக் கொள்ள வேண்டும். கேளாதவரும் அவர் பேச்சைக் கேட்க விரும்ப வேண்டும். இதுவே பேச்சாற்றலுக்கு அழகு என்று வள்ளுவர் கூறும் இலக்கணம் எழுத்தாற்றலுக்கும் பொருந்துவதாகும். மேலும், ஒரு சிறந்த கட்டுரையானது படைப்பாளியின் அறிவாற்றலை வெளிப்படுத்துவதோடு படிப்போரின் சிந்தனையையும் தூண்டுவதாக அமைதல் வேண்டும்.

நம் உள்ளத்தில் தோன்றும் கருத்துகளை வெளியிடவும் செய்திகளைப் பிறருக்குக் கூறவும் நம் தேவைகளை நிறைவேற்றிக் கொள்ளவும் நாம் பேச்சையும் எழுத்தையும் பயன்படுத்துகிறோம். இவற்றுள் எழுதுதல் என்பது தனித்திறன், எல்லாராலும் எளிதில் கையாள முடியாத ஒரு திறன். ஆதலின் எழுதுதல் திறனை வளர்க்கும் கட்டுரைப் பயிற்சி என்பது மொழிப் பாடத்தில் ஓர் இன்றியமையாத இடத்தைப் பெற்றுள்ளது.

கட்டுரையினுடைய வகைகள்

• படக் கட்டுரை

ஒரு கதை நிகழ்ச்சிகளைப் படங்களாக அமைத்து, அப்படங்களைப் பார்த்து நிகழ்ச்சி முறைப்படி எழுதச் செய்வது படக் கட்டுரையாகும். இவ்விதமாகப் படங்கள் கதை கூறுவனவாக அமையாமல் ஒரு நிகழ்ச்சியைக் குறிப்பதாகவும் அமையலாம். இரயில் நிலையக் காட்சி. வீடு நெருப்புப் பிடித்து எரிதலும் மக்கள் தீயணைத்தலும், மழை வெள்ளக் காட்சி - போன்ற காட்சிகளைப் படங்களாகக் காட்டி அவை குறித்து ஒரு பத்தி எழுதச் செய்தல் படக் கட்டுரையாக அமையும். மாணவர் தம் கற்பனையில் நிகழ்ச்சிகளை எண்ணிப் பாராது நேரே ஒரு காட்சியைப் பார்ப்பதால் அது குறித்து எழுதுவது எளிதாகிறது.

• கதைக் கட்டுரை

தொடக்க நிலையில் கதைகளை எழுதுவது மாணவர் மனம் விரும்பி ஈடுபடும் ஒரு செயலாகும். எனவே, சுவை மிக்க கதைகளைக் கூறி அவற்றை எழுதச் செய்யலாம். முதல் நிலையாகக் கதையைச் சுருக்கமாகக் கூறலாம். அல்லது ஓரிரு முறை படித்துக் காட்டலாம். அதைக் கேட்ட மாணவர் கதை நிகழ்ச்சி, தொடர் அனைத்தையும் அறிவர். ஆதலால், அவர்கள் எளிதாக எழுதுவர். இரண்டாம் நிலையாக, கதை முழுவதையும் கூறாமல் இன்றியமையாது தேவைப்படும் குறிப்புகளையும் தொடர்களையும் கூறிக் கதையைக் கூறுவர். பின்னர், மாணவரை எழுதச் செய்யலாம். மூன்றாவது நிலையாக கதையின் குறிப்புகள் தொடர்ச்சியாகவும், மிகுதியாகவும் இராமல் கதைத் தொடர்பைக் குறிக்கும் ஓரிரு சொற்களாக அமையும். அவற்றின் உதவி கொண்டு மாணவர் கதையை எழுதுவர்.

கதைக் கட்டுரைகளை முதலில் எழுதப் பழக்குவதால் மாணவர் ஏற்ற சொற்களைப் பயன்படுத்தவும், தொடர்ச்சியாக எழுதவும், நிகழ்ச்சிகளுக்கு ஏற்ப பத்தி பிரிக்கவும் பயிற்சி பெறுவர். அவர்கள் மொழித்திறன் வளரும்.

• சிந்தனைக் கட்டுரை (அ) விளக்கக் கட்டுரை

ஒரு பொருளைப் பற்றிப் பல கருத்துகளைத் திரட்டி நன்கு சிந்தித்து எழுதப் பெறுவது கருத்தியல் கட்டுரையாம். இதனைச் சிந்தனைக் கட்டுரை என்றும் கூறுவர். இவை பண்பாடு, அரசியல், சமூகம் இவற்றை அடிப்படையாகக் கொண்டு பிறக்கும். அன்புடைமை, வாய்மை, நாட்டுப்பற்று, மொழிப்பற்று, முயற்சி, செல்வம், கல்வி, நாட்டு ஒருமைப்பாடு முதலான பல தலைப்புகளில் எழுதப் பெறும்.

பல நூல்களில் படித்த கருத்துகளுடன் தாமே சிந்தித்து அறிந்து கொண்ட கருத்துகளையும் வெளிப்படுத்தும் வாயிலாக அமைவதால் இவை வருணனைக் கட்டுரை எழுதுதலை விட அரியனவாம். தம் கருத்துக்கேற்ற தொடர்களை அமைத்தல், மேற்கோள் காட்டுதல், விளக்கம் தருதல் முதலானவை இவற்றில் இடம் பெறும்.

- ## விவாதக் கட்டுரை (அ) தருக்கியல் கட்டுரை

ஒரு பொருள் குறித்து அதன் தன்மைகளையும் அது பயன்படும விதத்தையும் எழுதுவது எளிதாக அமைதல் கூடும். ஆனால் ஒரு பொருள் தேவையா, தேவையில்லையா என ஆராயும் பொழுது அதற்குரிய காரணங்களைக் கூறல் வேண்டும். ஒரு செயல் நன்மை தருமா, தீமை தருமா என ஆய்ந்து இருபக்க கருத்து குறித்தும் எழுதுதல் விவாதக் கட்டுரை அல்லது தருக்கியல் கட்டுரையாகும். அறிவியல் கண்டுபிடிப்புகளால் நன்மையா, தீமையா? அணுவாற்றல் பெரிதும் பயன்படுத்தப் படுவது ஆக்கத்திற்கா, அழிவுக்கா போன்ற கட்டுரைகள் தருக்கியல் கட்டுரைகளாம்.

- ## வரலாற்றுக் கட்டுரை

கல்வியறிவை விரிவடையச் செய்வது வரலாறு. வரலாற்றைத் தனி மனிதரின் வரலாறு, நாட்டு வரலாறு, சமுதாய வரலாறு, நாகரிக வரலாறு எனப் பலவகைப் படுத்தலாம். இவ்வரலாற்றைப் படிப்பதனால் ஒரு நாட்டின் பண்டைய வரலாற்றை நாம் அறியலாம். மக்கள் வாழ்க்கையை அறியலாம். சான்றோர் ஒருவரின் வாழ்க்கை வரலாற்றைப் படிப்பதன் மூலம் நம்மை நாம் நெறிப்படுத்திக் கொள்ளலாம். நாட்டு வரலாற்று அறிவால் நமக்கு நாட்டுப் பற்றும், மொழிப் பற்றும் உண்டாகின்றன.

வரலாற்றக் கட்டுரை இரு வகைப்படும். ஒருவரது வாழ்க்கையைப் பிறர் எழுதும் பொழுது அது ஷவாழ்க்கை வரலாறு' எனவும், ஒருவரது வாழ்க்கையைத் தாமே கூறுவது போல் அமைவது ஷதன் வரலாறு' எனவும் அழைக்கப் பெறும். பள்ளிகளில் மக்கள் யாவரும் பின்பற்றத் தக்க முறையில் வாழ்வாங்கு வாழ்ந்த சான்றோர்களின் வாழ்க்கை நிகழ்ச்சிகளைத் தொகுத்தெழுதும் கட்டுரைகளை எழுதச் செய்யலாம்.

வாழ்க்கை வரலாற்றுக் கட்டுரையை எழுதப் புகும் சான்றோரின் பிறப்பு, பெற்றோர், இளமை வாழ்வு, கல்விப் பணிபுரிதல், இல்வாழ்வு, ஆற்றிய அருந்தொண்டுகள், போற்றுதற்குரிய பண்பு நலன்கள், பெற்ற சிறப்புகள், முடிவுரை என வகுத்துக் கொள்ளலாம்.

வரலாற்றுக் கட்டுரைகள் கதைக் கட்டுரைகளை விடச்சற்று உயர்ந்த நிலையில் உள்ளனவாகும். நிகழ்ச்சிகள் குறிப்புகளைத் திரட்டிப் பண்பு நலன்களையும் விளக்க வேண்டியிருப்பதால் கதைக் கட்டுரைகளைத் தொடர்ந்து இவ்வகைக் கட்டுரைகள் எழுதப் பயிற்சியளிக்கலாம்.

- ## வருணனைக் கட்டுரை

ஒரு பொருளை வருணித்துக் கூறுவது வருணனைக் கட்டுரை எனப்படும். இதில் இயற்கை காட்சிகள், நாடு, நகரம், மலை, ஆறு, கடல்,மேகம், மழை, பருவகாலங்கள் பற்றியும், துளசிச் செடி, மல்லிகைக் கொடி, வேப்ப மரம் முதலான மரம் செடி கொடிகள் பற்றியும், இரும்பு, தங்கம் முதலான உலோகங்கள் பற்றியும் எழுதலாம். மேலும், இந்திய நாடு, தமிழ் நாடு, சென்னை, திருநெல்வேலி, வள்ளுவர் கோட்டம் முதலான நாடு நகரங்கள், சிறப்பான இடங்கள் பற்றியும் எழுதலாம்.

வரலாற்றுக் கட்டுரை, கதைக் கட்டுரைகளை விட இவ் வருணனைக் கட்டுரைகள் சற்று உயர்ந்த நிலையில் உள்ளன வாகும். வருணனைக்கு ஏற்ற தொடர்களைத் தேர்ந்தெடுத்தல், கற்பனைத் திறனோடு வருணித்தல் போன்றவை இவற்றில் இடம் பெறும். வியப்பு வாக்கியங்கள், வினா வாக்கியங்கள், உடன்பாடு, எதிர்மறை வாக்கியங்கள் எனப் பலவகை வாக்கியங்களைப்

பயன்படுத்த நேரிடும். எனவே, வரலாற்றுக் கட்டுரைகளை எழுதுவதில் ஓரளவு பயிற்சி பெற்ற பின்னர் இவ்வருணனைக் கட்டுரைகளை எழுதச் செய்யலாம்.

(எடுத்துக் காட்டு)

ஷமயில்' பற்றிய வருணனைக் கட்டுரைக்குரிய குறிப்புகள் கீழ் உள்ளவாறு அமையலாம்.

முன்னுரை: இயற்கைச் செல்வம்-பறவைகளின் தன்மை மயிலின் தனிச் சிறப்பு.

பொருளுரை: தோற்றம்-ஆடும் அழகு-கண்ணுக்கு விழுந்து-உணவும் உறைவிடமும்-பண்பும் பயனும்-இலக்கி யத்தில் மயில்.

முடிவுரை: நாட்டியப் பறவை-நாட்டுப் பறவை.

- **உரையாடல் கட்டுரை**

ஒரு பொருள் குறித்துச் செய்திகளைத் தொடர்ச்சியாக எழுதுவதைவிட அக்கருத்துகளை இருவர் பேசுவது போல உரையாடலாக அமைப்பது படிப்பதற்குச் சுவையாயிருக்கும். எடுத்துக் காட்டாக, ஷஅஞ்சலகம் ஆற்றும் பணிகள்' பற்றித் தொடர்ச்சியாக எழுதுவதைவிட ஒவ்வொரு துறை பற்றி ஒருவர் வினாக்கள் கேட்பதாகவும் மற்றவர் விடை சொல்வதாகவும் அமைவது உரையாடலாகும். இதனையே உரையாடல் கட்டுரை என்பர். விழாக்கள் பற்றிய செய்திகள், புதிய பொருள்கள் பற்றிய விளக்கம் போன்றவை உரையாடல் கட்டுரைக்கு ஏற்றவையாம்.

குறிப்புகளையொட்டிக் கட்டுரை எழுதுதல்

திரட்டிய செய்திகளை அப்படியே எழுதி வைத்தால், எழுத இருக்கும் தலைப்புக்கு வேண்டிய செய்தியினை, அல்லது மேற்கோளை எடுத்தாளுதற்குச் சற்று சிரமம் ஏற்படும். எனவே அவற்றை வகைப்படுத்தி வைத்துக் கொள்ள வேண்டும். மொழி குறித்தவை, வரலாறு பற்றியவை, அறிவியல் தொடர்பானவை, கணிதம் பற்றிய குறிப்புகள், புவியியல் பற்றிய செய்திகள் எனப்பட வாரியாக வகைப்படுத்திக் கொள்ளலாம். அல்லது உடன்பாடானவை, விழாக்கள் பற்றியவை, இலக்கியம் தொடர்பானவை என வகைப்படுத்தி வைத்துக் கொள்ளலாம். ஏற்ற தலைப்புகளில் செய்திகளை வகைப்படுத்தி எழுதி வைத்துக் கொள்ள உதவுதல் கட்டுரைப் பாடத்தின் நோக்கங்களுள் ஒன்றாகும்.

ஒரு பழமொழியின் விளக்கத்தையோ, உவமையின் விளக்கத்தையோ படித்து முடித்ததும் குறிப்பேட்டில் பழமொழியையோ, உவமையையோ எழுதி வைத்துக் கொள்வோம். நாம் எழுதும் கட்டுரையில் அதனை எடுத்தாளும் பொழுது அதனை விரித்து எழுதத் தெரிதல் வேண்டும். இதே போன்று வெவ்வேறு தலைப்புகளில் செய்திகளைத் திரட்டும் பொழுது அவற்றைச் சுருக்கமாக ஓரிரு தொடர்களில் எழுதி வைத்துக் கொள்வோம். தேவையான போது அதனை விரித்து எழுதுதல் வேண்டும். இவ்வாறு விரித்து எழுதும் பொழுது எடுத்துக் காட்டு கூறி விளக்குதல் வேண்டும். செய்திகளை விரித்து எழுதும் திறனை ஒரு நோக்கமாகக் கொண்டு நாம் மாணாக்கரைப் பயிற்றுதல் வேண்டும்.

வழிகாட்டுதலையொட்டிக் கட்டுரை வரைதல்

மாணாக்கரைக்கட்டுரை எழுதச் சொல்லும் பொழுது அவர்கள் சூழலில் உள்ள பொருள்களைப் பற்றியும், பங்கெடுத்துக் கொண்ட நிகழ்ச்சிகளைப் பற்றியும், படித்தோ, கேட்டோ அறிந்த செய்திகளைப் பற்றியும் எழுதச் சொல்கின்றோம். தொடக்க நிலையில் கருத்துப் பொருள்களை விடக் காட்சிப் பொருள்களுக்கு முதலிடம் தருகின்றோம். தாங்கள் எடுத்துக்

கொண்ட தலைப்பு பற்றிய செய்திகளை முழுமையாக அறிந்திருக்கிறார்களா என்பதை வினாக்கள் மூலம் அறிந்து குறைவாக இருப்பின் புத்தகங்களைப் படித்து அவற்றைத் தொகுத்து அறியச் செய்கின்றோம். இவ்வாறு செய்திகளைத் திரட்டித் தொகுத்து வைத்துக் கொள்ளு தலையே செய்திகளின் தொகை என்கிறோம். செய்திகளைத் தொகுப்பதற்கு மாணாக்கர் கலைக் களஞ்சியங்கள், செய்தித் தொகுப்புகள் அபிதான சிந்தாமணி, போன்ற நூல்களைப் பயன்படுத்தல் வேண்டும். அதற்கு ஆசிரியர் அவர்களுக்கு பயிற்சியளித்தல் வேண்டும். இவ்வாறு பல நூல்களிலிருந்து திரட்டிய செய்திகளைத் தனியாகக் குறித்து வைத்துக் கொள்ளுதல் வேண்டும்.

கட்டுரையில் அமைய வேண்டிய செய்தியைப் பலரிடம் கேட்டோ, புத்தகங்களைப் படித்தோ மாணாக்கர் அறிந்து கொள்கின்றனர். அவற்றை வெளிப்படுத்தும் போது மாணாக்கரிடமுள்ள கருத்தாழம், அவர்களிடமுள்ள சொற்களஞ்சியம் ஆகியவற்றிற்கேற்ப அவரது நடையமைப்பும், பிற ஆசிரியருடைய தொடர்களை மனப்பாடம் செய்து அப்படியே எழுதுதலைத் தவிர்த்தல் வேண்டும். பழமொழிகள், உவமைகள், வருணனைத் தொடர்கள், மேற்கோள் தொடர்கள் ஆகியவற்றைப் பயன்படுத்திச் சிறுசிறு வாக்கியங்கள் எழுதப் பயிற்றுவிக்க வேண்டும் அவ்வாறாயின் கருத்து வளத்துக்கும் சொல் வளத்துக்கும் ஏற்பத் தனிநடை அமையும்.

நூல்களையும் கட்டுரைகளையும் படிக்கும் போது மாணாக்கர் தம் உள்ளம் கருவம் சொற்றொடர்கள், வருணனைத் தொடர்கள், மரபுத் தொடர்கள் ஆகியவற்றை ஒரு குறிப்பேட்டில் எழுதி வரச் செய்தல் வேண்டும். இவ்வாறு செய்யும் பொழுது அரிய சொல்லாட்சிகளை அவர்கள் அறிவர். இத்தகைய பழக்கம் மாணாக்கர் கருத்தை வலியுறுத்தவும் உதவும். எனவே மாணாக்கர் தம் செய்தியறிவை வளர்த்தற்கும் மொழித் திறனை வளர்த்தற்கும் வழி காட்ட வேண்டும்.

சொந்தமாகக் கட்டுரை வரைதல்

மாணாக்கர் இயல்பாகவே கற்பனையாற்றல் மிக்கவர்கள். அவ்வாற்றல் வெளிப்படும் வண்ணம், வகுப்பு நிலைக்கு ஏற்ற தலைப்புகளைக் கொடுத்து எழுதச் செய்தல் வேண்டும். குறைக் கதைகளை முடித்தல், ஒரு பொருள் தன் வரலாறு (கற்பனை) கூறுவது போல் எழுதுதல் போன்றவை மாணவர் தம் கற்பனைத் திறனைப் பெரிதும் வளர்க்கும். ஒவ்வோராண்டும் ஓரிரண்டு கட்டுரைகள் கற்பனைத் திறனை வளர்ப்பனவாக சொந்தமாக கட்டுரை அமைதல் வேண்டும்.

ஒரு பொருள் குறித்து ஆராய்ச்சி செய்து எழுதுவது ஆய்வுக் கட்டுரை. நூல் அல்லது ஆக்கியோர் காலம் பற்றிய ஆராய்ச்சி, உயர்ந்த நூல்களின் ஒத்த கருத்துகள் பற்றிய ஆராய்ச்சி, சிறந்த நூல்களின் உவமை, சொல், அணிகள், யாப்பு நிலை பற்றிய ஆராய்ச்சி யாவும் ஆய்வுக் கட்டுரையில் அடங்கும்.

கட்டுரை எழுதுவதற்கு கட்டுரைத் தலைப்பு பற்றிய செய்தியினையும், அச்செய்தியினை வெளியிடும் மொழித் திறனையும் மாணவர் பெறுதல் வேண்டும். எனவே மாணாக்கர்களைப் பல நூல்களைப் படிக்கும் படி தூண்டுதல் வேண்டும். வகுப்பு நூலகத்தில் பல்விதமான நூல்களை அமைத்துப் படிக்கச் செய்தல் வேண்டும். சிறந்த கட்டுரைகளை ஆசிரியர் வகுப்பில் படித்தும் காட்டலாம். இவ்வாறு மாணவர் செய்திவளத்தைப் பெருக்குவதுடன் அவர்கள் மொழித்திறன் பெறவும் வழி காட்ட வேண்டும்.

மாணவர் தாம் கூற நினைக்கும் செய்திகளை முறையாகக் கூறுதல் வேண்டும். கருத்துக்கேற்ப அதனை ஒரு பத்தியாக அமைத்து, பத்தியின் மையக் கருத்துக்கேற்ப பிற சொற்றொடர்களை எழுதும் திறனும் பெறுதல் வேண்டும்.

சொந்தமாக கட்டுரை எழுதும் முறை

மாணாக்கரைக் கட்டுரை எழுதச் செய்தலுக்கு ஆசிரியர் சில வழி முறைகளைக் கையாளுதல் வேண்டும். முதன் முதல் வகுப்பு நிலைக்கேற்ற கட்டுரைத் தலைப்புகளைத் தேர்ந்தெடுத்துக் கொள்ள வேண்டும். பின்னர் அத்தலைப்பு பற்றி மாணவருடன் உரையாடி வாய் மொழிக் கட்டுரையாக அமைத்தல் வேண்டும். பின்னர்த் தேவையான செய்திகளைத் திரட்டச் செய்தல் வேண்டும். பின்னர், கட்டுரையில் வழங்கப்படும் கருத்துகளுக்கேற்பப் பத்தி பிரித்தல் வேண்டும். சொற்றொடர் அமைப்பு, மொழிநடை போன்றவற்றைச் சுட்டி காட்டி எழுதச் செய்தல் வேண்டும். ஒவ்வொன்றைப் பற்றியும் சுருக்கமாக அறிந்து கொள்வோம்.

▪ கட்டுரைத் தலைப்பு

ஓர் இடத்தில் பயிற்சி என்னும், நாளும் குறிப்பிட்ட பின்னர், கட்டுரைத் தலைப்பை பக்கத்தின் நடுப்பகுதியில் சற்றுப் பெரிய எழுத்துகளில் எழுதச் செய்தல் வேண்டும். அடிக்கோடிட்டும் காட்டலாம்.

▪ வாய்மொழிப் பயிற்சி

கட்டுரை பாடவேளை இரு பாட வேளைகளாக அமையலாம். முதல் பாடவேளையில் தலைப்பு பற்றிக் குழந்தைகளிடம் உரையாடிக் கட்டுரைப் பொருளைப் பற்றிய அனைத்துச் செய்திகளையும் அனைவரும் அறியச் செய்தல் வேண்டும். இவ்வாறு செய்திகளை வரவழைக்கும் பொழுதே முன்னுரையாகக் கூறவேண்டியவை, கட்டுரைப் பொருளில் இடம் பெற வேண்டியவை. முடிவுரையாகக் கூற வேண்டியவை எனப் பிரித்துக் கூறுதல் வேண்டும்.

▪ செய்திகளைத் திரட்டுதல்

கட்டுரையில் இடம் பெற வேண்டிய செய்திகளைப் பற்றி உரையாடும் பொழுது மேலும் தேவையான செய்திகளை எந்தெந்த நூல்களைப் பார்த்துத் திரட்டிக் கொள்ள வேண்டும் எனக் குறிப்பிடுதல் நன்று. எடுத்துக் காட்கீக, 'செய்தித் தாள்கள்' பற்றிக் கட்டுரை எழுதுவதாயின், முதன் முதல் செய்தித்தாள் எப்பொழுது வெளியிடப் பெற்றது, வெளியிட்டவர் யார் எனக்கலைக் களஞ்சியம் பார்த்துச் செய்தி திரட்டுதல் வேண்டும். கட்டுரைக்குத் தேவையான மேற்கோள்கள், பழமொழிகள் போன்றவற்றையும் நூல்களைப் பார்த்து எழுதி வைத்துக் கொள்ளலாம்.

▪ பத்தி பிரித்தல்

செய்தியைத் திரட்டிய பிறகு கட்டுரையைப் பகுதிகளாகப் பிரித்துக் கொள்ளுதல் வேண்டும். முன்னுரை, பொருள், முடிவுரை என மூன்று பகுதிகளாகப் பிரித்து ஒவ்வொன்றிலும் எவ்வெச் செய்திகளை இடம் பெறல் வேண்டுமெனக் குறிப்புச் சட்டகம் தயாரித்தல் வேண்டும். பொருள் பகுதியில் பல கருத்துகளைக் கூற வேண்டியதிருக்கும். ஒவ்வொரு கருத்துக்கும் ஒரு பத்தியாக அமைத்துக் கொள்ள வேண்டும். இவ்வாறு முன்னுரை ஒரு பத்தி, பொருள், கட்டுரைத் தலைப்புக்கேற்ப நான்கைந்து பத்திகள், முடிவுரை ஒருபத்தி எனப்பிரித்துக் கொள்ள வேண்டும்.

● சொற்றொடர் அமைப்பு

மேற்கூறியவாறு பத்தியமைக்கும் பொழுது மிகமிக முக்கியமான இடங்களில் எவ்வகையான சொற்றொடர் அமைக்க வேண்டும் எனக் குறித்துக் கொள்ளுதல்

நன்று. வியப்பு வாக்கியம், வினா வாக்கியம், உடன்பாடு எதிர்மறை வாக்கியங்கள், உவமைகள், பழமொழிகள் போன்றவற்றைக் குறித்துக் கொள்ளலாம்.

- **மொழிநடை**

கட்டுரையின் மொழிநடை நன்கமைய வேண்டும். கட்டுரைப் பொருளை நன்குணர்ந்து உரையாடும் பொழுது (வாய் மொழிப் பயிற்சியின் போது) பயன்படுத்திய சொற்களையும், தொடர்களையும் பயன்படுத்துதல் வேண்டும். அவ்வாறு எழுது முற்படின் தம் உணர்ச்சிக்கும் சொல் வளத்துக்கும் ஏற்பத்தினி நடை அமையும்.

- **மேற்கோள்**

கட்டுரையில் தாம் எழுதும் கருத்தை உறுதிப் படுத்துவதற்காக அங்கங்கே தக்க மேற்கோள்களைப் பயன்படுத்துதல் வேண்டும். மேற்கோளை எழுதிய பிறகு அடைப்புக்குறியில் மேற்கோளைக் கூறிய ஆசிரியர் அல்லது மேறகோள் இடம் பெற்றுள்ள நூலைக் குறிக்கலாம். இவ்வாறு எழுதப்படும் கட்டுரை மிகச் சிறந்த கட்டுரையாக அமையும்.

- **மீள்பார்வையிடுதல்**

எப்பொருளைப் பற்றிக் கட்டுரை எழுதினாலும், எழுதி முடித்தபின் அதனைப் படித்துப் பார்க்க வேண்டும். மரபுப் பிழை, இலக்கணப் பிழை, எழுத்துப் பிழை, சந்திப் பிழை ஆகியவை இருப்பின் அவற்றை நீக்குவதற்கு மீள்பார்வை பயன்படும். ஆதலின் மீள்பார்வையிடுதலை ஓர் இன்றியமையாப் பணியாகக் கொள்ள வேண்டும்.

- **கையெழுத்து**

கட்டுரையில் சொல்லப்படும் கருத்து எவ்வளவு உயர்ந்ததாக இருப்பினும், எழுதுவோரின் கையெழுத்து நன்றாக அமையவில்லையாயின் அது பயனற்றதாகி விடும். கருத்தோடு கையெழுத்தும் சிறப்பாக இருப்பின் ஷபொன்மலர் நாற்றம் பெற்றது' போல் கட்டுரை மேலும் சிறப்புடையதாகும்.

கட்டுரை எழுதும் பயிற்சியால் நன்மைகள்

- செய்தியினைத் தொடர்பாக எண்ணி ஒன்றன் பின் ஒன்றாக முறையாக எழுதுவதற்குத் துணை செய்கின்றது.
- எந்தப் பொருள் பற்றி எழுதும் பொழுதும் தக்க முன்னுரை யமைத்துக் கொள்வதற்கும். இறுதியில் சிறப்பாக முடித்துக் கூறுவதற்கும் பயிற்சியளிக்கின்றது.
- ஒவ்வொரு கருத்துக்கும் ஒருபத்தியமைத்து அதனைத்தக்க எடுத்துக் காட்டுகளுடனும், விளக்கமாகவும் எழுதுவதில் மாணவர்அறிவு பெறுகின்றனர்.
- தாம் கற்றுக் கொண்ட தொடரமைப்பு முறையினைப் பின்பற்றி மொழி மரபு கெடாமல் எழுதுவதில் பயிற்சி தருகின்றது.
- செய்தி வாக்கியம், வினா வாக்கியம், வியப்பு வாக்கியம் உடன்பாடு, எதிர்மறை வாக்கியங்கள் என மாணவர் கற்ற பல வாக்கியங்களைப் பயன்படுத்த வாய்ப்புத் தருகின்றது.
- ஒரு குறிப்பிட்ட பொருள் பற்றிக் குறித்த காலத்தில், குறித்த அளவில் எழுதும் பயிற்சி அளிக்கின்றது.
- மாணவர்கள் தாங்கள் அறிந்த சொற்களையெல்லாம் பயன்படுத்தும் சொற்களாக மாற்றித் தம் சொல்லாட்சித் திறனைப் பெருக்க உதவுகின்றது.

- மாணவர்கள் பல நூல்களில் அழகாகக் கூறப்பட்ட கருத்துகளை மேற்கோளாகக் காட்டவும் வாய்ப்பளிக்கின்றது.
- எல்லாக் கருத்துகளையும் தாமே எண்ணிப் பார்த்துத் தம் உணர்ச்சிக்கேற்பச் சொற்களைத் தேர்ந்தெடுத்து எழுதுவதால் அவர்களுக்கென்றே தனியாக ஒரு மொழிநடை உருவாகின்றது.
- தன் கருத்துகளைத் திறமையாக எழுதிப் பிறரைப் படிக்கச் செய்வதால் மாணவர்க்கு மனநிறைவு ஏற்படுவதோடு தன்னம்பிக்கையும் உண்டாகின்றது.

முடிவுரை

இவ்வலகு வாயிலாக மேற்கூறப்பட்டவாறு குறுநிலைக் கற்பித்தலுக்கான திறன்களையும் படிநிலைகளையும் அறியமுடிகிறது. மேலும் உரைநடை ,செய்யுள், இலக்கணம், கட்டுரை ஆகியனகற்பிக்கப் பயிற்சி பெறல். எதிர்நாளில் கற்றலைத் தயக்கமின்றி கற்பிக்க ஆசிரியர் கல்வி பெறும் காலத்து இச்செய்திகளை அறிவது இன்றியமையாததாகிறது.

பயிற்சி வினாக்கள்

1.வகுப்பறையில் ஆசிரியர் பயன்படுத்தும் மொழிச் சார குறிப்புகளில் தேவையினையும்,பயன்பாட்டினையும் விவாதிக்க.

2. செய்யுள் கற்பித்தலுக்கும், உரைநடை கற்பித்தலுக்கும் உள்ள வேறுபாடுகள் யாவை?

3.இலக்கணம் கற்பித்தல் முறையினை விளக்குக.

4.ஆசிரியர் கல்வியின் போது வழங்கப்படும் கற்பித்தல் பயிற்சிகள் பற்றி விரித்துரைக்க.

5.குறுநிலைக் கற்பித்தலின் படிநிலைகள்

அலகு – 4 மொழித்திறன்களைக் கற்பித்தலும் மதிப்பிடுதலும்

நோக்கங்கள்

இப்பாடத்தைக் கற்றப் பின்னர் மாணவ ஆசிரியர்கள்

- உட்கொள்ளும் (கேட்டல்,படித்தல்) திறன்களை எடுத்துரைப்பர்.
- வெளியிடும் திறன்களை (பேசுதல்,எழுதுதல்) எடுத்துரைப்பர்.
- படைப்பாற்றல் திறன்களை வளர்ப்பர்.
- மொழித்திறன்களை மதிப்பிடுவர்.

முன்னுரை

மொழிப்பாடம் ஒரு திறன் பாடம். மொழிக் கல்வி இரு பகுதிகளைக் கொண்டது. 1.மொழியைக் கற்பது. 2. மொழியில் அமைந்த இலக்கியங்களைக் கற்பது. மொழியைக் கற்ற பின்னர்தான் மொழியிலுள்ள இலக்கியங்களைக் கற்கவியலும். மொழியைக் கற்கும் போக்கின் முதல்படி, அடிப்படைத் திறன்களைப் பெறுதலாகும். மொழியின் பயன் ஒருவருக்குக் குறைவின்றிக் கிடைக்க, அடிப்படைத் திறன்களைத் தொடக்கத்திலும் உயர்நிலையிலும் பெற வேண்டும்.

மொழியின் அடிப்படைத் திறன்கள், அவை பெறப்படுகின்ற நிலையில், கொள்திறன், வெளியிடு திறன் என இரு வகைப்படும். கேட்டலும் படித்தலும் கொள்திறன்கள். பேசுதலும் எழுதுதலும் வெளியிடு திறன்கள். இவை: கேட்டல், பேசுதல், படித்தல், எழுதுதல் என வரிசைப்படுத்தப்படுகின்றன.

கல்வி ஏற்பாட்டில், தமிழ்மொழிக் கல்வி, தொடக்க நிலை வகுப்புகளிலிருந்தே இடம்பெறுவதால் இந்நான்கு திறன்களும், தாய்மொழிச் சூழலிலும் நடைமுறைப் பயன்பாட்டு அடிப்படையிலும் தொடக்கநிலை வகுப்புகளிலிருந்து வளர்க்கப்படுகிறது.

கேட்டல் திறன் கற்பித்தல்

ஒலியைக் காது ஏற்கும் செயல் கேட்டல் எனப்படும். இது உயிரியல் வழித் தரப்பட்ட வரையறையாகும். கல்வியில் கேட்டல் என்பது மேலும் பரந்துபட்ட பொருளைக் கொண்டது. வெளிப்படும் ஒலிகளைச் செவியில் ஏற்று, அவற்றிற்குரிய பொருளை உணர்வதுவே கேட்டல் ஆகும். கேட்டலின்போது உயிரற்ற செயலும் அச்செயலால் உளவியல் இயக்கமும் நடைபெறுகின்றன. இரு செயல்களும் இணைந்த கேட்டலைச் செவிமடுத்தல் என்றும் கூறலாம். ஒலிகளால் ஆன எழுத்துகள், எழுத்துகளைக் கொண்ட சொற்கள், சொற்களால் அமைந்த வாக்கியங்கள், வாக்கியங்களால் வெளிப்படும் பொருள் ஆகியனவற்றைக் கொண்டதே மொழி. இம்மொழியைக் கற்பதற்கு முதல்நிலை வாயில் செவியே.

"செல்வத்துள் செல்வம் செவிச்செல்வம் அச்செல்வம்

செல்வத்துள் எல்லாம் தலை."

என வள்ளுவரும் செவியின் இன்றியமையாமையை வலியுறுத்தியுள்ளார். செவி அறிவுக்கு ஒலியை ஏற்பதற்காக மட்டுமன்றி, அறிவைப் பெறும் வாயிலாகவும் விளங்க வேண்டுமெனக் கருதிய வள்ளுவர்,

"கேட்பினும் கேளாத் தகையவே கேள்வியால்

தோட்கப் படாத செவி"

எனக் கூறினார்.

கேட்டல் திறனின் பொருள்

ஐம்பொறிகளைக் கற்றலின் வாயில்கள் என்பர். ஐம்பொறிகளுள் ஒன்று செவி. செவியே கேட்டலுக்குரியது. நடைமுறை வாழ்க்கையிலும், கல்விக் காலத்திலும் கேட்டலுக்கே வாய்ப்புகள் மிகுதியாக ஏற்படுகின்றன. கேட்டல் வழிதான் கற்றலின் பெரும்பகுதி நிகழ்கிறது. கற்பதில் 80 விழுக்காட்டிற்குமேல் கேட்டல்வழி நிகழ்கிறது.

எனவே, கற்றலின் அளவை மேம்படுத்தக் கேட்டல் திறன் வளர்ச்சி இன்றியமையாததாகும்.

• பேசுவதற்கு முன்செயல்

பெற்றோரும் மற்றோரும் பேசுவதைக் குழந்தை கேட்கிறது. கேட்ட பின்னர் அது பேச முனைகிறது. குழந்தையின் கேட்டல் அளவினைப் பொருத்தே, மொழியைப் பேசும் அளவும் திறனும் அமைகின்றன. எவரும் பேசாத சூழலில் குழந்தை வளருமாயின், அது ஊமையாகிவிடும்.

• பேசுதல் தொடர்பு

பேசுதல் திறன் பெறுவதற்குக் கேட்டல் இன்றியமையாதது போல, கேட்டல் திறனை வளர்ப்பதற்கு ஷபேசுதல்' நிகழ்வு இன்றியமையாதது. கேட்டலால் பேசுதல் திறனும், பேசுதலால் கேட்டல் திறனும் வளர்வன. இம்மறுதலைப் போக்கு, கேட்டல் திறனை வளர்க்கும் முறைகளை வகுப்பதற்கு வழிகாட்டுகிறது.

• பேசுதலில் விளைவை ஏற்படுத்தல்

ஒரு மொழி, அம்மொழி பேசும் மக்கள் அனைவராலும் ஒரே தன்மையாய்ப் பேசப்படுவதில்லை. நெல்லை மாவட்டத்தவர் பேச்சுக்கும் சென்னை நகரத்தவர் பேச்சிற்கும் வேறுபாடு காணப்படும். தமிழ்மொழியை ஒருவர் பேசுகின்ற போக்கிலிருந்து, எந்த மாவட்டத்தவர் எனக் கணிக்க முடிகிறது.

• கேட்டல் சூழல் இயல்புகள்

நடைமுறை வாழ்க்கையில் ஏற்படும் கேட்டல் சூழல்களின் இயல்புகளாக 1. இயல்பாக பேச்சு அல்லது உரையாடுதல், 2. கேட்போர் எதிர்பார்ப்பும் நோக்கமும், 3. பார்த்தலும் கேட்டலும் இணைதல், 4. கேட்கும் போக்கில் துலங்கல், 5. பேசுபவரை ஈர்த்தல் ஆகியன அறியப்படுகின்றன.

கேட்டல் வழியே கற்றல்

பன்னெடுங் காலமாகக் கதைச் சொல்லுதல், பாடச் சொல்லுதல், பாடிக் காட்டல், நடிக்கச் சொல்லுதல் முதலிய ஆசிரியர்களால் தொடக்க வகுப்புகளில் வழங்கப்படும் பழகு செயல்களாகும். இவை முதலிரு வகுப்புக் குழந்தைகளைக் கேட்டலில் ஈடுபடுத்துவனவாகும்.. முதலிரு வகுப்புகளில் இவற்றைக் குழந்தைகளைக் கேட்கச் செய்வதோடு நிறைவுபெற வேண்டும்.

- ## கட்டளைகளைக் கேட்டுச் செயல்படுதல்

கேட்டல் நிகழும்போது, கேட்பவர் உடனுக்குடன் துலங்கலை வெளிப்படுத்தும் போக்கினராக இருப்பர். (கேட்டலின் தன்மை) இத்தன்மையைக் கருத்திற்கொண்டு வடிவமைக்கப்படும் பழகு செயல்களுள் ஒன்று கட்டளைகளைக் கேட்டுச் செயல்படுதல் ஆகும். இச்செயல்பாட்டில், ஆசிரியர் குழந்தைகளின் முதிர்ச்சிக்கு ஏற்பக் கட்டளைகளை இடுவர்.

ஒரு கற்றல் பகுதியில் அடங்கியுள்ளவற்றில் கற்றல் சிறப்புக்குரியவற்றை மட்டும் நோக்கும் செயல் மேலோட்டம் ஆகும். எதனையும் ஒதுக்காது முழுமையாக நோக்கும் செயல் உள்ளோட்டம். 'மேலோட்ட உள்ளோட்டப்' பழகு செயலில், கேட்டல் பகுதியை மாணவர்களுக்குப் படித்துக் காட்டி, அவற்றிலிருந்து பொதுக்கருத்து பற்றியும் குறிப்பிட்ட செய்திகளைப் பற்றியும் கேட்க வேண்டும்.கற்றல் பகுதிகளின் சொற்களஞ்சியம், பொருள் ஆகியவற்றின் கடின நிலை நோக்கி, அவற்றை உரிய வகுப்புகளில் பயன்படுத்த வேண்டும்.

நெடுந்துலங்கல், விரிவுத் துலங்கல் சார்ந்த பழகு செயல்கள், மேல்நிலை வகுப்புகளுக்கே பொருத்தமுடையனவாகும். செயல்பாடுகள் அனைத்திலும் கேட்டல் பகுதி ஆசிரியராலோ, ஒலி, ஒளிப்பதிவு நாடா வழியோ மாணவர்களுக்கு முதலில் வழங்கப்பட்டு, பின்னர் செயல்பாடுகளில் அவர்களை ஈடுபடுத்தப்பட வேண்டும்.

கட்டளைகளைக் கேட்டல் நிகழும்போது, கேட்கும் மாணவர்கள் உடனுக்குடன் துலங்கலை வெளிப்படுத்துபவராக இருப்பார்கள். இப் பயிற்சிகளை விளையாட்டு முறையில் வழங்கலாம்.

கேட்டல் பழக்கத்தினை வளர்த்தல்

நடைமுறை வாழ்க்கையில் கேட்டலின் இயல்புகளாகக் காணப் பட்டவற்றைக் கருத்திற்கொண்டு, வகுப்பறைக் கற்பிப்பிலும் அவற்றை உருவாக்கினால் கேட்டல்திறன் வளரும் வாய்ப்புகள் மிகுதியாகும். ஒரு முனையில் கேட்டல் திறன் வளர்வதற்கு, மறுமுனையில் பேசுதல் அல்லது பேச்சு தேவை. அப்பேச்சு நடைமுறை வாழ்க்கையோடு பொருந்தியதாக இருத்தல் சிறப்பு. ஆசிரியர் பேசுதலை மாணவர்களைக் கேட்கச் செய்வதால் மட்டும், கேட்டல் திறன் வளர்ந்துவிடாது. பாடநூலிலிருந்து ஒரு பகுதியை உரக்கப் படிப்பது, முறையாகக் கேட்டல் பாடப் பொருள் ஆகாது. அது கேட்டல் இயல்புகளை நிறைவு செய்யாதுஞூ கேட்டல் திறனை வளர்க்கவும் பயன்படாது. இயல்பான, தங்குதடையற்ற பேச்சே, கேட்டல் திறனை வளர்க்கப் பயன்படும்.

கேட்டல் சூழலினை ஏற்படுத்தும் ஆசிரியர், மாணவர்கள் அனைவரின் பார்வையில் படவேண்டும். கேட்டல் திறனை வளர்ப்பதற்கு, வழக்கமாகப் பயன்படுத்தப்பட்டு வரும் ஒலிப்பதிவு நாடாவைவிட, ஒளிப்பதிவு நாடா சிறந்ததாகும். ஒளிப்பதிவு நாடா பயன்படுத்தப்படும் போது பேசுபவர், கேட்பவர் பார்வையில் படுகிறார். எனவே, ஒளிப்பதிவு நாடாவைப் பெருமளவில் பயன்படுத்தலாம்.

கேட்டலும் துலங்கலும் உடனுக்குடன் நடக்கும் நிகழ்ச்சிகள். கேட்டலுக்கான பாடப்பொருளை வழங்கும்போது, துலங்கலை வெளிப்படுத்தும் வாய்ப்பினை மாணவர்களுக்குக் கொடுத்தல் வேண்டும்.

சொல்வதைக் கேட்டுத் திரும்பச் சொல்லுதல்

இதில் ஷகேட்டல்' என்பதனைப் பேசுதலைக் கேட்டல், படித்தலைக் கேட்டல் என இருவகையாகக் கூறலாம். படித்தலின்போது, மொழியின் எழுத்து வடிவத்தைப் படிக்கிறோம். அது திருந்திய வடிவில், கொச்சைச் சொற்கள் இல்லாதிருக்கும். பேச்சு வடிவில் கொச்சைச் சொற்கள் கலந்திருக்கும். பேசுபவருடைய இயல்புகளைக்கொண்டு நோக்கினால், சொற்சிதைவு, இறுதி விழுங்கல், இடையெழுத்து விழுங்கல் போன்றன அமைந்திருக்கக் காணலாம். எனவே, பேசுதலைக் கேட்டு அறிவதற்கும், படித்தலைக் கேட்டு அறிவதற்கும் மாணவர்களைப் பழக்குதல் வேண்டும்.

• பேசுதலைக் கேட்டறிதல்

தொடக்கநிலை வகுப்புகளில் மாணவர்களது குடும்பம், ஊர், ஊர்த் திருவிழா போன்றன குறித்து அவர்கள் அறிந்த தலைப்புகளைப் பற்றிப் பேசி, அவர்களைக் கேட்கச் செய்தல் வேண்டும். பின்னர்ச் சிறுசிறு வினாக்கள் மூலம், மாணவர்கள் கேட்டதைத் தேர்ந்தறிதல் வேண்டும். நடுநிலை வகுப்புகளில் பொதுத்தலைப்புகளைப் பற்றிப் பேசலாம்ஊ கதைகளைக் கூறலாம்ஊ தலைப்புகளின் கருத்துகள் பற்றியும், கதை நிகழ்ச்சிகள் பற்றியும் வினாக்கள் மூலம் தேர்ந்தறியலாம்.

• படித்தலைக் கேட்டறிதல்

பள்ளியில் ஒவ்வொரு வகுப்புக்கும் தமிழ்ப் பாடநூல் உருவாக்கப்பட்டுள்ளது. பாடநூலில் உள்ள உரைநடைப் பாடத்தைப் படித்து, மாணவர்களைக் கேட்கச் செய்தல் வேண்டும். பிறகு, சிறுசிறு வினாக்கள் கேட்கலாம். நடுநிலைப் பள்ளிகளில் பாடநூல்களைப் பயன்படுத்துவதோடு, நூல்நிலையத்திலிருந்து எடுக்கப்பட்ட பொது நூல்களிலிருந்தும் ஒரு சில பகுதிகளைப் படித்துக்காட்டி மாணவர்களைக் கேட்கச் செய்யலாம். பின்னர்ச் சிறுசிறு வினாக்கள் வாயிலாக மாணவர்கள் கேட்டவற்றைத் தேர்ந்தறியலாம்.

• கதையையும் பாட்டையும் கேட்டல்

ஆசிரியர் கதை சொல்லுதல், மாணவர்களை அவர்களுக்குள்ளே குழுவாகப் பேசச் செய்தல், பாடச் செய்தல், நடிக்கச் செய்தல் போன்றவை. பயன் விளைவை மிகுதியாக்கும் கேட்டல் பயிற்சிகளாகும்.

ஆசிரியர் கதை கூறும்போது, மாணவர்களுக்கு ஏற்கெனவே அறிமுகமான கதைகளையும் அறிமுகமாகாத கதைகளையும் கூறலாம். அப்போது தம்மை மாணவர்களோடு ஒருவராக ஆக்கிக்கொண்டு கூறவேண்டும்ஊ குரலில் ஏற்றத்தாழ்வு, மெய்ப்பாடு, நடிப்பு போன்றவை வெளிப்படுமாறு பார்த்துக்கொள்ளல் வேண்டும். இதனால், மாணவர்களின் கேட்கும் திறன் அதிகரிக்கும்.

பாடல்கள் மூலமும் கேட்டல் திறனை வளர்க்கலாம். இதற்கு ஓசை நயமுள்ள எளிய சந்தப் பாடல்களைத் தேர்ந்தெடுத்துப் பாடிக்காட்ட வேண்டும். மாணவர்களைப் பாடவைத்தும் கேட்டல் திறனை வளர்க்கலாம்.

• தொலை, அலைபேசியில் பேசிப்பழகுதல்

ஒருவர் பேச்சை நேரில் கேட்பதை விட தொலைபேசி அல்லது அலைபேசியில் கேட்பது சற்று சிக்கல் நிறைந்தது ஆகும். நேரில் கேட்கும் போது பேசுபவரின் மெய்ப்பாடுகள் கருத்துரை

உதவியாக இருக்கும். ஆனால் தொலைபேசியிலோ, அலைபேசியிலோ கேட்கும்போது அந்த வாய்ப்பு இல்லை. மேலும் அப்பேச்சுகள் ஒரு பொதுவான வேகத்தில் அமையும் கேட்பவருடைய அல்லது பேசுபவருடைய சுற்றுசூழல் இரைச்சலால் எல்லா சொற்களும் தெளிவாக இருக்காது. எனவே முன்பின் கேட்கப்படுகின்ற சொற்களை கொண்டு ஊகித்து சில சொற்களை தெரிய வேண்டி இருக்கும். எனவே பேசுபவரிடம் தாம் கேட்டதை திரும்பிச்சொல்லி மீண்டும் கேட்க தொடங்கினால் கேட்டல் முழுமை பெறும். தொலைபேசி அல்லது அலைபேசியில் கேட்கும் பயிற்சி அளிக்க உரையாடல் வடிவில் பயிற்சிகளை அமைக்கலாம்.

சொல்வதைக் கேட்டு எழுதுதல்

வகுப்பறையில் ஆசிரியர் ஏதேனும் ஒரு பகுதியை பாடநூலிருந்து படித்தே தாமாக தொடர்களைக் கூறியே மாணவர்களைக் கேட்க செய்ய வேண்டும். கேட்கும் போக்கில் அவ்வப்போது கூறுவதை நிறுத்தி கூறியப்பகுதியை எழுதச் சொல்ல வேண்டும். முதல் இரு வகுப்புகளில் ஒவ்வொரு சொல்லாக கூறி எழுதச் சொல்லுதல் மூன்றாம் வகுப்பில் தொடர், தொடராக கூறி எழுதச் சொல்லுதல், நான்கு ஐந்து வகுப்புகளில் வாக்கியம், வாக்கியமாக கூறி எழுத சொல்லுதல், என எழுதும் பயிற்சியில் கடின தன்மையை ஏற்படுத்தலாம். மேல் வகுப்புகளில் ஆசிரியர், ஒரு பத்தியை படிக்க அதில் சொல்லப்பட்டுள்ள முதன்மையான குறிப்புகளை மாணவர்களை எழுத செய்ய வேண்டும். கேட்டல் பயிற்சியில் இவை போன்ற பழகு செயல்கள் நடைமுறையில் அரிதாகி வருகின்றன. ஆதலால் மாணவர்களுக்கு பிற மொழி திறன்கள் ஏற்படுவதிலும் சிக்கல்கள் நேர்கின்றன.

- ### தொடர் அறுந்து கேட்டல்

ஒர் உரைபகுதியால் வெவ்வேறு பகுதிகளை வெவ்வேறு மாணவர்களை கேட்க செய்து பின்னர் கேட்டப் பகுதிகளை ஒன்றுச் சேர்த்து முறையாக முழுமைப்படுத்துவது தொடர் அறுந்து கேட்டல் பயிற்சியாகும்.

வகுப்பறையில் இப்பயிற்சியை மேற்கொள்ள இருவர், இருவராக குழுக்கள் பிரிக்கப்பட வேண்டும். குழுவில் ஒருவர் உரைபகுதியை கூறும்போது பிரிதொருவர் கூறுவதைக் கேட்டு எழுத வேண்டும். பிறகு வகுப்பில் உள்ள அனைவரும் சேர்ந்து தனித்தனியே எழுதப்பட்ட உரைபகுதியை ஒன்றிணைத்து முழுமையாக்க வேண்டும்.

நேர் படுத்திக் கேட்டல்

எழுத்து மொழியும் தகவல் பரிமாற்றத்திற்கு உரியதாயினும்,நேருக்கு நேர் தகவல் பரிமாற்றம் நிகழ்கிறது.நேருக்கு நேர் தகவல் பரிமாற்றத்திற்குரிய பேசுதல் பிறவகைத் தகவல் பரிமாற்றத்தை விட விளைப்பயன் மிக்கது.ஒருவர் நேரில் தரும் தகவல்கள் எழுத்து வழித்தரும் தகவல்களை விடப் பாதிப்பை அதிகமாக்கும். பேசும் பேச்சுக் காற்றோடு சென்றாலும் உள்ளத்தை ஊடுருவ வல்லதாகும். நேர்படுத்திக் கேட்கும் போது பேசுதல் திறன் மிக்கோரின் பேச்சில் வெளிப்படும் உணர்வுகளைக் கல்லாதாரும் உணர முடியும்.

கேட்டல் திறனை மதிப்பிடல்

கேட்டலுக்குரிய பாடப்பொருள் எம்முறையில் வழங்கப்பட்டாலும் கேட்டலின் போதே, கேட்டல் திறன் பெறுகின்றனர் என அறிய, உரிய தேர்வு அல்லது தேர்வோடு இணைந்த செயல்கள் வழங்கப்பட வேண்டும்.

பழகு செயல்களும் தேர்ந்தறி முறைகளும் ஒன்றுக்கொன்று தொடர்புடையவை. இவற்றுள் ஒன்றைச் சிறிது மாற்றத்துடன் வடிவமைத்தால் பிறிதொன்றாகப் பயன்படுத்தலாம். பெற்ற அறிவு மனத்தில் பதிவதற்காகப் பயன்படுபவை பழகு செயல்களாகும். மாணவர் ஈடுபட்டுச் செய்யும் வேலையாகும். பழகு செயல்களின் போது ஆசிரியர் விளக்கவுரை, நெறியுரை, துணையுரை போன்றவற்றை வழங்குகிறார். பழகு செயல்களே தேர்வு முறைகளாகப் பயன்படுத்தப்படும்போது, ஆசிரியர் நெறியுரை மற்றும் குறிப்புரை வழங்குவதோடு செயல்களில் ஈடுபடும் தன்மைக்கு ஏற்ப மதிப்பெண்கள் அல்லது தரக்குறியீடுகளை வழங்குகிறார்.

பழகு செயல்களில் மாணவர்களின் ஈடுபாடு முதன்மையாகக் கருதப்படுகிறது. தேர்வில் மாணவர் அடைவு முதன்மையாகக் கருதப்படுகிறது. பழகு செயல்களில் எடுத்துக்காட்டுகள், செயல் துணைகள் ஆகியன வழங்கப்படும். ஆனால், தேர்வில் நெறிவுரைகளோ, குறிப்புகளோ தான் வழங்கப்படும்.

பேசுதல் திறன் கற்பித்தல்

மொழிப்பாடத்தின் தலையாய நோக்கங்களுள் ஒன்று மொழியைத் திறமையாகப் பேசப்பயிற்றுதலாகும். பேச்சு, வாய்மொழியாதலால், பேச்சுப்பயிற்சியை வாய்மொழிப் பயிற்சி எனவும் கூறுவர். பேச்சுத் திறன் பெறுவதற்கு மாணவர்களைப் பேசும் செயல்களில் ஈடுபடச் செய்து, நல்ல வழியைக்காட்டி, தொடர்ந்து நல்ல பயிற்சியும் அளித்துப் பேச்சுத் திறன்பெறச் செய்தல் வேண்டும். இதனையே வாய்மொழிப் பயிற்சி எனவும் கூறுவர்.

நோக்கங்கள்

- திருத்தமாகப் பேசுதல்

- தெளிவுடன் பேசுதல்

- அச்சமின்றி பேசுதல்

- உணர்வுடன் பேசுதல்

- பிழையின்றிப் பேசுதல்

- கொச்சைச் சொற்கள் நீக்கிப் பேசுதல்

- வட்டார வழக்கை நீக்கிபேசுதல்

- பகுத்தறிவுடன் பேசுதல்

இன்றியமையாமை

பள்ளிக்கு வருவதற்கு முன்னரே, பிள்ளைகள் தம் வீட்டிலுள்ளோர், அக்கம்பக்கத்திலுள்ளோர், உற்றார் உறவினர் முதலியோருடன் பழகும் சூழல்களில் பேசுதல் திறனைப் பெறுகின்றனர். எனினும், அவர்கள் பேச்சில் பல குறைபாடுகள் காணப்படலாம். அவற்றைப் போக்குதலும் பேசுதல் திறனை வளர்த்தலும் இன்றியமையாதன வாகும்.

மாணவர்கள், முன்னுக்குப்பின் முரணின்றித் தெளிவாகப் பேசவும், தயங்கித் தயங்கி ஒவ்வொரு சொல்லாகப் பேசாமல் விரைவாகப் பேசவும், வாய்மொழிப் பயிற்சி இன்றியமையாத தாகும். விரைவாகப் பேசும்பொழுது, பொருள் விளங்கும்

படியாகத் தகுந்த இடங்களில் நிறுத்தி, மூச்சு வாங்கவும் ஏற்ற பயிற்சியளித்தல் வேண்டும். எளிமையாகவும் தன்னினைப்பின்றியும் இயல்பாகவும் பேசுவதற்கு வாய்மொழிப் பயிற்சி வாய்ப்பு தருகிறது. 'செந்தமிழும் நாப்பழக்கம்' என்னும் தொடர், பயிற்சியினால்தான் மொழியை நன்றாகப் பேசலாம் என்னும் கருத்தையே வலியுறுத்துகிறது.

வாய்மொழிப் பயிற்சியின் நோக்கங்கள்:

வாய்மொழிப் பயிற்சியின் நோக்கங்கள் பின்வருமாறு அமையும். அவை:

- ### திருத்தமாகப் பேசுதல்

முதலில் சொற்களைத் திருத்தமாக ஒலிக்கக் கற்றுத் தரவேண்டும். பின்னர்த் திருத்தமாகத் தொடர்ந்து பேசவும் பயிற்சியளிக்க வேண்டும். கூற எடுத்துக்கொண்ட கருத்தும், அதற்கேற்ற சொற்களும் அவற்றின் சரியான ஒலிப்பும் பொருத்தமாக அமையும்போது திருத்தம் ஏற்படும். தொடர்கள் பொருத்தமாக அமையாவிடில், கேட்பவருக்குத் தெளிவாகக் கருத்து விளங்காதுளூ குழப்பமே ஏற்படும். ஆதலின், திருத்தமாகப் பேசப் பயிற்றுதல் வேண்டும்.

- ### அழுத்தமாகப் பேசுதல்

சாதாரணமாக நாம் பேசும்பொழுது, சில கருத்துகளைக் கூற விரும்புகிறோம். கேட்பவர் எந்தக் கருத்தை அறிய வேண்டுமோ, அக்கருத்தைக் கூறும் சொற்களில் அழுத்தம் கொடுத்துப் பேசுகிறோம். கேட்பவரின் கவனம் அதில் செல்வதால், கருத்தை உணர்கிறார். 'வேலன் ஒன்பது மணிக்குப் பள்ளிக்குப் போனான்' என்று கூறும்போது, 'ஒன்பது மணிக்கு' என்பதில் அழுத்தம் கொடுக்கிறபொழுது, எத்தனை மணிக்குப் போனான் என்பதைக் கூற விரும்புகிறோம் என்பது தெளிவாகிறது. 'வேலன் ஒன்பது மணிக்குப் பள்ளிக்குப் போனான்' என்பதில் 'பள்ளிக்கு' என்பதில் அழுத்தம் கொடுக்கிறபோது, எங்கே போனான் என்பது தெளிவாகிறது. இவ்வாறு பேசும்பொழுது, ஒரே குரலில் சொற்களை ஒலிக்காமல், தெரிவிக்க வேண்டிய கருத்து அடங்கிய சொற்களில் அழுத்தம் கொடுத்துப் பேசப்பழக்க வேண்டும்.

- ### தெளிவுடன் பேசுதல்

மாணவர்கள் சொல்ல வேண்டிய கருத்துகளைத் தெளிவாகச் சொல்லப் பயிற்சி அளித்தல் வேண்டும். பேச்சில் ஐயத்திற்கோ, திரிபுக்கோ இடமிருத்தல் கூடாது. தெளிவற்ற தொடர் அமைதலுக்கு ஓர் எடுத்துக்காட்டு, எறும்பு வரம் கேட்ட கதை! மக்கள் காலால் நசுக்கியும் கையால் தேய்த்தும் பல எறும்புகளைக் கொன்றுவிடுகின்றனர். இவ்வாறு துன்பப்பட்ட எறும்பு, தவமிருந்து இறைவனை வணங்கி, "நான் கடித்ததும் மனிதன் சாக வேண்டும்" என்று வரம் கேட்க விரும்பியதாம். ஆனால், எதிரில் தோன்றிய இறைவனிடம் பதற்றத்தோடு "நான் கடித்ததும் சாக வேண்டும்" என்று வரம் கேட்டாம். அதனாலேதான் எறும்பு கடித்ததும் அதனை அடித்துக் கொன்றுவிடுவதாகக் கதை கூறுவர். 'நான் கடித்ததும் மனிதன் சாக வேண்டும்' என்று வரம் கேட்டிருத்தல் வேண்டும். ஆனால், எறும்பு கேட்டதில் வரத்தின் பொருளே மாறிவிட்டது. இது தெளிவற்ற பேச்சால் ஏற்பட்டநிலை. பொருத்தமான எளிய சொற்களைக் கையாளுதல், கோவைப்படுத்திப் பேசுதல், காரண காரியத் தொடர்புபடுத்திப் பேசுதல், இறுதியில் சுருக்கம் கூறல் ஆகியவை பேச்சில் தெளிவைச் சேர்க்கும்.

- ### அச்சமும் கூச்சமுமின்றிப் பேசுதல்

- ஒரு மன்றத்திலோ, அவையிலோ மேடை ஏறிப் பேசும்பொழுது பலருக்குக் கூச்சம் ஏற்படும்ஞ சிலருக்கு அச்சம் ஏற்படும். ஆனால், பல மாணவர்களுக்கு ஆசிரியரிடம் பேசும்பொழுதே அச்சமும் கூச்சமும் ஏற்படுவதுண்டு. அதனால் செய்திகளை முறையாகவும் தெளிவாகவும் கூறமுடியாமல் இடர்ப்படுவார்கள். மாணவர்களை ஆசிரியர் அருகே அழைத்து, அன்போடு பேசி, இயல்பான சூழ்நிலையை உண்டாக்கினால் மாணவர்களது கூச்சம் அகலும்.

- ### அளவறிந்து பேசுதல்

பேசுவது, இயற்கையான விரைவுடன் கூடியதாக, இயல்பானதாக இருத்தல் வேண்டும். மிகமிக நிதானமாகப் பேசினால், கேட்போருக்குச் சலிப்பும் களைப்பும் ஏற்படும். எனவே, பிறருக்குப் புரியும்படி, ஏற்ற விரைவுடன் பேசப் பயிற்றுதல் வேண்டும். பேச்சு மிகமிக விரைவாக அமையுமானால், கேட்பவருக்குக் கருத்து விளங்காது போய்விடும். அதனால், பிழைகளும் ஏற்படலாம்.

- ### உணர்வுடன் பேசுதல்

பேச்சினை மற்றவர் கவனத்துடன் கேட்க வேண்டுமானால், பேசுவது உயிர்ப்பு உள்ளதாக அமைதல் வேண்டும். பேச்சுக்கு உயிர்ப்புத் தருவன குரலின் ஏற்றத் தாழ்வு, நகைச்சுவை, அளவோடு பேசுதல் ஆகியன. பேசப்படும் பொருளின் தன்மை, கேட்பவரின் மனப்பக்குவம் ஆகியவற்றிற்கேற்ப விரைவு மாறும். கணக்குப் பாடத்தை விளக்கும்பொழுது விரைவு இருத்தல் கூடாது. ஆனால், கதை சொல்லும்பொழுது, இடத்திற்கு ஏற்றாற்போல் விரைவாகவும் மெதுவாகவும் கூற வேண்டும்.

- ### பிழையின்றி பேசிப் பழகுதல்

வாய்மொழிப் பயிற்சியின்போது பிழையான ஒலிகளையும் கொச்சைச் சொற்களையும் நீக்கிப்பேசப் பயிற்சியளித்தல் வேண்டும். இவை தவிர, கருத்துகளை முறையாகக் கூறாமை, முன்னுக்குப்பின் முரண்படப் பேசுதல் ஆகிய பிழைகளும் மாணவர்கள் பேச்சில் எழுதல்கூடும். வாய்மொழிப் பயிற்சியளிக்குமுன்னர், கருத்துகளை நிரல்பட எழுதிவைத்துக் கொள்ளுதல், எவற்றை முன்னர்க் கூற வேண்டும், எவற்றைப் பின்னர்க் கூற வேண்டும் எனத் திட்டமிடச் செய்தல், பயிற்சியளித்தல் வேண்டும். பிழையின்றிப் பேசப் பழக்குதல், வாய்மொழிப் பயிற்சியளிப்பதன் நோக்கங்களுள் ஒன்றாகும்.

- ### சொற்களஞ்சியப் பெருக்கம்

சொற்களின் தொகுதி எனப் பொருள்படும் சொல் ஷசொற்களஞ்சியம்'. மொழியைக் கையாளுவதற்கு அதனுள் அமைந்த சொற்களின் அறிவு இன்றியமையாததாகும். மொழியின் கூறுகளாக எழுத்து, சொல், தொடர் போன்றன இருப்பினும் பொருள் முழுமையாகத் தரும் மொழியின் அலகு சொல்லாகும். மேலும் கருத்தினைச் சிந்தனையில் பதிப்பதற்குரிய மொழிக் கூறு சொல்லாகும். ஒரு மொழியிலுள்ள எழுத்துகள், தொடர் அமைப்புகள் போன்றவற்றை அறியாத நிலையிலும் சொற்களைக் கொண்டு ஓரளவு அந்த மொழியைக் கையான முடியும். பொருண்மைகள் சொற்களை அலகாகக் கொண்டே அமைக்கின்றன. சொற்களஞ்சியத்தைப் பெருக்க, கற்பித்தல் நிலையில் அவற்றின் ஒலிப்பு, பொருள் கூறுகள் மற்றும் தொடர்புகள்

ஆகியவற்றை அறிவதோடு அவற்றைக் கற்பிக்கும் முறைகளையும் சொற்களஞ்சிய அறிவைத் தேர்ந்தறி முறைகளையும் ஆசிரியர்கள் பெறுதல் வேண்டும்.

பொருள் தரும் முழுமைக் கூறாக அமையும் சொற்களை ஒலிப்பு, தோற்றம், பயன்பாடு, பொருட் கூறுகள், பொருள் தொடர்புகள், உருவாக்கம் ஆகியவற்றின் அடிப்படையிலும் கற்பித்தல் வேண்டும்.

திருந்திய பேச்சின் பொருந்திய நல்லியல்புகள்

நன்றாகக் கல்வி கற்று, அறிவில் சிறந்தவரைப் பொன்மலருக்கு ஒப்பாகக் கூறுவர். அறிவில் நிறைந்து சிறந்த அவர், தம் கருத்தை எடுத்துக்கூறும் மொழித்திறனையும் பெறுவாராயின், அப் பொன்மலர், மணமும் பெற்றுச் சிறப்பைப் பெற்றதற்குச் சமமாகும் என்று கூறுவர். அதனையே நாம் திருந்திய பேச்சு என்கிறோம். ஷகல்விக்கழகு கசடற மொழிதல்' அன்றோ? இனித் திருந்திய பேச்சின் நல்லியல்புகளைப் பின்வருமாறு.

- ### தெளிவான ஒலிப்பு

  தமிழ்மொழியில் ஏறத்தாழ ஒத்த ஒசையுடைய எழுத்துகள் உள்ளன. ல, ள, ழ ∴ ன, ந, ண ∴ ர, ற போன்ற எழுத்துகள் அமைந்த சொற்களை ஒலிக்கும்பொழுது, மிகுந்த கவனத்துடன் இருக்கவேண்டும். இல்லையெனில் பொருள் மாறுபடும். பெரும்பிழை ஏற்படும். ஷநன்றாகப் பார்த்துக் கொள்ள வேண்டும்' என்பதை ஷநன்றாகப் பார்த்துக் கொல்ல வேண்டும்' எனக் கூறினால் எத்துணை தீமை விளையும்! ஒலி தவறாயின், மொழியின் உயிரே போனதுபோலாகும். சிறந்த பேச்சு, தெளிவான ஒலிப்பும் திருத்தமான உச்சரிப்பும் உடையதாய் விளங்குதல் வேண்டும்.

- ### குரலில் ஏற்றத்தாழ்வு

  கருத்துகளைக் கூறும்பொழுது, ஒரே குரலில் பேசுவதால் கேட்பவர்க்குச் சலிப்பு ஏற்படும். அது மட்டுமன்றுஉ ஏற்ற உணர்ச்சியோடு அவற்றை அறிந்துகொள்ளவும் முடியாது. சினத்துடன் பேசப்படுகின்ற தொடர்களையும், இரங்கி வேண்டுதல் உணர்ச்சியோடு பேசப்படும் தொடர்களையும் குரல் ஏற்றத் தாழ்வால் உணர்த்த வேண்டும். இவ்வாறு பேசுங்கால், கேட்போர் விரும்பிக் கேட்பர். எனவே, குரல் ஏற்றத்தாழ்வுடன் பேசுதல் திருந்திய பேச்சின் நல்லியல் பாகும்.

- ### வெற்றுச் சொல் தின்மை

தொடர்ச்சியாகப் பேசும்பொழுது, சில குழந்தைகள் தேவையில்லாத, பொருளற்ற சொற்களை இடையிடையே சேர்த்துப் பேசுவர். கருத்தினைத் தொடர்பாகக் கூற முடியாமையாலும், உணர்ச்சி மிகுதியாலும் இவ்வாறு ஏற்படக் கூடும். ஷஆங்........, ஆங்.........' என்னும் ஷஉம்....., உம்......' என்றும் சில ஒலிகளைப் பேச்சின் இடையிடையே எழுப்புதலுண்டு. வேண்டாத ஒலிகளைப் போலவே தேவையற்ற சொற்களையும் சிலர் சேர்த்துப் பேசுவர். ஷவந்து......., வந்து.......', ஷஅப்புறமா.........' ஷபாருங்க......' ஷஎன்னென்னா......' போன்ற பல சொற்கள் தேவையற்றனவாய்ப் பேச்சின் இடையே வழங்கப்படுகின்றன. குழந்தைப் பருவத்தில் பேசும்பொழுது எண்ணிப் பார்த்து இவற்றைத் தவிர்க்காததால், பெரியோர் சிலரது பேச்சிலும் நாம் இவற்றைக் காணலாம்.

- ### கொச்சை தவிர்த்தல்

படிக்காத சென்னைப் பாமர மக்கள் "பி' தண்ணிய எடுத் மூஞ் கழுவிகினா, ஜல்பு புடிச்சி போச்" என்று பேச்சு வழக்கில் சொற்களைச் சிதைத்துப் பேசுவர். (பச்சத் தண்ணிய எடுத்து மூஞ்சியைக் கழுவிக் கொண்டான். அதனால் ஜலதோ'ம் பிடித்துக் கொண்டது). இவ்வகைச் சொற்களைக் கொச்சைச் சொற்கள் என்பர். ஷஇது பயசா, புச்சா, பச்த் தண்ணி குட்ச்சேன், ஷசங்கியே அத்துகிணு ஓடிப்பூட்டான்' என்பன கொச்சைச் சொற்கள் அமைந்த தொடர்களாம். ஷபோய் விட்டான்' என்பதைப் ஷபூட்டான்' என்பதுபோல விரைவாகப் பேசுவதாலும் சொற்கள் கொச்சையாக மாறலாம். கொச்சை வடிவங்களையும் திருந்திய வடிவங்களையும் ஒலித்துக்

- ### வேகமுடன் பேசுதல்

வேகமான பேசுதலில் ஏற்படுவது சொல் நெருக்கம், அல்லது சொற்செறிவு என்பதும் குற்றமாகும். அதனால், சொல் தடுமாற்றம் ஏற்படுகிறது. மேலும், சொற்களின் திருந்திய வடிவம் சிதைந்தும் போகலாம். ஷகொண்டு வா' என்பது ஷகொண்டா' எனவும் ஷகேட்டீர்களா' என்பது ஷகேட்டியளா' எனவும் விரைவான பேச்சில் அமையும். இப் பிழைகளைத் தவிர்க்க, நிறுத்தி நிதானமான வேகத்துடன் பேசப் பயிற்சி தர வேண்டும்.

- ### பிழையின்றிப் பேசப் பழகுதல்

சொற்களைத் தவறாகக் கேட்பதாலும், தவறாக ஒலிப்பதாலும் மாணவர்கள் பிழைபடப் பேசுவார்கள். வாய்மொழிப் பயிற்சியின்போது பிழையான ஒலிகளையும் கொச்சைச் சொற்களையும் நீக்கிப்பேசப் பயிற்சியளித்தல் வேண்டும். இவை தவிர, கருத்துகளை முறையாகக் கூறாமை, முன்னுக்குப்பின் முரண்படப் பேசுதல் ஆகிய பிழைகளும் மாணவர்கள் பேச்சில் எழுதல்கூடும்.

- ### திருந்திய பேச்சு

தம் உள்ளத்தில் தோன்றும் கருத்துகளை, சொல்ல விரும்பும் தகவல்களை மற்றவருக்கு எடுத்துக் கூறும் நோக்கத்துடன் மக்களால் படைத்துக் கொள்ளப் பெற்றதே மொழி. தெளிவான ஒலிப்பு, திருத்தமான உச்சரிப்பு, இடத்திற்கு ஏற்ற குரல் எடுப்பு ஆகியவற்றைத் திருந்திய பேச்சின் நல்லியல்புகளாகக் கொள்ளலாம். பேசும்பொழுது விரைவு, அச்சம், கூச்சம், படபடப்பு முதலியன இல்லாமல் தன்னம்பிக்கையோடு, உணர்ச்சி வெளிப்படும் வகையில் பேசினால், பேச்சு சிறப்படையும். பேசுகிற பேச்சிலும் இலக்கண நூலார் கூறும் "கூறியது கூறல், மாறுகொளக் கூறல், குன்றக் கூறல், மிகைபடக் கூறல், வெற்றெனத் தொடுத்தல், சென்று தேய்ந்திறுதல், வழுஉச்சொல் புணர்த்தல், மயங்கவைத்தல் மற்றொன்று விரித்தல்" முதலிய குற்றங்களை நீக்கவேண்டும்.

திருத்தமில்லாப் பேச்சில் தென்படும் குறைகள்

- ### திருத்தமில்லாப் ஒலிப்பு

சிலர் பேசுகின்றபொழுது எழுத்துகளைத் திருத்தமாக ஒலிப்பதில்லை. பெரும்பான்மையும் ன,்ண ல,்ள,்ழ ஆகிய எழுத்துகள் அடங்கிய சொற்களைப் பேசும்பொழுது பிழை செய்வர். சிறு குழந்தைகளாக இருக்கும்பொழுது இவை திருத்தம் பெறாவிடின் பெரியவர்களான பின்பு திருத்த முடியாமற் போய்விடுகிறது. இவ்வாறு திருத்தமின்றி ஒலிப்பதால் சொல் குறிக்கின்ற பொருள் மாறிவிடவும் கூடும். மனம் என்பதை மணம் என்றும், அழகு என்பதை அலகு என்றும் ஒலித்தல்

பிழையின்றோ? இவ்வாறு பிழை ஏற்படாமல் இருக்கப் பொருள் வேறுபாடு காட்டும் சிறப்பொலிகள் அடங்கிய தொடர்களை எழுதிப் படிக்கச் செய்து பயிற்சியளித்தல் வேண்டும்.

- **குரல் ஏற்றத்தாழ்வு**

கூறப்படும் கருத்துக்கேற்றவாறும் பகுதியின் உணர்ச்சிக் கேற்றவாறும் குரல் ஏற்றத்தாழ்வுடன் பேசாதது ஒரு பெரும் குறையாகும். ஒரு மேற்கோளையும் பகுதியையும் ஒரே குரலில் பேசுவதால் கருத்து விளக்கம் ஏற்படாது. மேலும் குரலை மாற்றிக் கொண்டு கரகரத்த குரலிலோ, மெல்லிய குரலிலோ பேசுவதும் ஒரு குறையேயாகும்.

- **கொடுஞ்சொல்**

தமிழ்நாட்டின் எல்லாப் பகுதிகளிலும் வழங்கும் சொற்களைச் செந்தமிழ் சொற்கள் என்றும் ஒரு பகுதியில் மட்டுமே வழங்கும் சொற்களைக் கொடுந்தமிழ்ச் சொற்கள் என்றும் கூறுவர். இவற்றையே வட்டார வழக்குச் சொற்கள் என்றும் கூறுவதுண்டு. எடுத்துக்காட்டாக, திருநெல்வேலி மாவட்டத்தில் சமையலறையை அடுக்களை என்றும், நெருப்பைக் ஷகங்கு' என்றும் வழங்குவர். தஞ்சை மாவட்டத்தினர் சாக்கடையை மோரி என்றும், உப்பை வலணம் என்றும் வழங்குவர். இவ்வாகையான கொடுஞ் சொற்களைத் தவிர்த்து அனைவரும் அறிந்து கொள்ளக்கூடிய செந்தமிழ் சொற்களைப் பேசப் பயிற்றுதல் வேண்டும்.

- **வேகம்**

வேகமாக பேச்சில் ஏற்படுவது சொல் நெருக்கம் அல்லது சொற் செறிவு என்னும் குற்றமாகும். அதனால் சொல் தடுமாற்றம் ஏற்படுகிறது. மேலும், சொற்களின் திருந்திய வடிவம் சிதைந்தும் போகலாம். ஷகொண்டு வா' என்பது ஷகொண்டா' எனவும் கேட்டீர்களா என்பது ஷகேட்ளா' எனவும் விரைவான பேச்சில் அமையும். இப்பிழைகளைத் தவிர்க்க நிறுத்தி நிதானமான வேகத்துடன் பேசப் பயிற்சி தர வேண்டும்.

- **அச்சம், கூச்சம்**

அறிந்தவர்களாய் இருப்பினும் பலர் முன்னிலையில் தனியாக நின்றும், அறியாதவர் முன்னிலையிலும் பேசுவதற்குச் சிலர் கூச்சப்படுவர். அவர்கட்கு அச்சமும் ஏற்படுதல் கூடும். அதனால் படபடப்பாய்ப் பேசுவர்ஊ அல்லது ஒன்றுக்கொன்று மாற்றிப் பேசுவர் அதனால் பேசும்பொழுது அச்சடத. கூச்சம் ஏற்படுவது ஒரு குறையாகும்.

- **கால தாமதம்**

சிலர் பேசும்பொழுது இடையில் நிறுத்தி நிறுத்திக் கால தாமதம் செய்து பேசுவர்ஊ கருத்துகளை ஒழுங்குபடத் தயாரித்துக் கொள்ளாததாலும், சபையைக் கண்டு ஏற்படும் அச்சத்தாலும் இவ்வாறு நிறுத்திப் பேசுதல் ஏற்படலாம். அவ்வாறு பேசுவதால் கேட்பவருக்குச் சலிப்பு ஏற்படுவதுடன் கருத்துகளையும் முறையாகக் கேட்டு அறிய முடியாது.

- **தக்க சொல் இன்மை**

வள்ளுவர் சொல்வன்மை பற்றிக் கூறுகின்றபொழுது

ஷசொல்லுக சொல்லிற் பயனுடைய சொல்லற்க

சொல்லிற் பயனிலாச் சொல்'

எனப் பாடியுள்ளார். கருத்துக்கேற்ற பயனுடைய சொற்களைத் தேர்ந்து எடுத்துப் பேசாமை ஒரு பெருங்குறையாக அமைந்துவிடும்.

- **உணர்ச்சி**

சொல்லுகின்ற கருத்தோடும் அதன் உணர்ச்சியோடும் ஒன்றுபட்டுப் பேசாது ஒரே குரலில் பேசுதல் ஒரு குறையாகும். கேட்பவர்க்கு சலிப்பு ஏற்படும்.

- **சொற்றொடர்க் குற்றங்கள்**

எழுவாய், பயனிலை பொருத்தமின்மை. ஒரு தொடரில் எழுவாய்க்கேற்றபடி பிற சொற்கள் அமைக்காமை. மொழியின் மரபறிந்து தொடர்களைப் பயன்படுத்தாமை, சொற்களில் சில எழுத்துகளை ஒலிக்காது விடுதல் முதலியன சொற்றொடர் குற்றங்களாம். இவை ஏற்படாது பேசுதல் வேண்டும்.

- **பத்துவகைக் குற்றங்கள்**

நன்னூல் என்னும் இலக்கண நூலைத் தந்த பவணந்தி முனிவர் ஒரு நூலில் ஏற்படும் பத்துவகைக் குற்றங்களைத் தொகுத்துக் கூறியுள்ளார். அவை பேச்சுக்கும் பொருத்தமானவையாம். கருத்தைக் குறைவுடக் கூறுதல், அதிகமாக விளக்குதல், கூறியதை மீண்டும் மீண்டும் கூறுதல், முன்னுக்குப்பின் முரண்படக் கூறுதல், குற்றமுடைய சொற்களைக் கூறுதல், இதுவோ அதுவோ என மயக்கம் ஏற்படும்படி பேசுதல், கருத்துச் செறிவு இல்லாதது வெறும் சொற்களைத் தொகுத்தல், ஒன்றைக் கூறத் தொடங்கி மற்றொன்றைப் பற்றிப் பேசுதல், முதலில் விரிவாகத் தொடங்கிப் போகப் போகக் கருத்து குறைந்து வருதல், சொற்களிலிருந்தும் ஒரு பயனும் இல்லாது போதல் ஆகியன பத்துக் குற்றங்களாகும். இவை ஏற்படாமல் பார்த்துக் கொள்ள வேண்டும்.

- **உடல்நலக் குறைவு**

உடல் உறுப்புகளின் குறைபாடுகளாலும், உடல் நலக் குறைவாலும் திருத்தமில்லாப பேச்சு ஏற்பட வழியுண்டு. மூக்கில் சதை வளர்ச்சி, தொண்டையில் சதை வளர்ச்சி, திக்குவாய் போன்றவை திருத்தமில்லாப் பேச்சுக்குக் காரணங்களால் அமையலாம்.

நா நெகிழ் பயிற்சிகள்

ஒரே வகையான சொற்கள் அல்லது ஒலிகளைப் பலமுறைக் கூறுமாறு செய்தல் நா நெகிழ் பயிற்சியாகும். இதனால், நாவின் நுனி மேலும் கீழுமாக அசைந்து அவ்வொலிக்குரிய இடத்தில் அமையும் பயிற்சி பெறும். ஒலியை எழுப்பும் முறை திருத்தமடையும்.

ர, ர, ர, ர, ர, ர, ரா

ல ல ல ல ல ல லா

ள ள ள ள ள ள ளா என்று அகர ஒலியுடனும், பின்னர்,

ரி, ரி, ரி, ரி, ரி, ரி, ரீ

ழி ழி ழி ழி ழி ழி ழீ

னி னி னி னி னி னி னீ

ணி ணி ணி ணி ணி ணி ணீ என்று இகர ஒலியுடனும் இவ்வாறு வெவ்வேறு உயிரெழுத்துடன் சேர்த்துக் கூறச் செய்து பயிற்சியளிக்க வேண்டும்.

2. ஒரே ஒலி பலமுறை அமைந்த சொற்கள் கூறல்

ஷல' ஒலி

(அ) அவன் நல்லவன் அல்லன்

சொல்லொன்று சொல்லேன்

கல்லிலிருந்து எடுத்தான்

    (ஆ) ஷள' ஒலி

தள்ளும் உள்ளம்

தள்ளாடித் தள்ளாடிச் சென்றான்

பள்ளத்தில் உள்ள முள்ளெடு

(இ) ஷழ' ஒலி

கீழே விழுந்து அழுதான்

ஏழைக்கிழவன் வாழைப்பழம் வழுக்கி விழுந்தான்

கொழு கொழுத்த வாழை

 (ஈ) ஷற' ஒலி

காற்றில் கீற்று விழுந்தது

ஊற்று நீர் கொண்டு வா

காற்று திசை மாறி மாறி வீசியது.

இம்முறைகளைப் பின்பற்றி மாணாக்கருக்கு வாய்மொழிப் பயிற்சியளித்து பேச்சில் வல்லவராக்குதல் வேண்டும்.

நா பிறழ் பயிற்சிகள்

ஏறத்தாழ ஒத்த ஒலியுடைய சொற்கள் அடுத்தடுத்து வரும் சொற்கள் அமைந்த தொடர்களை விரைவாகவும் பிழையின்றியும் கூறுமாறு பயிற்சியளிப்பதுதான் நா பிறழ் பயிற்சியாகும்.

எடுத்துக்காட்டாகக் கீழ் உள்ள தொடர்களைக் கூறச் செய்யலாம்.

❖ அவனும் அவளும் அவலும் தெள்ளு மாவும் தின்றார்கள்.

❖ மேல் ஏழு ஓலை, கீழ் ஏழு ஓலை ஆகப் பதினான்கு ஓலை.

❖ வில்வேருழுவர் பகை கொளினும் கொள்ளற்க சொல்லேருழுவர் பகை.

❖ பலாப்பழம் பழுத்துப் பள்ளத்தில் விழுந்தது.

❖ மனம் இசைந்த மணம்.

❖ பணம் பழம் பணம், பழம் பனம் பழம்.

எழுத்துகளின் ஒலி வேறுபாட்டால் பொருள் வேறுபடும். அதனை மாணவர் ஒலி அறிந்து கொள்வதற்கு தவலை, தவளை எனச் சொற்களைக் கூறச்செய்வதுடன் அவற்றின் பொருள் உணரும் வண்ணம் தொடர்களின் அமைத்துக் கூறச் செய்தல் வேண்டும்.

❖ தண்ணீர் எடுப்பது தவலை

❖ தண்ணீரில் இருப்பது தவளை

❖ வாளை என்பது மீனின் பெயர்

❖ வாழை என்பது மரத்தின் பெயர்

இவை போன்ற வலை, வளை, வலி.∴.வளி.∴.வழி, ஒலி.∴.ஒளி.∴.ஒழி, கூரை.∴.கூறை, இரங்கு.∴.இறங்கு முதலானவற்றை வாக்கியங்களில் அமைத்துக் கூறினால் ஒலிப்பு அறிவதுடன் பொருளும் அறிவர்.

பேசுதல் திறனை வளர்க்கும் பயிற்சிகள்

மிக விரைவாகப் பேசினால், நாம் என்ன பேசினோம் என்பதனை கேட்பவர் அறிந்து கொள்ள முடியாது. மிக மெதுவாகப் பேசினால், கேட்பவருக்குச் சலிப்பு உண்டாகும். எனவே, கூறப்படும் செய்திக்கு ஏற்ற வேகத்துடன், பொருள் விளங்கும் பகுதிகளில் நிறுத்திப் பேச வேண்டும். தேவையான வேகத்தோடு விவேகமாவும் பேசுதல் வேண்டும். மேடையில் பேசும்போது, ஒரே குரலில் உணர்ச்சியின்றிப் பேசினால், கேட்போருக்குச் சலிப்பு ஏற்படும். உணர்ச்சியற்ற பேச்சு, உப்பில்லா உணவுக்குச் சமம் எனலாம். கோபத்தை உணர்த்தும் சொற்களைக் கூறும்பொழுதும், இரக்க உணர்ச்சியை வெளிப்படுத்தும் பொழுதும் அந்தந்த உணர்ச்சிக்கேற்பப் பேசுதல் வேண்டும். இவ்வாறு பேசுவதற்குத் தாம் பேசும் கருத்துகளுடனும், செய்திகளுடனும் பேசுபவர் ஒன்றுபட்டவராதல் வேண்டும்.

● **பேச்சில் அமைதி**

சிலர் உணர்ச்சி வயப்பட்டுப் படபடப்புடன் பேசுவர். அவ்வாறு பேசினால், கேட்பவர் கருத்தினை நன்கு உணர்ந்து கொள்ளுதல் முடியாது. எனவே, அமைதியாகப் பேசுதல் வேண்டும். ஒருவர் பேசவிருக்கும் கருத்துகளை, செய்திகளைப் பற்றி நன்கு அறிவாராயின், அவருக்குத் தன்னம்பிக்கை ஏற்படும். அப்பொழுது அவர் அமைதியாகக் கருத்துகளை எடுத்துக் கூறுவார்.

● **நடையும் மொழியும்**

● ஒருவருடைய கருத்து வளத்துக்கும் உணர்ச்சிக்கும் ஏற்ப அவருடைய மொழியும் நடையும் அமையும். அவரைப்போல் பேச வேண்டும். இவரைப்போல் பேசவேண்டும் என்னும் எண்ணத்துடன் தொடர்களைப் பேசத் தொடங்கினால் அது இயல்பான பேச்சாக அமையாது. கருத்துகளை ஒழுங்குபடுத்திக் கொண்டபின், சிறுசிறு தொடர்கள்மூலம்

அவற்றை வெளியிட வேண்டும். தமிழில் பேசும்பொழுது, தூய தமிழ்ச் சொற்களைக் கையாளுதல் வேண்டும்.

• குற்றமில்லாது கருத்துக் கோவையாகப் பேசுதல்

முன்னர்க் கூறியபடி ஒலிப்புக் குற்றமோ, சொற் குற்றமோ, பொருள் குற்றமோ, முன்பின் முரணாகப் பேசும் குற்றமோ அமையாது பேசுவதே திருந்திய பேச்சாகும். பேசத் தொடங்குமுன் கருத்துகளை வரிசைப்படுத்தி வைத்துக் கொள்ளுதல் வேண்டும். முதலில் கூறவேண்டிய கருத்துகளை முதலிலும், தொடர்ந்துகூற வேண்டியவற்றை இடையிலும், இறுதியில் கூற வேண்டியவற்றை இறுதியிலும் கூறுதலே கருத்தைக் கோவையடப் பேசுதலாகும்.

• பத்து அழகு பொருந்துதல்

நன்னூல் என்னும் சிறப்புமிக்க தமிழ் இலக்கணம் தந்த பவணந்தி முனிவர், ஒரு நூலில் பொருந்தியிருக்க வேண்டிய பத்து அழகுகளைக் கூறியுள்ளார். அவை அடுத்து வரும் இயலில் விரிவுரை முறையில் விளக்கப்படுகிறது.

• உவமைகளும் மேற்கோள்களும்

"தலைவனும் தலைவியும் ஒன்றுபட்டு வாழ்ந்தனர்" என்பதைவிட, "அவர்கள் நகமும் சதையும் போல, மலரும் மணமும்போல வாழ்ந்தனர்" எனக் கூறுவது சுவையுடையதாக உள்ளதன்றோ? நல்ல பொருத்தமான உவமைகள் பேச்சில் அமைவது சிறப்பாக இருக்கும். அத்துடன், கருத்தைக் கூறும்பொழுது, சிறந்த சான்றோர் எழுதிய நூலிலிருந்து மேற்கோள் கூறுவது என்பது அவருடைய பேச்சுக்கு ஓர் உறுதியைச் சேர்க்கும். "நண்பருக்குத் துன்பம் ஏற்பட்டால் நாம் உடனே சென்று உதவவேண்டும்" என்று வெறுமையாகக் கூறாது,

"உடுக்கை இழந்தவன் கைபோல ஆங்கே

இடுக்கண் களைவதாம் நட்பு"

என வான்புகழ் வள்ளுவர் கூறியுள்ளார் என மேற்கோள் கூறுவது பேச்சைச் சுவையுடையதாக்கும்.

• நற்பண்புகள்

ஒருவரது பேச்சு கேட்பவரைத் தம்பால் ஈர்ப்பதாக, கட்டுப்படுத்துவதாக அமைதல் வேண்டும். கேட்பவர்பால் அன்போடு, இனிமையான சொற்களை நகைச்சுவை கலந்து பேசினால், கேட்பவர் இன்பம் பெறுவர்ஃ பேச்சில் ஈடுபாடு காட்டுவர். வள்ளுவர் சொல்லாற்றலைப் பற்றிக் கூறும்பொழுது,

"கேட்டார்ப் பிணிக்கும் தகையவாய்க் கேளாரும்

வேட்ப மொழிவதாம் சொல்"

என்று திருவள்ளுவர் தெளிவுடைக் கூறியுள்ளார். எனவே, ஒருவரது பேச்சு, கேட்பவரைப் பிணிப்பதாக அமைதல் வேண்டும் என்பதைத் தெளியலாம்.

- **தக்க சொல் இன்மை**

ஓஒருவனுக்குப் பேச்சாற்றல் கைவரப் பெற்றிருத்தல் வேண்டும்' என்பதனை விளக்கவந்த வள்ளுவர் ஓசொல்வன்மை' பற்றிக் கூறுகின்றபொழுது,

"சொல்லுக சொல்லிற் பயனுடைய சொல்லற்க

சொல்லிற் பயனிலாச் சொல்"

எனப் பாடியுள்ளார். ஓகருத்துக்கேற்ற பயனுடைய சொற்களைத் தேர்ந்தெடுத்துப் பேசாமை, ஒரு பெருங்குறையாக அமைந்து விடும்' என்பதே இவ்வாறு தெளிவுபடுத்தப்பட்டுள்ளது.

உணர்ச்சி

சொல்லுகின்ற கருத்தோடும் அதன் உணர்ச்சியோடும் ஒன்றுபட்டுப் பேசாது, ஒரே குரலில் பேசுதல் என்பது பெருங்குறையாகும். உணர்ச்சியற்ற பேச்சு, கேட்பவர்க்குச் சலிப்பையே ஏற்படுத்தும்.

- **சொற்றொடர்க் குற்றங்கள்**

சொற்றொடர்க் குற்றங்களுள் தவிர்க்கப்பட வேண்டியது எழுவாய், பயனிலை பொருத்தமின்மையேயாகும். ஒரு தொடரில் எழுவாய்க்கு ஏற்றபடி பிற சொற்களை அமைக்காமை, மொழியின் மரபுஅறிந்து தொடர்களைப் பயன்படுத்தாமை, சொற்களில் சில எழுத்துகளை ஒலிக்காது விட்டுவிடுதல் முதலியன சொற்றொடர்க் குற்றங்களாகும். இவ்வகைச் சொற்றொடர்க் குற்றங்கள் ஏற்படாது பேசுதல் வேண்டும்.

மாணவர்கள் பெற வேண்டிய மொழித்திறன்கள்

- ➢ பொருத்தமான அடைமொழிச் சொற்கள், உரிய கலைச் சொற்கள் கலந்து பேசுதல்.

- ➢ பிறமொழிச் சொற்களைக் கலவாது பேசுதல்.

- ➢ வரவேற்புரை, பாராட்டுரை, நன்றியுரை ஆற்றல்.

- ➢ கலந்துரையாடல்.

- ➢ மாணவர்கள் செயல்பாடுகள்

- ➢ பொருத்தமான தலைப்புகளில் பேசச் செய்தல்.

- ➢ முன் தயாரிப்புடைய சொற்பொழிவுகளைப் பேசச்செய்து - சொற்பொழிவில் மேற்கோள், கருத்து வலியுறுத்தல், ஏதுக்கள் காட்டல் போன்ற கூறுகளை அமைத்துப் பேசச் செய்தல்.

பேசுதல் திறனை மதிப்பிடல்

சொற்களஞ்சியத்தைப் பெருக்கம் வழிகள் பல. அவை பேசுதல் திறனை வளர்க்கப் பயன்படுவனவாகும். அவை முறையே, 1. படம் பார்த்து விளக்குதல், 2. செயலெதிராகப் பேசுதல், 3. தொடர் நிகழ்வாகப் பேசுதல், 4. சொல் விளக்கப் புனைவு, 5. சூழ்நிலைகள்ப்

பேச்சு, 6. பாத்திரப் புனைவு, 7. பட்டிமன்றம் இப் பழகு செயல்கள் பேசுதல் திறனை வளர்ப்பனவாகும். இவை வகுப்பிற்கேற்பத் தரப்படுத்தப்பட்டு வழங்கப்பட வேண்டும்.

- ## படம் பார்த்து விளக்குதல்

படம் பார்த்து விளக்கம் சொல்லும் பழகு செயல், தொடக்க வகுப்புகளுக்கு மட்டுமல்லாமல் நடுநிலை, மேல்நிலைப் பள்ளி மாணவர்களுக்கும் வழங்கப்படலாம்.

- ## செயலெதிராகப் பேச்சு

ஷெசயலெதிராகப் பேசுதல்' எனும் பழகு செயலில், இருவர் பேச வேண்டும். ஒருவர் பேசுவதற்கு மாற்றுரையாக இன்னொருவர் பேச வேண்டும். மாற்றுரை, எதிர்மறைக் கூற்று, எதிர்ச்சொல் கூற்று, அந்தாதிக் கூற்று, வாக்கிய அளவு மாற்றும் போன்றனவாக அமையலாம். மாற்றுரையைப் பாடப் பொருள் தேவைக்கேற்ப உருவாக்கலாம்.

எ-கா: எதிர்மறைக் கூற்று

ஒருவர்: நேற்று நான் படித்தேன்.

மற்றொருவர்: நேற்று நான் படிக்கவில்லை.

- ## தொடர் நிகழ்வுப் பேச்சு

இருவர் பங்கேற்கத் தக்கவாறு மேலே காட்டப்பெற்ற பழகு செயல்களைக் குழுவிற்கும் வடிவமைக்கலாம். வரிசை முறையில் ஒவ்வொருவராக வரையறுத்த முறைப்படி பேசுதல் வேண்டும். இப்பழகு செயலில் ஷெஅந்தாதியாகப் பேசுதல்' மிகவும் விறுவிறுப்பையும் ஆர்வத்தையும் ஏற்படுத்தும்.

- ## சூழ்நிலைப் புனைவுப் பேச்சு

சூழ்நிலைப் புனைவுப் பேச்சும், பேசுதல் திறனில் மேம்பட்ட நிலையாகும். ஒரு சூழலைச் செயற்கையாகக் கொண்டு பேசப்படும் பேச்சு, சூழ்நிலைப் பேச்சு ஆகும்.

கடைக்காரர் - பொருள் வாங்குபவர்

பேருந்து ஓட்டுநர் - நடத்துநர்

ஆசிரியர் - மாணவர்

நேர் காண்பவர் - நேர்காணி

போன்று, இருவர் எதிர்ப்படும் சூழலைச் செயற்கையாகக் கொண்டு, அச்சூழலில் மாணவர்களைப் பேச்சசெய்து பேசுதல் திறனை வளர்க்கலாம்.

- ## பாத்திரப் புனைவுப் பேச்சு

பாத்திரப் புனைவுப் பேச்சும் சூழ்நிலைப் புனைவுப் பேச்சினைப் போன்றதாகும். சூழ்நிலைப் புனைவுப் பேச்சில் நடைமுறை வாழ்க்கை நிகழ்ச்சிகள் கற்பனையாகக் கொள்ளப்படுகின்றன. பாத்திரப் புனைவு நாடகப் பாங்கினைப் போன்றது. பேச்சோடு மெய்ப்பாடும் இணைந்தவாறு செயல் நிகழ்கிறது.

- **பட்டிமன்றம்**

இது பள்ளிகளில் நடைபெறும் பட்டிமன்றம் போன்ற கலை நிகழ்ச்சிகளில் மாணவர்களைப் பங்கேற்கச் செய்து பேச்சுத் திறனை வளர்க்கலாம். தொடக்க வகுப்புகளில், வகுப்பறை அளவில் கலை, இலக்கிய நிகழ்ச்சிகளை ஏற்படுத்தி, குழந்தைகளைப் பங்கேற்கச் செய்யலாம்.

பேசுதல் திறனைத் தேர்ந்தறியும் முறைகள்

பேசுதல் திறனை அளக்க வாய்மொழித் தேர்வே ஊடகமாக அமையும். எழுதுமுறை பயன்படாததால் நடைமுறையில் இத்திறன் தேர்வு செய்யப்படாமலுள்ளது. தேர்வில் இடம் பெறாததால் மொழிக் கற்பிப்பில் இத்திறன் தவிர்க்கப்பட்டு வருகிறது.

கருத்தாடல், பட விளக்கம் கூறுதல், பாத்திரப் புனைவில் பேசுதல் போன்றன பேச்சுத் திறனை வளர்க்கும் செயல்பாடுகளாகும். இச்செயல்பாடுகளில் பங்கேற்றுப் பேசும்போது அமையும் துல்லியம், பேச்சுச் சரளம் ஆகியன பேசுதல் திறனை அளக்கும் அளவீடுகளாகும். துல்லியம், சரளம் ஆகியனவற்றை அளவீடாகக் கொள்ளும்போது இவற்றின் உட்கூறுகளை வரையறுக்க வேண்டும்.

முறையான ஒலிப்பு, பொருத்தமான சொல்லாட்சி, இலக்கணமுடைமை ஆகியன பேச்சுத் துல்லியத்தின் கூறுகள். உரிய விரைவு (தயக்கமின்மை), முன்பின் தொடர்பு, உடனுக்குடன் பதிலுரைத்தல் ஆகியன சரளத்திற்குரிய கூறுகளாகும். பேசுதல் திறனை அளக்க மேற்காட்டப்பட்ட கூறுகளைக் கொள்வதுபோல மொழிநடை, மெய்ப்பாடு, கருத்து ஆகியனவற்றையும் பேச்சுத் திறனை அளப்பதற்கான அளவுக் கூறுகளாகக் கொள்ளலாம். இவற்றைப் பற்றிய மிகை விளக்கங்களைச் சொற்பொழிவுக்கலை தொடர்பான நூல்களிலிருந்து அறியலாம்.

படிக்கும் திறன் கற்பித்தல்

படிப்பது திருத்தமான ஒலியுடன் இருக்க வேண்டும். படிக்கும்பகுதியின் பொருள் உணர்ந்து ஏற்ற இடங்களில் நிறுத்திப் படித்தல் வேண்டும். உணர்ச்சிக்கேற்ப குரல் ஏற்றத் தாழ்வுடன் படிக்கப் பயிற்றுதல் தற்காலத்தில் எழுதும்பொழுதும், அச்சிட்டு வெளியிடும் பொழுதும் காற்புள்ளி, அரைப்புள்ளி, முற்றுப்புள்ளி, வினாக் குறி, வியப்புக்குறி போன்ற நிறுத்தற்குறிகளைப் பயன்படுத்து கின்றனர். அவை பகுதிகளை எளிய முறையில் பொருள் அறிந்து படிக்க உதவுகின்றனஃ நிறுத்த வேண்டிய இடத்தில் தாமே நிறுத்திப் படிப்பதற்கும், நிறுத்தம் இடங்களில் குறிப்பிட்ட கால அளவே நிறுத்திப் படிப்பதற்கும் அவை பயன்படுகின்றன.

படித்தலின் நோக்கங்கள்

- சிறப்பு உச்சரிப்புடன் படித்தல்

- திருத்தமாகப் படித்தல்

- ஒலியமைதியுடன் படித்தல்

- உள்ளதை உள்ளவாறு படித்தல்

- உணர்வுகளை உணர்ந்து படித்தல்

- நிறுத்தற்குறிகள் அறிந்து படித்தல்

வாய்விட்டுப் படித்தல்

வாய்விட்டுப் படிக்கக் கற்பிக்கும்பொழுது உதவும் துணைக் கருவிகள் பல உள்ளன. அவையாவன:

- **மின் அட்டைகள்**

முதல் வகுப்பு மாணவர்களைப் படித்தலுக்கு அறிமுகப்படுத்த மின் அட்டைகள் நல்ல தொடக்கமாகும். தொடக்க நிலையில் அவை புத்தகங்களைவிட அதிகக் கவர்ச்சியும் பயனும் தருபவையாகும்.

- **கட்டளை அட்டைகள்**

- **முகவரி அட்டைகள்**

கட்டளைகளைத் தொடர்ந்து முகவரி அட்டைகளைக் காட்டிப் படிக்கச் செய்யலாம். வகுப்பிலுள்ள மாணவர்களின் மாணவர்களின் உண்மையான பெயர்களை எழுதுவது நன்று.

- **வாக்கிய அட்டைகள்**

கட்டளை அட்டைகளையும் முகவரி அட்டைகளையும் விரைவாகப் படித்து முடித்தவுடன் வாக்கிய அட்டைகளைப் படிக்கச் செய்யலாம்.

- **வாசிப்புத் தாள்கள்**

மாணவர்கள் செய்து முடித்த செயல்களைக் குறித்து வாய்மொழியாகக் கூறச் செய்ய வேண்டும். கொச்சை மொழியை நீக்கித் திருத்தமுற அவற்றைப் பெரிய அளவில் கரும்பலகையில் எழுத வேண்டும்.

- **அறிக்கைகள்**

பள்ளியில், மாணவர் சங்க நடவடிக்கைகள் விளை யாட்டுச் சங்க நடவடிக்கைகள் பற்றிய அறிக்கைகள் வாசிப்புப் பயிற்சி பெற உதவி செய்வனவாகும்.

- **நாளிதழ்கள், வார மாத ஏடுகள்**

செய்தி வாசித்தல் என்பது பல பள்ளிகளில் அன்றாட அலுவலாக நடந்து வருகிறது. மேற்கண்டவாறு படிப்புப் பயிற்சி பெற இவை துணை புரிகின்றன. இவை தினந்தோறும் புதிய சொற்களையும் சொல்லாட்சியையும் கற்க வாய்ப்பு அளிக்கின்றன.

- **கடிதங்கள்**

கடிதங்களை எழுதவும், பிறருக்குப் படித்துக் காட்டவும் மாணவர் அறிதல் வேண்டும். புத்தக விற்பனை நிலையத்துக்குக் கடிதம் எழுததல், விடுப்புக்காக கடிதங்கள், தொழிற்சாலைகளைப் பார்க்க அனுமதிகோரும் கடிதங்கள், நன்றி கூறும் கடிதங்கள், வாழ்த்துக் கடிதங்கள் போன்ற பல பள்ளி வாழ்வில் இயல்பாய் எழுத அத்தகைய வாய்ப்புகள் ஏற்படுகின்றன படிக்குங்கால் அவற்றைத் தவறில்லாமல் படிக்க வேண்டியுள்ளது. **கட்டுரைகள்**

கட்டுரைகள் வாய்மொழியாகவும் அமைவதுண்டு. அவை வாய் மொழிக் கட்டுரைகள் எனப்பெறும். அதற்கு நிரல்பட கருத்துகளைப் பேச்சின் மூலம் வெளிப்படுத்துவதே இம்முறை எழுதிய கட்டுரைகளைப் பலர் முன் படித்துக் காட்டுவதும் உண்டு. அந்நிலையில் படிப்பு பயிற்சி நிகழ இடமுண்டு.

- ### நாடக உரையாடல்

அந்தந்தப் பாத்திரங்களுக்குரிய உரையாடல் பகுதிகளை நெட்டுருப்போட வாய்விட்டுப் படித்தல் அவசியமாகிறது. தவிர, பேச்சுகளை உணர்ச்சி பாவத்துடன் நாடக அரங்கில் வெளியிட வேண்டியிருக்கிறது. அவ்வாறு செய்ய அப்பகுதிகளை உணர்ச்சியுடன் படிக்க வேண்டியிருக்கிறது. வாய்விட்டுப் படித்தலின் போது கவனிக்க வேண்டியவை

மிகவும் விரைவாகப் படித்தல் கூடாது. அவ்வாறு படித்தால் படிப்பவர்க்கும் கேட்பவர்க்கும் பொருள் விளங்காது. படித்தல் மிகத் தெளிவாகவும் திருத்தமாகவும் இருத்தல் வேண்டும்.

- குரல் இயல்பானதாக அமைய வேண்டும். சொற்பொழிவு, செய்வது போல் படிப்பதோ, ஒரே மாதிரியான குரலில் படிப்பதோ இசை பாடுவது போன்று குரலை ஏற்றியும் இறக்கியும் படிப்பதோ கூடாது.

- படிக்கும்பொழுது தேவையற்ற அசைவுகள் இருத்தல் தவறு. கையை நீட்டியும், தலையை ஆட்டியும் படிப்பது ஒழுங்கன்று.

- இவ்வாறு வாய்விட்டுப் படித்தலில் ஓரளவு திறன் பெற்று வரும்பொழுது வாய்க்குட் படித்தலிலும் பயிற்சியளித்தல் வேண்டும்.

வாய்விட்டுப் படித்தலின் நன்மைகள்

கண் நோக்க, நா ஒலிக்க, மனம் உணர உதவுவது வாய்விட்டுப் படித்தலாகும். தொடக்க நிலையில் வாய்விட்டுப் படித்தல்தான் சிறந்ததாகும்.

- ❖ ஒலிப்பு முறையைக் கற்க, வாய்விட்டுப் படித்தல் உதவும்.

- ❖ ஒலிப்பிலுள்ள குறைகளைத் திருத்த இம்முறை உதவும்.

- ❖ மனப்பாடம் செய்வதற்கு வாய் விட்டுப் படித்தலே ஏற்றது.

- ❖ தமிழுக்கே ஏற்ற ஷஇழுமென்' ஒலி நயத்திலேயே ஓசையின் பத்திலே சொற்சுவையிலேயே ஈடுபட வாய்விட்டுப் படித்தலே தக்கது

- ❖ நிறுத்தற் குறிகளின் பயனை வாய்விட்டுப் படிப்பதன் வாயிலாக நன்கு அறியலாம். இவ்வாறு படிப்பதால் உணர்ச்சியுடன் நடிப்பதற்கும் தேர்ச்சி பெற்றதாகும்.

- ❖ வாய்விட்டுப் படிப்பதனால் சொற்களை அறிவதிலும் அவற்றைப் பாகுபாடு செய்வதிலும் உள்ள குறைகளை அறிவதுடன் அவற்றை உடனுக்குடன் களையவும் முடியும்.

வாய்விட்டுப் படித்தலின் தீமைகள்

- ❖ வாய்விட்டுப் படித்தலின்போது படித்தலின் வேகம் ஏற்படாது. எனவே காலம் வீணாகும்.

❖ மிகுதியான பகுதிகளை வாய்விட்டுப் படிக்கும் பொழுது ஒலியுறுப்புகள் களைப்படையும் படிப்பதில் சோர்வு தோன்றும்.

❖ சொற்களையும், தொடர்களையும் கண்டு ஏற்றமுறையில் படிப்பதிலேயே மனம் செல்வதால் பொருள் உணாதலில் சற்று தாமதம் ஏற்படும்.

❖ பொது நூலகங்களில் படிக்கும் பொழுது வாய்விட்டுப் படித்தால் பிறருக்கு இடையூறு ஏற்படும். எல்லாரும் வாய்விட்டுப் படிக்கத் தொடங்கினால் கவனச் சிதறல் ஏற்பட்டுப் பொருள் உணர முடியாது.

மனத்துக்குள் படித்தல்

அச்செழுத்து அல்லது கையெழுத்து ஆகிய ஒன்றினை உரக்க, வாய்விட்டுப் படிக்காமல் மனத்துக்குள்ளேயே படித்துப் பொருள் உணர்தலே வாய்க்குட் படிப்பு எனப்படும். வாய்விட்டுப் படித்தல் நன்கு கைவரப் பெற்ற பின்னர் கையாள வேண்டிய முறை வாய்க்குட் படிப்பாகும். தொடக்க நிலையில் வாய்விட்டுப் படித்தலே சிறந்த பயனைத் தரும். எனினும் மேல் வகுப்புக்குச் செல்லச் செல்ல மாணவர் திறன் பெற வேண்டுவது வாய்க்குட் படிப்பேயாகும்.

மூன்றாம் வகுப்பிலிருந்து வாய்க்குட் படிப்பு தொடங்க வேண்டும். அவ்வகுப்பில் வாய்க்குட்படிப்பும், வாய்விட்டுப் படித்தலும் 40 சதவீதம், 60 சதவீதத்தில் இருக்க வேண்டும். அதாவது 2:3 என்னும் விகிதத்தில் அமைதல் நன்று எனப் பாடத்திட்டம் வரையறுத்துள்ளது. உயர்வகுப்புகளுக்குப் போகப் போக வாய்க்குட் படிப்பின் விகிதமும் உயர்ந்து கொண்டே போக வேண்டும்.

மனதிற்குள் படிப்பதில் பெற வேண்டியவை

படிப்புத் திறன்களை வளர்த்தல் - படிக்கும் பொழுது வரி வடிவத்தைக் கண்களால் பார்த்தே படிக்கின்றோம். எனவே, படிப்புத் திறன்களான கண் சாண் அளவு, கண் நகர்ச்சி, கண் பாய்ச்சல் அகியவற்றில் நல்ல திறன் பெறுதல் வேண்டும்.

அ) **கண் சாண் அளவு** - படிக்கும் பொழுது கண் வரி வடிவத்தின் ஒரு குறிப்பிட்ட பகுதியைப் பார்க்கிறது. பின்பு அடுத்த பகுதியைப் பார்க்கிறது. ஒரு தடவை பார்ப்பதால் கண்டறிகின்ற சொற்றொகுதியைக் கண்சாண்அளவு என்பர். ஷகந்தன் தன் நண்பனைக் கடைத்தெருவில் கண்டான்' என்னும் தொடரில் கந்தன் என்பதை மட்டும் ஒரு தடவையில் பார்க்க முடியும் எனில் படிக்கும் வேகம் குறையும். ஷகந்தன் தன் நண்பனைக்' என்பது வரை ஒரு தடவையில் பார்க்க முடியுமெனில் படிப்பின் வேகம் மிகுதிப்படும். இக்கண் சாண் அளவு பெரியதாய் அமையப் பயிற்சி பெறல் வேண்டும்.

ஆ) **கண் நகர்ச்சி** - ஒரு தடவை பார்த்தபின் கண் அடுத்த பகுதியைப் பார்க்கக் குதிப்பது போல் செல்கிறது - இதனைக் கண்குதிப்பு என்பர். இதனையே கண் நகர்ச்சி எனவும் கூறுவர். ஒரு பகுதியைப் பார்க்கும் நேரம் கண் நிற்பதைக் ஷகண் நிறுத்தல்' என்பர். ஒரு பகுதிக்கு கால் வினாடி தேவை எனக் கூறுவர். இக்கண் நிறுத்தம் அதிகமாயின் படிப்பின் வேகம் குறையும். நிறுத்தும் காலத்தைக் குறைத்துப படிக்கப் பயிற்சி பெற வேண்டும்.

இ) **கண் பாய்ச்சல்** - ஒரு தொடர் முடிந்ததும், அடுத்த தொடருக்குக் கண் பார்வை தாவுகிறது. இத்தாவுதலுக்கு கண் பாய்ச்சல் எனப் பெயர். அப்பாய்ச்சல் அடிபிறழாது செல்லுதல் வேண்டும். ஒரே வரியை மீண்டும் படிப்பதும், ஒரு வரி விட்டுப் படிப்பதும் சில வேளைகளில் நிகழ்வதுண்டு.

அது படிக்கும் வேகத்தைக் குறைக்கும். எனவே கண் பாய்ச்சல் நேர்மையானதாக அமையப் பயிற்சி பெறல் வேண்டும்.

மனதிற்குள் படிக்கும் முறைகள்

❖ தொடக்க நிலையில் சிறுசிறு கட்டளைகள் எழுதப்பட்ட அட்டைகளைச் சிறிது நேரம் காட்டி, அவற்றை வாய்க்குள் படிக்கச் செய்து அக்கட்டளைப்படி செயல்களைச் செய்யச் சொல்லலாம்.

❖ குறிப்பிட்ட தலைப்பில் செய்திகளை எளிய தொடர்களில் எழுதி வாசிப்பு அட்டைகள் தயாரித்துக் குறித்துக் கால அளவுக்குப் படிக்கச் செய்து பின்னர் அவற்றில் வினாக்கள் கேட்கலாம்.

❖ குறித்த நேரத்தில் கொடுத்த பகுதியைப் படித்து முடித்தல் வாய்க்குள் படிப்பில் பயிற்சி பெறும் வழிகளில் ஒன்றாகும்.

❖ நூல் நிலையத்தோடு இணைந்த படிப்பகம் ஒன்று அமைத்து நாளிதழ்கள், வார, மாத இதழ்கள் ஆகியவற்றுள் குறிப்பாக சிலவற்றை நாள்தோறும் படிக்கச் செய்யலாம்.இ

படிக்கப் பயிற்றும் முறைகள்

படிக்கப் பயிற்றுவதற்கும் 1. எழுத்து முறை, 2. சொல் முறை, 3. சொற்றொடர் முறை என மூன்று முறைகள் உள்ளன. ஒவ்வொரு முறையினைப் பற்றியும் விளக்கமாக அறிந்து கொள்வோம்.

1. எழுத்துமுறைப் படிப்பு

தமிழ் நெடுங்கணக்கில் நால்வகை எழுத்துகள் உள்ளன. அவை உயிர் எழுத்து (12), மெய்யெழுத்து (18), உயிர்மெய் எழுத்து (216), ஆய்தம் (1) என்பனவாகும். ஒவ்வோர் எழுத்துக்கும் தனித்தனியே ஒலி உண்டு. எனவே, எல்லா எழுத்துக்களையும் கற்று, அதன் பின் அவ்வெழுத்துகளால் ஆன சொற்களையும், சொற்றொடர்களையும் படிப்பதே எழுத்து முறையில் படிப்பதாகும். பழங்காலத்தில் படிக்கக் கற்பித்த முறை இதுவோயாகும். இம்முறையைப் பின்பற்றுவதால் ஏற்படும் குறை, நிறைகளை அறிந்து கொள்வோம்.

நிறைகள்

○ எழுத்து களை முறைப்படி படிப்பதால் அவற்றின் வரிசை முறையை மாணவர் நன்குணர்ந்து கொள்ள வழியேற் படுகின்றது.

○ எழுத்துகளைக் கற்ற பின்னர்ச் சொற்களைப் படிப்பதற்குச் செல்வதால் ஐயந்திரிபு அற எழுத்தறிவு பெற முடிகிறது.

○ தமிழ் மொழியில் நாம் ஒலிப்பது போன்றே எழுதுகிறோம். எனவே, ஒவ்வொர் எழுத்துக்குரிய ஒலியினை நன்குணர்ந்து கொள்வதால் எழுதும் பயிற்சி எளிதாகின்றது. எழுத்துப் பிழைகள் மிகுதியும் ஏற்படுவதில்லை.

○ படிப்பதும் பிழையின்றி அமையும்.

குறைகள்

- தெரிந்ததிலிருந்து தெரியாததற்குப் போதல்' என்ற கற்பித்தல் முறைக்கு இது புறம்பாகும்.

- மேலும், எழுத்துகளைக் கற்பிக்கும்பொழுது ஒவ்வோர் எழுத்தின் வரிவடிவையும் ஒலி வடிவையும் கற்பிப்பது மிக்க காலதாமதத்தை உண்டு பண்ணுகிறது.

- தமிழ் நெடுங்கணக்கில் உள்ள 247 எழுத்துகளில் பல எழுத்துகள் மொழியில் கையாளப்படுவதில்லை. எடுத்துக் காட்டாக ஷங் கர வரிசையை எடுத்துக் கொள்வோம். அவ்வரிசையில் ஙு, ஙா, ங் என்ற 13 எழுத்துகள் உள்ளன. அவற்றுள் ஷங' ஷங' என்ற இரு எழுத்துகள் மட்டுமே மொழியில் கையாளப் படுகின்றன. எஞ்சியுள்ள பதினொரு எழுத்துகள் கையாளப்படும் சொல்லே தமிழ் மொழியில் இல்லை.

     (1) ஷங' ப் போல் வளை, 2 அங்ஙனம் இதைப் போன்று ஷண' வரிசையிலும் ஷட' வரிசையிலும் சில எழுத்துகள் கையாளப் படுவதில்லை. மொழியில் வரவே வராத இத்தகைய எழுத்துகளின் வரிவடிவையும் ஒலி வடிவையும் இளங்குழந்தைக்குக் கற்றுக் கொடுப்பது தேவையற்றது.

சொல்முறைப் படிப்பு

எழுத்து முறைக்கு மாறுபட்டது சொல் முறையாகும். புதுச் சொற்களை எளிதில் படிக்கக் கற்கின்றனர். இவ்வண்ணம் ஒவ்வொரு சொல்லாகக் கற்பிப்பதுதான் சொல்முறை எனப்படும். இனி, இம்முறையின் நிறைகுறைகளை ஆராய்வோம்.

நிறைகள்

- மனித இயல்புக்கு இம்முறை பொருத்தமாக உள்ளது. ஷஅம்மா, அப்பா, அக்கா, தாத்தா, பாட்டி' போன்ற சொற்களைத்தான் இளங்குழவிகள் கூறுகின்றனர்.

- ஒவ்வொரு சொல்லுக்கும் தனித்தனிப் பொருள் உண்டு.

- ஷமுழுமையினின்று பாகங்களுக்குச் செல்வது' உளவியல் முறை எனவே, சொல்லிலிருந்து எழுத்துக்குச் செல்வது இயல்பானது

     குறைகள்

- எழுத்துக் கூட்டிப்படிக்க வாய்ப்பில்லாத காரணத்தால் கற்ற எழுத்துக்களைக் கொண்ட புதுச் சொற்களைப் படிப்பதும் படித்தவற்றைப் பார்க்காமல் எழுதுவதும் பிழை நிறைந்ததாக ஆகிவிடக்கூடும்.

- மீண்டும் மீண்டும் சொற்களை எழுதும் பயிற்சி அளிப்பின், இக்குறையினை நீக்கக்கூடும்.

- நேர் ஒலிப்பு முறையுள்ள தமிழைவிடத் தனி ஒலிப்பு முறை கொண்ட ஆங்கிலம் போன்ற வேறு மொழிகட்கே சொல்முறை சாலச் சிறந்தது.

- ஒரு படத்தை மூடிக்கொண்டு எழுத்துகளை மட்டும் பட உதவியின்றிப் படிக்கச் சொன்னாலே படிக்க முடியாமல் வாளாவிருக்கலாம்.

- இதற்குப் பரிகாரமாக ஒவ்வொரு சொல்லிலும் மூன்று மின் அட்டைகள் தயாரித்துப் பயிற்சி அளித்தால்: அக்குறை நீங்கும்.

- தமிழ் மொழியின் நெடுங்கணக்கு வரிசையறிவு மாணவர்கட்கு இல்லாமல் போகக்கூடும்.

இது ஒரு குறையே எனினும் நாளடைவில் மாணவர் போதிய தேர்ச்சி பெற்று மேல் வகுப்புக்குச் செல்லுங்கால் இக்குறை தானே நீங்கும்.

சொற்றொடர் முறைப்படிப்பு

புதிதாகக் கையாளப்படும் முறைகளுள் இது ஒன்றாகும். எளிய சொற்றொடர்கள் பலவற்றைக் கற்பித்து அதன் பின்னே அவற்றில் வரும் தனித்தனியான சொற்களையும், எழுத்துகளையும் கற்பிப்பது இம்முறையாகும். வாழ்க்கையில் நாம் பேசுங்கால் சொற்றொடர்களாகவே பேசுகிறோம். ஆகவே குழந்தைகளும் சொற்றொடர்களாகவே படிக்கக் கற்பது பொருத்தமுடைத்து. சொல்லை ஓர் அலகாகக் கொண்டு அறிதல் போல சிறிய சொற்றொடரை அலகாகக் கொள்வது ஒன்றுதான். இம்முறையில் உள்ள குறைகளும் நிறைகளும் சொற்றொடர் முறைக்குப் பொதுவாகப் பொருந்துதல் என்பது தெளிவு.

சொல் முறையிலும், சொற்றொடர் முறையின் சிறப்புண்டு. குழந்தைகள் முதலில் தனித்தனிச் சொல்லாகப் பேசத் தொடங்கினாலும் அவர்களின் உள்ளத்தில் ஒருசொற்றொடரின் கருத்தேதொக்கி நிற்கின்றது. எடுத்துக்காட்டாக, 'அம்மா' என்று ஒரு குழந்தை அழுகின்றது என்றால் அது 'அம்மா பசிக்கிறது' அல்லது 'அம்மா பால் வேண்டும்' என்ற சொற்றொடர்களின் கருத்தைத்தான் ஒரே சொல்லில் அடக்கிக் காட்டுகிறது. எனவே, கூர்ந்து நோக்கின் 'அம்மா' என்ற சொல் ஒரு சொற்றொடரேயாகும். நடுச்சாலையில் நிற்கும் கைகாட்டியில் 'பழனி 64 கி.மீ.' என்பது போன்ற சொற்களைப் பார்க்கிறோம். 'பழனி கை காட்டும் திசையில் 64 கி.மீ. தொலைவில் உள்ளது' என்ற சொற்றொடரின் சுருக்கம் ஆகும். இயற்கைக்கிணங்கக் கற்பிப்பதே உளவியல் முறையாகும். உளவியல் நன்று என்பது கூறவும் வேண்டுமோ?

நிறைகள்

- வெறும் சொல்லாகக் கற்பதைவிட அச்சொல் கையளப் பெற்றிருக்கும் ஒரு சொற்றொடர் மாணவர்களுக்குப் பொருண்மையைக் கொடுக்க வல்லது. 'அமயில்' என்றால் திகைக்கலாம். 'அமயில் ஆடுகிறது' என்றால் புரிந்து கொள்வார்கள்.

- படிப்பதில் மாணவர்க்கு ஆர்வம் பெருகும்.

- உளவியல் விதிகளை ஒட்டிய முறை இது. முழுமையான சொற்றொடர்களிலிருந்து அவற்றின் பகுதிகளான சொற்கள் எழுத்துகள் ஆகியவற்றிற்குப் போதல் எளிய வழி.

- இது விளையாட்டு முறையாதலால் பிள்ளைகளிடம் கவர்ச்சி மிகுதி, களைப்பு குறையும்.

குறைகள்

- தொடக்கத்திலேயே சொற்றொடராகப் படிப்பது மாணவர்களுக்கு இடர் தருவதாகவும், சிக்கல் மிகுந்ததாகவும் தோன்றும்.

- சொற்றொடர்களைப் பாராமலே மனப்பாடம் செய்து ஒப்புவிக்கக் கூடும். ஆனால், படித்த சொல்லைக் கரும்பலகையில் தனித்து எழுதினால் படிக்க அறியாமல் திகைப்பர்.

- சொற்றொடர்களைக் கற்பிக்க வேண்டும் என்னும் இம்முறை எளிதிலிருந்து தொடங்கு என்பதற்கு எதிர் மாறாக உள்ளது.

- தமிழ் நெடுங்கணக்கு எழுத்துகளை வரிசை ஒழுங்குப்படி இம்முறையில் கற்றுக் கொள்ள இயலாது.

படித்தல் திறனை மதிப்படல்

நூலகப் படிப்பு

அகன்ற படிப்புக்கு நன்கு உதவும் இடம் நூலகப் படிப்பாகும். நூலகத்தில் கலைக் களஞ்சியங்கள், பல்வகை இலக்கிய நூல்கள், மலர்கள், இதழ்கள் மற்றும் செய்தித் தாள்கள் இடம் பெறும். அகன்ற படிப்பினை உண்மையிலேயே பொருளுள்ள ஒன்றாக மாற்றும் இடம் நூலகமே. நூல்களைத் தாமே தேர்ந்தெடுத்துப் படிக்கும் வாய்ப்பும், ஆசிரியர் வழிகாட்ட அவ்வழியே நூல்களைத் தேர்ந்தெடுத்துப் படிக்கும் வாய்ப்பும் இதில் உண்டு.

தின, வார, மாத இதழ்கள் படித்தல்

நாட்டுச் செய்திகளை நாள்தோறும் தின இதழ்கள் வெளியீடுகின்றன. வார, மாத, இதழ்களில் கதைகளும், கட்டுரைகளும் வெளியாகின்றன.

எழுதுதல் திறன் கற்பித்தல்

குகைகளில் வாழ்ந்த ஆதி மனிதர் ஓவியம் வரைந்தனர் என்பதனை அவர்கள் விட்டுப் போயுள்ள அறிகுறிகளால் அறிகின்றோம். இந்த முயற்சியே ஓவிய எழுத்துகளாக வளர்ந்தது. இரண்டொரு கருத்துகளையன்றிப் பல கருத்துகளை எழுதி வரும் பொழுது விரைவு காரணமாக ஓவியங்கள் இரண்டொரு வரிகளாகச் சுருங்கின. நாளடைவில் அந்த அறிகுறி ஓவியமும் ஒரு சொல்லாக நின்று அந்தச் சொல்லை அறிவிக்காது அந்தச் சொல்லின் முதல் எழுத்தினை மட்டும் அறிவிக்க வந்தது. பிறகு சொல்லின் பொருளையன்றிச் சொல்லின் எழுத்துகளையும் மக்கள் பிரித்தறிய விரும்பினர். இவ்விருப்பமே ஒலி எழுத்துகளாக வளர்ச்சி பெற்றது. இவ்வாறு ஒலி வரிவடிம் பெற்று எழுத்து தோன்றியது.

மொழி தோன்றி வளர்ந்து பல்லாண்டுகளுக்குப் பின்னரே எழுத்து என்ற ஒன்றின் வாயிலாகவும் எண்ணத்தை எடுத்தியம்ப முடியும் என மக்கள் கண்டறிந்தனர். ஓரளவுக்குப் படிக்கக் கற்ற பின்னரே எழுதக் கற்பிக்கவேண்டும். இனி எழுதுதலின் நோக்கங்களை அறிந்து கொள்வோம்.

எழுதுதலின் நோக்கங்கள்

- **கருத்துகளையும் பேச்சையும் நிலையாகப் பதிவு செய்தல்**

நாம் நேரில் உள்ளவரிடம் நம் கருத்துகளையும், எண்ணங்களையும் பேச்சு மூலம் கூறுகின்றோம

- **தொலைவில் உள்ளவர்களுடன் தொடர்பு கொள்ளுதல்**

நம் கருத்துகளை அறிய வேண்டியவர் தொலைவில் இருந்தால் பேச்சு மூலம் தெரிவிக்க முடியாது. நம் உறவினர், நண்பர் ஆகியோருக்குக் கருத்தைத் தெரிவிக்க விரும்பலாம்.

எழுதுதலில் நிலைகள்

எழுதக் கற்பித்தலில் இரு நிலைகள் உள்ளன. முதல் நிலையில் ஒலி வடிவங்களை வரி வடிவங்களாக எழுத அறிமுகப்படுத்துவதுடன் திருத்தமாகவும், அழகாகவும் விரைவாகவும், எழுதப் பயிற்றுவது நோக்கமாகும். வரியொற்றி எழுதுதல், பார்த்து எழுதுதல், கேட்டு எழுதுதல் போன்றவை மட்டும் இங்குக் கற்பிக்கப்படும்.

இரண்டாம் நிலையில் எழுதும் விரைவை உயர்த்துவதுடன் சொந்தமாகக் கடிதம், கட்டுரை, அறிக்கை, முதலியன எழுதவும் கற்பிக்கிறோம். இது ஆக்க வேலை கற்பிக்கும் நிலையாகும்.

இரண்டு நிலைகளுக்கும் தனித்தனியான வழிவகைகள் உள்ளன. முதல் நிலை பெரும்பாலும் ஒன்றுமுதல் மூன்றாம் வகுப்பு வரை பின்பற்றப்படுவதாகும். இரண்டாம் நிலை படிப் படியாக மேல் வகுப்புகளில் பின்பற்றப்படும்.

- ### எழுதுவதற்கு முன்னேற்பாடான வேலைகள்

பேச்சிலும் படிப்பிலும் ஓரளவு திறன் கைவரப் பெற்ற பின்னரே எழுத்துகள் எழுதுவதைக் கற்பிக்க வேண்டும். சுருங்கக் கூறினால் எழுதத் தொடங்குவதற்கு ஒரு பக்குவம். ஒரு வகை முதிர்ச்சிப் பருவம் அதாவது ஆயத்தம் தேவைப்படுகிறது.

எடுத்துக்காட்டாக, எழுத்துகளில் உள்ள நுட்பமான வேறுபாடுகளை அறிந்து எழுத வேண்டியிருக்கிறது. (மு, மூ, ஒ, ஓ, க, ச, த, ந) சிறிய எழுத்துகளை எழுதக் குழந்தைகளின் கைவிரல்களின் நுண்ணிய தசைநார்கள் போதிய வலிமை இணைந்து இயங்கும் திறனும் பெற்றிருத்தல் வேண்டும். மணிக்கட்டிலுள்ள தசை நார்களும் வலிமை அடைந்திருத்தல் வேண்டும். கண்களும் மேற்கூறிய நுண்ணிய வேறுபாடுகளை அறிந்துணர வல்லவையாயிருத்தல் வேண்டும். ஆகவே, எழுதக் கற்பதற்குரிய ஆயத்த நிலையை அடைந்த பின்னரே, குழந்தைகளுக்கு எழுத கற்பிக்கத் தொடங்க வேண்டுமெனக் கல்வி மனவியல் கூறுகிறது. ஆகவே, மேற்கூறிய தசைநார்கள், வலிமையறவும், வெவ்வேறு உறுப்புகள் இணைந்து செயலாற்றவும் பயிற்சி தருவது எழுத்துக்குரிய ஆயத்தத்தின் முதற்படியாகும். அதற்குக் கீழ்க்கண்டமுன் பயிற்சிகள் துணை புரியும்.

நல்ல கையெழுத்தின் நல்லியல்புகள்

ஒருவர் எழுதுவதைப் பிறர் படிப்பதற்காகவேண எழுத்து எழுதப்படுகின்றது. அந்நிலையில் எழுத்து தெளிவாக இல்லையெனில் பிறர் படிக்க முடியாதன்றோ! எழுத்து தெளிவாக அமையக் கீழ்கண்டவற்றை நினைவில் கொள்ள வேண்டும்.

1. தெளிவு

எழுத்துகளைத் தனித்தனியாக எழுதுதல் வேண்டும் சங்கிலி போன்று ஒன்றோடொன்று சேர்த்து எழுதினால் தெளிவில்லாமல் போகலாம் சிலர் இரண்டு எழுத்துகளைச்சேர்த்து கூட்டெழுத்தாக எழுதுவர். அவ்வாறு எழுதுவதும் தவறாகும்.

எழுத்தின் வளைவுகளைத் தெளிவாகக் குறித்தல்வேண்டும். ஷமு' என்பதற்கம் ஷமூ' என்பதற்கும் தெளிவாக வேறுபாடு காட்டும் வகையில் எழுத்து அமையாவிடில் தெளிவிருக்காது.

ஒவ்வோர் எழுத்தின் வளைவு, சுழிவு, மேற்கோடு ஆகியவற்றை நன்கு கவனித்து எழுத்தின் சீரான அமைப்பில் எழுதுதல் வேண்டும்.

எழுத்துகளின் முனை அறியாமல் எழுதுதல் வேண்டும். அப்பொழுதுதான் தெளிவாகப் படிக்க முடியும். அதற்காக அச்செழுத்துப் பார்த்து எழுதச் செய்தலே நல்ல பயிற்சியாகும்.

2. அளவும் அழகும்

எழுத்துகள் ஒரே அளவினவாக இருந்தால் பார்ப்பதற்கு அழகாக இருக்கும். ஒரு வரியில் சில எழுத்துகள் பெரியனவாகவும், சில எழுத்துகள் சிறியனவாகவும் அமைதல் கூடாது. ஆனால், தொடக்கத்தில் குழந்தைகள் பெரிய எழுத்துகளாக எழுதத் தொடங்குவர். ஆனால், இரண்டு கோடுகளுக்குள் எழுதும் பயிற்சி அளிக்கும்பொழுது ஒரே அளவினவாக எழுத்துகள் அமையும்.

ஷவேண்டாத சுருள்களைச் சேர்த்து எழுதுதலும், மேல்விலங்கு, கீழ் விலங்கு, கொம்புளை ஒரே விதமாக எழுதாமையும் அழகைக் கெடுப்பனவாம். சிலர் புள்ளிகளைச் சிறு வட்டங்களாக எழுதுவதுண்டு. அதனாலும் அழகு கெடும். எழுத்துகளை நேராக அச்செழுத்துகளைப் போன்று எழுதுவதே சிறந்தது. சிலர் சாய்த்து எழுத விரும்புவர். அவ்வாறு சாய்த்து எழுதும்பொழுது ஒரு சிறிது வலப்பக்கம் சாய்த்து எழுதலாமே தவிர இடப்பக்கம் சாய்த்து எழுதுதல் கூடாது. கோடுகளை நேராக எழுதாமல் சிலர் வளைத்து எழுத்துகளைக் குண்டு குண்டாக எழுதுதலும் உண்டு. இதுவும் ஓரளவு அழகாயிருக்கும்.

3. இடைவெளி

எழுத்துகளைச் சேர்த்து எழுதாமல் அடுத்தடுத்துத் தனியாகவும், ஒரு சொல்லுக்கும் அடுத்து சொல்லுக்கும் இடையே ஒரே அளவாகச் சிறிது இடைவெளி விட்டும் எழுதுதல் வேண்டும். 4) **விரைவு**

எழுத்துகள் தெளிவாகவும் அழகாகவும் இருக்க வேண்டுமென்பதற்காக மிக மெதுவாக எழுதுதல் கூடாது. தெளிவுடன் விரைவாகவும் எழுகப் பயிற்றுதல் வேண்டும். விரைவுக்காகத் தெளிவினைப் பறி கொடுத்தல் கூடாது.

எழுத்துப் பயிற்சி முறைகள்

மாணவர்கள் எழுத்துகளை எழுதக் கற்றுக் கொண்ட பின்பு தொடர்ச்சியாகச் சொற்களையும் சொற்றொடர்களையும் எழுதப் பயிற்சியளித்தல் வேண்டும். அப்பயிற்சி தர வரியொற்றி எழுதுதல், பார்த்து எழுதுதல், சொல்வது எழுதுதல் அல்லது கேட்டு எழுதுதல் போன்ற முறைகளைப் பின்பற்றிக் குழந்தைகள் தாமே எழுதப் பயிற்சியளிக்கலாம்.

1) வரியொற்றி எழுதுதல்

கையெழுத்து சிறந்ததாக இருப்பதற்கு, வரியொற்றி எழுதுதல் நல்ல பயிற்சியாகும் தொடக்க நிலை வகுப்புகளில் நான்கு வரிகளில் எழுதச் செய்யலாம். மேல் விலங்கு கீழ் விலங்கு ஆகியவற்றை எவ்வளவு தூரம் நீட்ட வேண்டுமென்றும், எழுத்தின் அளவ எவ்வளவு இருக்க வேண்டுமென்றும் மாணவர் அறிய இது வழி வகுக்கின்றது முதல் இரண்டு வரிகளில் எழுத்துகளைப் புள்ளியிட்டுக் காட்டி அப்புள்ளிகளின் மேலும் எழுதச் செய்யலாம் நான்கு வரிகளில் எழுதிப் பழகிய பின்பு, இரண்டு வரிகளுக்கிடையே எழுதச் செய்தல் வேண்டும். நாளாக நாளாக எழுத்துகளைச் சிறியனவாகவும், ஒரு வரியிலும் எழுதப் பழக்கலாம்.

2) பார்த்து எழுதுதல்

பாடப் புத்தகத்தில் உள்ள பகுதிகளைப் பார்த்து நாள்தோறும் குறிப்பேட்டில் எழுதி வரச் செய்தலே பார்த்து எழுதுதலாகும். ஆசிரியர் கரும்பலகையில் எழுதுவதைப் பார்த்துக் கரும்பலகையில் அல்லது குறிப்பேட்டில் எழுதுதலும் பார்த்து எழுதுதல் பயிற்சியே. நாள்தோறும் பார்த்து எழுதிவரச் செய்தல் கையெழுத்து திருந்துவதற்கு நல்ல பயிற்சியாகும். பார்த்து எழுதும் பயிற்சியால் வேறு பல நன்மைகளும் உள்ளன.

- ❖ 1.வேகமாய் எழுதுவதற்கு நல்ல பயிற்சியளிக்கின்றது.

- ❖ 2.மாணவர்கள் சொற்களைப் பார்த்து வரிசையை உரைரவும், தெளிவாய் உள்ளத்தமைக்கவும் வழி வகுக்கின்றது.

- ❖ 3.அருமையான சொற்றொடர்கள், மரபுச் தொடர்கள் ஆகியவற்றை எழுதிப் பழக உதவுகின்றது.

- ❖ 4.கவனக் குறைவுள்ள மாணவர்கள் பிழைபட எழுதுவார்கள். அவர்களைக் கண்டு கவனக்குறைவைத் திருத்த வாய்ப்பு கிடைக்கின்றது.

3. சொல்வதெழுதுதல்

வகுப்பில் ஆசிரியர் சொற்களையோ தொடர்களையோ கூற அவற்றைக் கேட்டு மாணவர் எழுதுதலே சொல்வதெழுதுதல் பயிற்சியாகும்.

- ❖ இவ்வாறு எழுதச் செய்வதால் மாணவர்கள் எழுத்துகளின் ஒலியை நன்கு கேட்டுப் பிழையின்றி எழுதுகின்றனரா என அறியலாம்.

- ❖ கையெழுத்தின் விரைவினை வளர்க்க இது சிறந்த வழியாகும்.

- ❖ நினைவாற்றல், கவனிக்கும் ஆற்றல்ம போன்றவற்றை வளர்க்க உதவுகின்றது.

- ❖ மாணவர் வேறெதெனைப் பற்றியும் எண்ணாமல் ஆசிரியர் சொல்வதையும், பின்பு அதை எழுதுவதையும் பற்றியே நினைப்பதால் அவர்களுடைய ஒருமுகப்படுத்தும் திறன் வளரும்.

- ❖ படிப்பதைவிடக் கேட்டு எழுதும்போது அப்பகுதி நினைவில் பதிய இடமுண்டு.

சொல்வது எழுதுதல் பயிற்சி அளிக்கும்பொழுது ஆசிரியர் சில குறிப்புகளை நினைவில் கொள்ளுதல் வேண்டும்.

- ❖ தொடக்க நிலையில் சொற்களை எழுதும் பயிற்சியளித்துப் பின்னரே தொடர்களை எழுதும் பயிற்சி தரல் வேண்டும்.

- ❖ முதலில் வேகம் குறைவாகவும், வரவர விரைவாகவும் படித்து எழுதச் செய்தல் வேண்டும்.

- ❖ பகுதியைப் படிக்கும்பொழுது சொற்களைத் திரும்படத் திரும்பக் கூறுதல் கூடாது. பொருள் விளங்குமிடத்தில் நிறுத்திக் கூறும்பொழுது ஒவ்வொரு பகுதியையும் இருமுறை கூறலாம்.

❖ அவ்வாறு பொருள் உணரும் பகுதியாகப் படிக்கும் பொழுது மாணவர் பகுதி முழுமையையும் கேட்ட பின்னரே எழுதுதல் வேண்டுமெனக் கூறி, அவ்வாறே எழுதப் பயிற்சியளித்தல் வேண்டும்.

■ **தசைப்பயிற்சி**

குழந்தைகள் பள்ளிக்கு வருமுன்னரே கை விரல், மணிக்கட்டு ஆகியவை ஓரளவிற்குத் தசைப்பயிற்சிப் பெற்றிருக்கும். இந்தப் பயிற்சிகள் மூலம் தசைநார்கள் வலுவடைவதுடன் கோடு, அதன் நீளம் வட்டம், அதன் எல்லைக்கோடு ஆகியவை அறிமுகப் படுத்தப் பெறுகின்றன.

■ **ஆள் காட்டிவிரல், குச்சி**

அடுத்து, தரையில் மணலைப் பரப்பி அதில் குழந்தைகளைத் தம் விருப்பம்போல் தத்தம் வலக்கை ஆள்காட்டி விரலால் கிறுக்கச் செய்யலாம். பேச்சில் முதல் நிலை மழலையைப் போன்று, எழுதுவதில் முதல்நிலை கிறுக்குவதாகும். மணலும் நீரும் குழந்தைகளுக்கு மிக விருப்பம். தவிர ஆள்காட்டி விரலிலுள்ள தசைநார்களுக்குப் பயிற்சி கிட்டுகிறது. மணலில் கிறுக்கப்படும். கோடுகள் குழந்தைகளுக்கு முற்றிலும் புலனாகாமலிருக்கலாம் அதனால் கெடுதலில்லை. இவ்வாறு வலக்கை ஆள்காட்டி விரல், முதல் எழுது கருவியாகிறது.

■ **கரும்பலகை**

அடுத்து, தாழ்ந்த கரும்பலகையில் சாக்குத் துண்டின் உதவியினால், கைகளைத் தாராளமாக வீசி வளைவுகள், சுழிகள், கோடுகள் முதலியன வரைந்து பழகச் செய்யலாம்.

■ **எளிய படங்கள் வரைதல்**

கோடுகளை ஓரளவு சரியாக வரைய கற்ற பின்னர் சதுரம், வட்டம், ஆகியவற்றை எழுதப் பழக்கலாம். அதன் பின்னர் அவற்றின் உதவியினால் பொருள்களின் உருவங்களுள் எளியவற்றைக் கற்பிக்கலாம். எ.டு. பரங்கிக்காய், மாங்காய், ஆரஞ்சு, ஏணி.

■ **வெட்டி ஒட்டுதல்**

ஓர் அட்டையில் பல உருவங்களை வெட்டி எடுத்துவிட்டு அந்த அட்டையை ஒரு தாளின் மேல் வைத்து ஒரு பென்சிலால் - குறிப்பாக வண்ணப் பென்சிலால் - எல்லைக் கோட்டைச் சுற்றிலும் வரைந்து உருவத்தை உண்டாக்க வேண்டும். அதன் பின்னர் அந்த உருவங்களைத் தனித்தனியே வெட்டித் தேவைப்படின் வண்ணங்கொடுத்து வேறு வெள்ளைத் தாளில் ஒட்டி வைக்கலாம

■ **உப்புத்தாள், பட்டு, மணல்**

எழுத்துகளின் வடிவங்களை உப்புத்தாளில் வெட்டி அவற்றை முறையாய்த் தொடக்கம், மத்தி, முடிவுகளைத் தடவிப் பார்க்கச் செய்தல் நல்ல பயிற்சி. இதே போன்று மென்மையும் வழுவழுப்புமுள்ள துணிகளில் எழுத்துகளை எழுதி வெட்டி ஒட்டித் தடவிப் பார்க்கச் செய்தல் நன்று. இவை பட்டி தொட்டிகளுக்கு ஒத்து வராது. மணலில் எழுத்துகளை எழுதி புளியும் விதைகளை அல்லது வேறு கொட்டைகளை முறையாய் அடுக்கி வைப்பது நடைமுறைக்கு ஒத்து வருவதாகும். விதைகளுக்குப் பதில் சிறுசிறு குச்சிகளையும் பயன்படுத்தலாம். இப்பயிற்சி மூலம் எழுத்துக்களின் தொடக்கம், வளர்ச்சி, முடிவு ஆகியவை நன்கு புலனாகிறது.

பிழையின்றி எழுதப் பயிற்சியளித்தல்

மொழியின் அடிப்படைத் திறன்களில் பேசுதலும், எழுதுதலும் வெளியிடும் திறன்களாம். எழுதுங்கால் ஏற்படும் பிழைகள் குறித்து அறிந்து கொள்வோம்.

பேசுங்கால் கொச்சையாகப் பேசினாலும், சிறு தவறுகள் ஏற்படும்படி பேசினாலும் அவை நிலையாக இருப்பதில்லை. மேலும், அவற்றைத் திருத்திக் கொள்ளலாம். ஆனால், எழுத்து நிலையாக அமைகிறது. எனவே, பிழையில்லாது எழுதுதல் வேண்டும். ஆங்கில உரைநடையாசிரியர் பேகன் என்பாரது ஷஎழுதுதல் ஒருவனைச் செம்மையுடையவனாக்குறிது' என்னும் கூற்றும் இதனையே சிறப்பித்துக் கூறுகிறது. எழுதுங்கால் ஏற்படும் பிழைகளையும், அவற்றைத் திருத்தும் முறைகளையும் தெரிந்து கொள்வோம். எனவே, பிழைகள் ஏன் ஏற்படுகின்றனவென்றும் எவ்வகையான பிழைகள் ஏற்படுகின்றனவென்றும் அவற்றைத் திருத்தும் முறைகள் யாவையென்றும் அறிந்து கொள்வோம்.

பிழைக்குரிய காரணங்கள்

அ. தவறானவற்றைக் கேட்டல்

மாணவர்கள் தங்கள் வீட்டுச் சூழ்நிலையில் வாழுகின்ற பொழுது பிறர் பேசுவதைக் கேட்டுத் தங்கள் மொழித்திறனை வளர்த்துக் கொள்ளுகின்றனர் என்று நாம் அறிவோம். அப்பொழுதெல்லாம் அவர்கள் திருத்தமான சொற்களைக் கேட்டிருப்பார்கள் என்று சொல்வற்றிற்கில்லை.

ஆ. தவறாக ஒலித்தல்

மாணவர் சில சொற்களை ஒலிக்கும்பொழுது தவறாக ஒலிப்பதால் அவ்வாறே எழுதவும் தொடங்குகின்றனர்.

கீழே உள்ளனவற்றை எடுத்துக்காட்டுகளாகக் கூறலாம்.

தவறாக ஒலித்தல்	சரியான சொல்
வாளைப்பளம்	வாழைப்பழம்
தாளம் பூ	தாழம்பூ
வனக்கம்	வணக்கம்
கனை எய்தான்	கணை எய்தான்

இ. திருத்தமான சொல் அறியாமை

சொற்களைச் சிதைத்துக்கொச்சையாகப் பேசுவதாலும், சொற்களின் திருத்தமான ஒலியினை அறியாது பேசுவதாலும் பிழைகள் ஏற்படுகின்றன. ஷபேசிக் கொண்டிரு' என்பதைப் ஷபேசிண்டிரு' ஷபேசிக்கினேயிரு' எனக் கொச்சையாகப் பேசுவார் சிலர். இது சொற்களைச் சிதைத்துப் பேசுவதால் வரும் பிழையாகும். ஷதாழ்வாரம்ஷ என்பதைத் ஷதாவாரம்ஷ என்பதும், பாகற்காய் என்பதை பாவக்காய் என்பதும் ஷதலையணை' என்பதைக் தலகாணி என்பதும் திருத்தமான சொற்களை அறியாததால் வருவனவாம்.

ஈ. பொருள் வேறுபாடு அறியாமை

சில சொற்களில் ர, ற, ல, ள, ழ ஆகிய எழுத்துகளை அமைத்து எழுதும்பொழுது பொருள் வேறுபாடு அறியாமையால் மாணவர் பிழைபட எழுதுதல் கூடும். எழுத்து மாறினால் பொருள் வேறுபடும் ஒரு சில சொற்கள் எடுத்துக்காட்டாக இங்குத் தரப் படுகின்றன.

கனை - நெருக்கம், ஒலி   கணை - அம்பு

களை - நீக்கு   கழை - மூங்கில்

கரை - அழை, கரைத்து விடு   கறை - களங்கம்

செரு - போர்   செறு - வயல்

உ. இலக்கண அறிவின்மை

எழுத்திலக்கணம், சொல்லிலக்கணம், தொடரிலக்கணம் ஆகியவற்றை நன்கறியாமையால் பல பிழைகள் ஏற்படலாம். இவ்வகையானவற்றை அடுத்துச் சில பிழைகள் என்னும் பகுதிகள் அங்கங்கே குறிப்பிட்டுக் காட்டியிருப்பதைக் காண்க.

பிழைகளைக் களையும் வழிமுறைகள்

1) ஆசிரியர் பேச்சு

ஆசிரியருடைய பேச்சு எடுத்துக்காட்டானதாக அமைதல் வேண்டும். அவருடைய பேச்சில் பிழைகளிருப்பின் மாணவர் அப்பிழைகளைப் பின்பற்றுதல் கூடும். எனவே, ஆசிரியர் திருத்தமான சொற்களையே பேசினால் பெரும்பான்மையான பிழைகள் ஏற்படாமல் தடுக்கலாம்.

2) பொதுப் பிழைகளைத் தொகுத்து விளக்குதல்

மாணவரிடம் பொதுவாகக் காணப்படும் பிழையான சொற்களையும், சொற்றொடர்களையும் தொகுத்து பிழைகளை நீக்கி எழுதிப் பலரும் காணும் இடத்தில் வைக்கலாம். இவ்வட்டைகளைக் காணுந்தோறும் மாணவர் பிழைகளையறிந்து அவற்றை நீக்க முயல்வர்.

3) தனியே அழைத்துக் கூறுதல்

சில மாணவரிடம் சிறப்பாகச் சில பிழைகள் காணப்படுமாயின், அவர்களை அழைத்து அன்பாகக் கூறித் திருத்தலாம். அவ்வாறு பிழைகள் ஏன் ஏற்படுகின்றன என்பதனையும் அவர்களோடு பேசுங்கால் அறிந்துத அக்காரணத்தை நீக்கலாம்.

4) பன்முறை எழுதுதல்

மாணவர் எழுத்துக்கூட்டலில் கண்ணால் பார்த்தல், காதால் கேட்டல், கைவிரல்களையும் தசைகளையும் இயக்கி எழுதுதல் பயிற்சியைப் பன்முறையளித்து ஒவ்வொரு சொல்லையும் சரியாக எழுதச் செய்வதே பன்முறை எழுதுதலின் நோக்கமாகும். எனவே, ஷெயிற்' என்னும் சொல்லைப் பன்முறை எழுதச் செய்வதாயின்சொல் முழுமையையும் எழுதச் செய்தல் வேண்டும். ப, ப, ப என ஒன்றின் கீழ் ஒன்றாக எழுதிய பின்பு ஒவ்வோர் எழுத்தையும் அவ்வாறே சில மாணவர் எழுதுவர். இம்முறை தவறானதாகும். ஒரு சொல்லை மூன்று முறை அல்லது ஐந்து முறை எழுதச் செய்யலாம். திருத்தி எழுதியுள்ள ஒவ்வொரு சொல்லையும் ஆசிரியர் பார்த்துத் திருத்துதல் வேண்டும். இல்லைமேல் மாணவர் முதலில் சரியாக எழுதத் தொடங்கி, வர வரப் பிழைபட எழுதிவிடுதல் கூடும்.

5) திருந்திய சொற்கள் எழுதிய அட்டைகள்

வட்டாரத்திலுள்ள கொச்சைச் சொற்களையும், வழூஉச் சொற்களையும் திரட்டி அவற்றின் திருந்திய வடிவத்தையும் எதிரே எழுதிப் பல அட்டைகள் தயாரித்து வகுப்பில் தொங்க விடலாம். மாணவர் அவற்றைப் பார்த்துத் திருந்திய சொல் வடிவம் அறிந்து பிழைகளைத் தவிர்த்தல் கூடும்.

6) இலக்கண விதிகள்

வல்லின மிகும் இடங்கள் மிகா இடங்கள் ஆகியவற்றைப் பற்றி, மாணவர்களுக்கு விளக்கிக் கூறலாம். இவ்விதிகளைத் தனி அட்டைகளில் எழுதியும் வகுப்பறையில் தொங்க விடலாம். அடிக்கடி அவற்றைப் பார்த்துப் படிப்பதன் மூலமும் மாணவர் பிழைகளைத் தவிர்த்தல் கூடும்.

மேற்கண்டவாறு பிழைகளை நீக்குவதோடு பார்த்தெழுதுதல் சொல்வது எழுதுதல் பயிற்சிகள் மூலமாகவும் எழுத்துப் பிழைகளை நீக்கலாம். நாள்தோறும் ஒரு பக்கம் எழுதி வரச் செய்யலாம். கூர்ந்து நோக்குதல் கேட்டல் எழுதுதல் ஆகியவை எழுத்திப் பிழைகள் ஏற்படாமல் தடுப்பதற்கு பெரிதும் உதவுவனவாம். கட்டுரையிலோ, பயிற்சியிலோ, பிழைகள் மிகுதியுமிருப்பின் கட்டுரையை, பயிற்சியை மீண்டும் முழுமையும் எழுதச் செய்தலே நன்று. மாணவர் எழுதியவற்றை ஆசிரியர் படிக்காமலே கையெழுத்திடுதல் கூடாது. திருத்தியெழுதிய பகுதியை மீண்டும் பார்த்துக் கையெழுத்திடுதல் வேண்டும். இம்முறைகளை மேற்கொள்ளுவதன் மூலம் மாணவர் எழுத்தில் ஏற்படும் பிழைகளை ஒருவாறு நீக்கலாம்.

7.புதியன படைத்து எழுதுதல்

மாணவர் பிழையில்லாமலும் முறையாகவும் எழுதுவதற்குக் கட்டுரைப் பயிற்சிகள் மொழிப் பயிற்சிகள் முதலியவற்றைப் பயன்படுத்தலாம். அத்துடன் அமையாது அவர்களது படைப்பாற்றலுக்கும் நாம் வழிவகுக்க வேண்டும். தாய் மொழியில் தான் படைப்பாற்றலை எளிதில் வளர்க்க முடியும். நாளிதழ்களிலும், பருவ வெளியிடுகளிலும் வெளிவரும் புதிய இலக்கிய வகைகளையும் கவிதைகளையும் படிக்கும் மாணவர்க்கு அவற்றைப் போல் தாமும் படைக்க வேண்டும் என்னும் ஆர்வம் எழுதல் இயல்பு, மொழியாசிரியர் தக்க வழி காட்டினால் மாணவரிடம் சிறு கட்டுரைகள், சிறு கதைகள், சிறு நாடகங்கள் சிறு கவிதைகள், முதலிய வடிவங்களில் தாமாகவே எழுதும் ஆற்றலை வளர்த்து விட முடியும்.

பாதிக்கதை கூறி முற்றுவிக்கச் செய்தல், நிகழ்ச்சிகள் கூறி அவற்றைப் பற்றிக் கதை எழுதச் செய்தல், எதுகையமைந்த தொடர்கள், மோனையமைந்த தொடர்கள் கொடுத்து அவற்றிற்கு இயையத் தொடர்கள் எழுதச் செய்தல், கற்பனை நிறைந்த பாடல்களைப் படித்துக் காட்டி அவை போன்ற சிறு பாடல்கள் எழுதச் செய்தல் - போன்ற புதுப்படைப்புகளில் மாணவரை ஈடுபடுத்தலாம். இவ்வாறு அவர் தம் படைப்புகளை வெளியிட்டு அவர்களை ஊக்கப்படுத்துவதற்குப் பள்ளி மலர்களைப் பயன்படுத்தலாம்.

எழுதுதல் திறனை மதிப்பிடல்

- ❖ .சிறிய சொற்களின் எழுத்துக் கூட்டலை நன்கறிய உதவுகின்றது.

- ❖ .நிறுத்தற்குறிகளோடு எழுதிப் பழகுவதால் ஏற்ற இடங்களில் நிறுத்தற்குறியிட்டு எழுதும் பயிற்சி கிடைக்கும்.

- ❖ எழுதும்பொழுது சொல்லிக்கொண்டே எழுதச் செய்வதால் மாணவர்களுக்கு மொழிப் பயிற்சியும் கிடைக்கிறது.

❖ எழுதுவதற்குரிய பகுதி முழுமையும் சொல்லி முடித்த பிறகு, மீண்டும் ஒரு முறை ஆசிரியர் படிக்க, மாணவர் அப்பகுதியை பார்த்தல் வேண்டும்.

❖ மாணவர் எழுதியவற்றை உடனே திருத்திப் பொதுப் பிழைகளைச் சுட்டிக் காட்ட வேண்டும்.

❖ சொல்வதெழுதுதல் பயிற்சிக்குப் பலவிதமான வரிவடிவங்களும் அமைந்த சொற்கள் அடங்கிய, சிறந்த பாடப் பகுதிகளைத் தேர்ந்தெடுத்துக் கொள்ளுதல் வேண்டும்.

முடிவுரை

இவ்வலகு வாயிலாக மேற்கூறப்பட்டவாறு கேட்டல்,பேசுதல்,படித்தல்,எழுதுதல் ஆகிய திறன்களைத் தகவல் பரிமாற்ற ஊடகமாக மட்டுமின்றித் தகவல்களுக்குத் தோற்றுவாயாக அமையும் எண்ணங்களை உருவாக்குவதற்கும், உருவாக்கியதைத் தம்முள்ளும் பிறருள்ளும் பதிப்பதற்கும் மொழி பயனுடையதாகத் திகழ்வதை உணரமுடிகிறது.

பயிற்சி வினாக்கள்

1. படிக்க பயிற்றும் முறைகள் குறித்து எழுதுக?

2.அடிப்படை மொழித்திறன்கள் பற்றி எழுதுக?

3. நல்ல கையெழுத்தின் நல்லியல்புகள் யாவை?

4. அலைபேசி வழியாக உரையாடுவதை எடுத்துக்காட்டுடன் விளக்குக.

பரிந்துரைக்கப்பட்ட நூல்கள்

- **இரத்தினசபாபதி.பி ரு விஜயா.கு** (2016) *தமிழ் கற்பித்தல் முறைகள்-1.* *சென்னை: சாந்தா* வெளியீடு.

- **கோகிலா தங்கசாமி** (2016),*தமிழ்மொழி, குழந்தைகள் , ஆசிரியர்கள்.* *சென்னை:* பாவை பதிப்பகம்.

- **வஜ்ரவேலு. சு** (2009), *அருந்தமிழ் கற்பிக்கும் முறைகள்,* சென்னை: அம்சா பதிப்பகம்.
  வீரப்பன்.பா. (2000).உயர்நிலைத் தமிழ் கற்பித்தல் ஆசிரியர் கையேடு. மைசுர்:தேசிய ஆராய்ச்சி பயிற்சி நிறுவனம்.(ஹேநுசுவு).

அலகு–5 கற்பிக்கும் முறைகள்

நோக்கங்கள்

இப்பாடம் கற்றப்பின்பு மாணவ ஆசிரியர்,

- ஆசிரியர் மையக் கற்பித்தலைக் கூறுவர்.
- மாணவர் மையக் கற்றலை எடுத்துக்கூறுவர்.
- தொழில் நுட்பத்தின் பங்களிப்பை வெளிப்படுத்துவர்.
- கற்பித்தல் துணைக்கருவிகளின் பயனை எடுத்துக்கூறுவர்.

முன்னுரை

கற்பித்தல் என்பது ஒரு தொடர் சமூகச் செயல்பாடாகும். தொழில் தகுதி பெற்ற ஆசிரியர்களால் கற்பித்தல் மேற்கொள்ளப்படுகிறது. பண்டைய காலத்தில் பயிற்று முறைகள் தமிழ் நூல்களிலிருந்தும் இலக்கண நூற்பாக்கள் வாயிலாகவும் உரையாசிரியர்கள் மேற்கோளாகக் காட்டிய நூற்பாக்கள் வாயிலாகவும் கல்வி கற்பித்தனர். மனனம் செய்யும் முறைகளே பின்பற்றப்பட்டது. தற்காலத்தில் கற்பித்தல் முறை குழந்தைகளை மையமாகக் கொண்டு கற்பிக்கப்படுகிறது.இன்று கற்பித்தலில் தகவல் தொடர்பு ஊடகங்கள் பெரும் பங்குவகிக்கிறது

ஆசிரியர் மையக் கற்பித்தல்

தமிழ் மொழியைக் கற்க ஆசிரியர்களின் துணையை நாடி கல்வி கற்றனர். பின் நாளில் அறிவியலின் உத்தியையும் சேர்த்து கல்வியினைக் கற்றுக் கொள்கின்றனர். பல்வேறு சூழ்நிலையின் காலப் போக்கிற்கு ஏற்ப உத்திகளைக் கையாளுகின்றனர் என்பது குறித்து இப்பாடப்பகுதி அமைகிறது.

பண்டைய நூல்களிலிருந்து

"கற்க கசடற கற்பவை கற்றபின்

நிற்க அதற்குத் தக"

"கற்கை நன்றே கற்கை நன்றே

பிச்சை புகினும் கற்கை நன்றே".

"உற்றுழி யுதவியும் உறுபொருள் கொடுத்தும்

பிற்றைநிலை முனியாது கற்றல் நன்றே...."

போன்ற பாடல்களின் மூலம் கல்வி கற்கப்பட்டுள்ளதைச் சான்றாதாரங்களின் வழியே அறிந்து கொள்ள முடிகிறது. அக்காலத்தில் எண்ணிக்கையில் மிகக் குறைந்த அளவில் பள்ளிகள் இருப்பினும் ஆசிரியர்களை நாடியே மாணவர்கள் கல்வியினை கற்றுக் கொண்டனர்.

இன்றுள்ள விஞ்ஞானம் போல் அன்றில்லாததால் அனைத்தும் ஏட்டுச் சுவடிகளாக இருந்தன. கணிப்பொறியின் வளர்ச்சியால் இதழ்கள், செய்தித்தாள்கள், கருத்துப் பரிமாற்ற

முறைகள் வேகமாக வளர்ந்து வருவதால் கற்பித்தலானது எளிமையாக அமைகிறது. இக்காலத்தில் அச்சிடப்பட்ட பல்லாயிரக்கணக்கான நூல்கள் வெளிவந்து கொண்டே இருப்பதால் படிக்கும் ஆர்வத்தைத் தூண்டுகிறது என்கின்றனர். அக்காலத்தில் ஏட்டுச் சுவடியில் எழுதப்பட்ட கல்வி மற்றும் வேதகால கல்வி முறையை ஒருவர் வாசிக்க மற்ற அனைவரும் செவிமடித்து கேட்கும் நிலை மாறி இன்று அவரவர் தனக்கென்று புத்தகங்களை வைத்து ஆசிரியர் உதவியுடன் கற்றுக் கொண்டு வருகின்றனர். இருப்பினும் அன்றைய பாடங்களை மாணவர்களுக்குத் தெளிவு படுத்தியும், புதிய புதிய செய்திகளையும், உத்திகளையும் கையாண்டு வருகின்றனர். அந்தணர் மற்றும் அரச குடும்பத்துப் பிள்ளைகள் மட்டுமே போதித்த கல்வியானது இன்று அனைவருக்கும் கல்வி என்ற திட்டமாக செயல்படுத்தப்பட்டுள்ளது. ஆசிரியர்கள் மாணாக்கரின் நலன் கருதி எண்ணங்களைப் புரிந்து கற்றலைச் செம்மையுடன் செய்து வருகின்றனர்.

விரிவுரை முறை

விரிவுரை முறையில் ஆசிரியர் பாடப் பொருள் குறித்துத் தொடர்ச்சியாக உரை நிகழ்த்துவதே விரிவுரை முறை ஆகும். மாணவர்கள் வகுப்பறையில் அமைதியாக ஷெதெள்ளிய நீரோட்டம்' போன்ற விரிவுரைக் குறிப்புகளை தங்கு தடையின்றி எவ்வித இடையூறு இல்லாமல் கவனிப்பதோடு முக்கிய விபரங்களை குறிப்பெடுத்துக் கொள்கின்றனர்.

விரிவுரை முறையில் ஆசிரியரின் பங்கு அதிகமாக காணப்பட்டது. ஆசிரியர் மட்டுமே கற்றல்-கற்பித்தல் பணியை தொடர்வதாக அமைகின்றது. உயர்நிலை கல்லூரி மாணவர்களுக்கு மட்டுமே இந்த முறை ஏற்புடையதாக உள்ளது.

தமிழ் இலக்கண நூல் நன்னூல் இம்முறையைக் கற்பிக்க கீழ்க்காணும் தகவலைக் கொடுக்கிறது.

"சுருங்கச் சொல்லல"

விளங்க வைத்தல்

நவின்றோர்க்கு இனிமை

நன்மொழிப் புணர்தல்.........(நன்னூல் நூற்பா)

ஆசிரியரணிக் கற்பித்தல்

ஆசிரியரணிக் கற்பித்தல் என்பது இரண்டு அல்லது அதற்கு மேற்பட்ட ஆசிரியர்கள் ஒன்றுகூடி, இரண்டுக்கு மேற்பட்ட வகுப்புகளை ஒன்றிணைத்து, வகுப்பிற்கான ஒரு பாடத்தை அல்லது தலைப்பைத் தங்களது தனி ஆர்வங்கள் அல்லது சிறப்பான அறிவுத் திறமைகளின் அடிப்படையில் கற்பித்தல் செயல்களைப் பகிர்ந்து கொண் ஒதுக்கப்பட்ட கால அளவிற்குள் கற்பித்தலை நிறைவு செய்வதாகும்.

ஆசிரியரணிக்கற்பித்தல் என்பது ஒரே ஒரு ஆசிரியருக்குப் பதிலாக ஒரு சில ஆசிரியர்கள் கூட்டுறவு முறையில் கற்பித்தல் ஆகும்.

1. **ஆசிரியர் அணிக்கற்பித்தலின் இன்றியமையானான்கு கூறுகள்**
   1.நேர மேலாண்மை
   2.சாமார்த்தியம்
   3.பொறுமை

4.நெகிழ்ச்சியுடைமை

2. ஆசிரியர் அணிக் கற்பித்தலின் வகைகள்

1. பகிர்தல்
2. கூட்டுறவு முறையால் கற்பித்தல்
3. இணைந்து கற்பித்தல்

1. பகிர்தல்

ஒரே பாடத்துறையில் உள்ள பல ஆசிரியர்கள் ஒரு அலகைக் கூட்டுறவு முறையில் பகிர்ந்து கொண்டு நடத்தல்.

(எ.கா) தமிழ்ப்பாடத்துறையைச் சேர்ந்த ஆசிரியர்களில் ஒருவர் உரைநடைப் பகுதியையும் மற்றொருவர் செய்யுள் பகுதியையும் பிறிதொருவர் இலக்ககணப் பகுதியையும் நடத்துதல் ஆகும்.

2. கூட்டுறவு முறையில் கற்பித்தல்

தொடர்புடைய துறைகளின் ஆசிரியர்கள் இணைந்து ஒரு அலகைக் கூட்டுறவு முறையில் நடத்துதல்.

(எ.கா) கண்ணின் அமைப்பும், பார்வைக் குறைபாடும் என்ற தலைப்பில் இயற்பியல் வேதியியல் உயிரியல் ஓவிய ஆசிரியர் ஆகியோர் கூட்டாக இணைந்து செம்மையாக கற்பித்தல்.

3. இணைந்து கற்பித்தல்

ஒரு வகுப்பு அல்லது படிப்புக்கு உரிய பாடத்தில் உள்ள பல்வேறு அலகுகளைத் தொடர்புடைய துறையின் ஆசிரியர்கள் இணைந்து கற்பித்தல்.

(எ.கா) பொருளியல், வரலாறு, புவியியல், வணிகம் ஆகிய துறைகளைச் சார்ந்த ஆசிரியர்கள் ஒருங்கிணைந்து கற்பித்தல்.

ஆசிரியர் அணிக்கற்பித்தலால் விளையும் நன்மைகள்

1. ஒரு கல்வி நிலையத்திலுள்ள அனைத்து வளங்களையும் திறம்பட பயன்படுத்திக் கொள்ள முடியும்.
2. அணிக்கற்பித்தல் பாடத்திட்டம், நோக்கங்களுடன் இணைந்தே செல்லும்.

அணிக்கற்பித்தலில் எதிர்படும் சிக்கல்கள்

1. ஆசிரியர்களின் பற்றாக்குறையால் வேலைப்பளு அதிகரித்தல்.
2. பாடவேளைகளை அமைப்பது கடினம்.

பங்கேற்கும் முறைகள்

பாடங்களைக் கற்பிக்கும் போது ஆசிரியர்கள் தாமாகவே முன்வந்து மாணவர்களை உட்படுத்தி பாடங்களை நடத்துவதற்குப் பங்கேற்பு முறை என்று பெயர். மாணவர்களின் மனநிலையை அறிந்து ஆர்வத்துடன் பங்கேற்கும் வகையில் ஆசிரியர் பாடங்களை நடத்துதல் வேண்டும்.

பகுத்துக் கற்பித்தல்

ஆசிரியர் வகுப்பறைக்குச் செல்லும் முன் அன்று பயிற்றுவிக்கும் பாடத்தின் எப்பகுதியை நடத்த வேண்டும் என்றும், என்னென்ன பகுதிகள் மற்றும் வழிமுறைகளைப் பின்பற்றப்பட வேண்டும் என்பதனைக்கு குறித்து முன்னதாகவே திட்டமிட்டு பகுத்துக் கற்பித்தல் வேண்டும்.

பாடம் தொடங்கும் திறன், இலக்கிய மற்றும் செய்யுளின் எளிய நடை, குரல் ஏற்ற இறக்கம், நடித்தும்-பாடியும் காட்டுதல் இறுதியில் முடிக்கும் திறன் போன்றவற்றை முறையாகப் பகுத்து பாடம் கற்பிக்க வேண்டும்.

தொகுத்துத் கற்பித்தல்

ஆசிரியருக்குக் கொடுக்கப்பட்ட பாடவேளை முடிந்ததும் அன்றைய பாடவேளையில் நடத்திய பாடப் பொருள்களை நினைவுப்படுத்தி மாணவர்கள் ஒவ்வொருவரையும் சொல்ல வைத்து அவைகளைத் தொகுத்து நினைவுப்படுத்த வேண்டும். மாணவர்களின் இத்தொடர்ச்சியான செயலானது அவர்தன் முன்னேறிச் செல்ல தொகுத்துக் கற்பிக்கும் முறை அப்பாடத்தின் ஆர்வத்தைக் காட்டுவதாக அமையும். அப்போது தான் ஆசிரியர் என்ன கற்பித்தோம் என்ற நினைவும், மாணவர்கள் என்ன கற்றோம் என்ற நினைவினையும் மனதில் பதியும்.

மாணவர் மையக் கற்பித்தல்

மாணவர்களை மையப் படுத்தி அவர்களைக் கற்பித்தல் முறையில் ஈடுபடுத்த மாணவர்களே கற்றலில்ஈடுபடுவர் பாடத்தை மையப்படுத்திக் கற்றல் முறையில் கற்பிக்கப்படுகிறது.

சுயவேகம், சுயதிறன், ஆர்வத்திற்கேற்ப கற்க்கின்றனர்

கற்றல் முழுவதும் மாணவர் செயல்களாகவே இருக்கும்.

ஆசிரியர் ஒரு வழிக்காட்டியாக மட்டுமே செயல்படுகிறார்.

புதினெட்டாம் நூற்றாண்டின் பிற்பகுதியிலிருந்து கற்போரை மையமாகக் கொண்ட உண்மைக் கல்வியானது உளவியல் அடிப்படையில், கல்வியாளர்கள் உலகினுக்கு உணர்த்தினர்.

புலன்களின் வழியே கற்பித்தல் நிகழ வேண்டும். இயற்கைக் கல்வியினை ரூசோ என்ற கல்வியாளர் (1712-1778) ஆம் ஆண்டு குழந்தையை மையமாகக் கொண்டு கற்பிக்க வேண்டும் என்ற கருத்தினை வலியுறுத்தினார் இவரைத் தொடர்ந்து 1746-1827-ம் ஆண்டு பெஸ்டலாசி என்ற கல்வியாளர் புலன்கள் வழியே கற்பித்தல் வேண்டும். உற்றுநோக்கலை வளர்க்க வேண்டும் என்ற கருத்தினை எடுத்துரைத்தார்.

தொடர்ந்து பிளாண்டரின் உற்றுநோக்கலே இன்று கல்வியில் டிபரும் தாக்கத்தை ஏற்படுத்தி வருகிறது.

ஹெர்பார்ட் (1776-1841) ஆம் ஆண்டு கற்பித்தலின் படிநிலைகளான மனத்தைப் பண்படுத்தல், எடுத்துக்கூறல், ஒப்பிட்டுக்கூறல், பொதுவிதிகாணல், விதியைப் பயன்படுத்துதல் போன்றவை கற்றல், கற்பித்தல் சூழ்நிலை எவ்வாறு அமைதல் வேண்டும என்பதினைக் கூறியுள்ளனர்.

∴புரோபெல் (1789-1852) ஆம் ஆண்டு "இயற்கையை ஒட்டிக் கல்வி இருத்தல் வேண்டும். பள்ளி என்பது பூங்கா! குழந்தைகள் வளரும் செடிகள்! ஆசிரியர் தோட்டக்காரர்! என்று கல்வியாளர் விளக்கியுள்ளார்."

ஜான்டூயி (1859-1952)-ம் ஆண்டு "கற்றல் செயல்முறைகள் மூலம குழந்தைகள் பிற்கால வாழ்க்கையை கண்டு கொள்ள வேண்டும் என்ற கருத்தினை எடுத்துக்கூறியுள்ளார்.

சக மாணவர் கற்பித்தல்

பொதுவாகப் பள்ளிகளில் வகுப்பு முறையேவழக்கத்திலிருந்து வருகிறது ஒவ்வொரு வகுப்பிலும் ஏறத்தாழ 50 பிள்ளைகளைச் சேர்த்துஅனைவருக்குமஒரே வகையான கல்வி கற்பிக்கப்பட்டு வருகிறது. வகுப்பில் முதல் நிலை மாணவர், இடைநிலை மாணவர்,கடைநிலை மாணவர்கள் இருப்பர். இவற்றுள் முதல் நிலை மாணவர்கள் நிறை மதியுடையவர்களாகவும்,இடைநிலை மாணவர்கள் குறை மதியுடையவர்களாகவும் கடை நிலை மாணவர்கள் இப்படியும், அப்படியும் இல்லாமல் திண்டாடுவர். இப்படிப்பட்ட மாணவர்களுக்கு பாடப்பொருள் குறித்து விளக்குவது சகமாணவர் கற்பித்தல் எனப்படும். இம்முறையில் மாணாக்கர்கள் தங்கள் விருப்பப்படி விரைவாகவோ மெதுவாகவோகற்கும் படி வாய்ப்புகள் இருக்கின்றன.

மாணவர் கற்பித்தல்

மாணவர்களை மையமாகக் கொண்டு கற்பித்தல் நடைபெறுகிறது. ஆசிரியர் மாணவர்களுக்கு எழும் ஐயங்களை தீர்ப்பவராகவும் சிறந்த வழிகாட்டியாகவும் திகழ்வர்.

மாணவர் கற்பித்தலின் அவசியம்

மாணவர் கற்பித்தலின் இன்றியமையாமைக்கு நான்கு காரணங்கள் உள்ளன.

1. தேர்ச்சி பெறாமை
2. படிக்க வசதிகளின்மை
3. படிக்கும் பழக்கங்கள்
4. சரியான முறையில் வழிகாட்டாமை

1. தேர்ச்சி பெறாமை

மாணாக்கர்கள் பள்ளியிலும், கல்லூரியிலும் பயின்று வருகின்றனர் பெரும்பான்மையோர் தேர்ச்சியுறாமல் போகின்றனர். இங்ஙனம் தேர்ச்சியுறாமலிருப்பதற்கும் இடையில் நின்றுபோவதற்கும் மாணாக்கர்களின் மனவளர்ச்சி காரணமன்று என்றும் அவர்களிடம் படிக்கும் நற்பழக்கம் சரிவர அமையாமையே அதற்கு முக்கிய காரணமாகும்.

2. படிக்க வசதிகளின்மை

நம்நாடு வறுமையில் ஆழ்ந்துள்ளது. பெரும்பான்மையான மாணாக்கர்கள் ஏழைமை நிலையிலுள்ளனர். நாட்டுப் புறங்களிலிருப்பினும் அவர்கள் தங்கள் வீட்டில் படிக்கின்ற சூழ்நிலையில்லை படிக்க வசதிகளுமில்லை. நல்ல காற்றோட்டமும் வெளிச்சமுள்ள தனி அறைகள் அவர்களுக்கு இல்லை.

செல்வர் வீடுகளில் வசதிகளிருப்பினும் வானொலியின் பேரொலி, தொலைக்காட்சிப் பெட்டிகளின் தொல்லை, அடிக்கடி பல அலுவல்கள் குறுக்கிடுதல், வீடுகளில் உள்ளோர் அடிக்கடி படக்காட்சிகள் போன்றவைகட்குச் செல்லுதல் போன்றவை மாணாக்கரின் படிப்புக்குப் பெருந்தடைகளாக விளங்குகின்றன.

படிக்கும் பழக்கங்கள்

இன்றைய மாணாக்கர்களிடம் குறித்த காலத்தில் படிக்கும் பழக்கம் இல்லை. சிலர் மனம் போனவாறு ஒரு திட்டமுமின்றிப் படிக்கின்றனர்.

தேர்வுக் காலங்களில் சிலர் தேநீர் பருகி நள்ளிரவு வரை படிப்பதையும் உணவுக்கு முன்னும் உணவுக்குப் பின்னும் படிப்பதையும் சிலர் தூக்கத்திலிருந்து எழுந்து நள்ளிரவில் படித்து அதிகாலையில் தூங்குவதையும் சிலர் படிப்பைத் திடீரென்று நிறுத்திவிட்டு

நண்பர்களுடன் படக் காட்சிகளுக்கும், நாடகங்களுக்கும் செல்வதையும் படிக்கும் பொழுது பொற்றோர்கள் வீட்டு அலுவல்களைக் கவனிக்கும்படி கூறுவதையும் நாம் காண்கிறோம்.

சரியான முறையில் வழிகாட்டாமை

நம் நாட்டில் பெரும்பாலான குடும்பங்களில் படிப்பில் சரியான முறையில் வழிகாட்டுவதற்குத் தகுந்தவர்கள் இல்லை. பெரும்பாலான பெற்றோர் படித்தவர்களாகவுமில்லை படித்த ஒரு சிலரும் தகுந்த முறையில் மேற்பார்க்கும் தகுதியும் ஆற்றலும் பயிற்சியுமில்லாதவர்களாகவும் உள்ளனர். அதனால், பெரும்பாலான மாணாக்கர்கள் தவறான முறைகளை மேற்கொள்வதற்கும் பயனற்ற முறைகளைக் கையாள்வதற்கும் காலத்தை வீணாக்குவதற்கும் காரணமாகின்றன.

எனவே மாணவர்கள் கற்பித்தல் முறை அவசியமாகிறது. சரியான படிப்பு இல்லாத காரணத்தால் அறிவுள்ள மாணாக்கர்கள் சிலர் தீய போக்குள்ளவர்களாவதைத் தடுத்து நிறுத்த இம்முறை பயன்படுகிறது.

சிறுகுழுவகுப்பு மாணவர் விவாதித்துக் கற்றல்

மாணவர்கள் சிறுசிறு குழுவாகப் பிரிந்து கற்க அனுமதிக்க வேண்டும். அப்போது ஒத்த நிலையில் உள்ளவர்கள் ஒன்றுகூடி கற்கும் நிலையில் அவர்களுக்கேற்ற நிலையிலான கற்றலை மேற்கொள்ள வேண்டும்.

இம்முறையில் மாணவர்கள் தாமே விவாதித்து ஐயங்களைத் தெளிதல், சிந்தனைத் திறனை வளர்த்தல் அறிவாண்மை மிக்கவர்களாக விளங்குதல், சொல்வன்மை மிக்கவர்களாக சிறத்தல் போன்ற பல நன்மைகள் ஏற்படும்.

மாணவர் கருத்தரங்கம்

மாணவர்கள் தாமே அரங்கம் ஏறி விவாதிப்பதற்காக வகுப்பறைக் கருத்தரங்குகள் நடத்தப் படுகின்றன. அக்கருத்தரங்கத்துக்கென ஒரு தலைப்பினை அளித்து அது தொடர்பாக மாணவர்களை அரங்கேறிப் பேச செய்தல் மாணவர் கருத்தரங்கம் எனப்படும்.

நோக்கம்: மாணவர்கள் பேசுவதற்காக வாய்ப்புப் தருதலும் குறிப்பிட்ட தலைப்புப் பற்றிச் சிந்திக்கும் திறனை வளர்த்தலுக்கும், மொழிப் பயிற்சி சிறப்பதற்கும், குறிப்பிட்ட தலைப்பிலுள்ள பொதுவான கருத்துகளைப் பிறர் அறிந்து கொள்ளச் செய்தலும் இதன் நோக்கங்களாகும்.

ஆசிரியர் பங்கு: மாணவர்கள் பேச வேண்டிய தலைப்பை முன்னரே அவருக்குத் தெரியப் படுத்த வேண்டும். கருத்தரங்கில் குறிப்பிட்ட நேரத்தில் பேசுமாறும், ஐந்து அல்லது மாணவர்களுக்கு வாய்ப்பளித்து முறைப்படுத்தவும் வேண்டும்.

கருத்தரங்கில் பேசும் மாணவர் கருத்தரங்கப் பேச்சாளர் அல்லது கருத்தரங்கப் பொழிவாளர் எனப்படுவார். ஆவர் தமது கருத்தைக் குறிப்பிட்ட நேரத்திற்குள் பேசி முடித்தல் வேண்டும்.

பேச்சாளர் பேசி முடித்தபின் ஐயங்கள் குறித்துத் தெளிவு பெறும் பொருட்டு பார்வையாளராயிருக்கும் மாணவர்கள் சிறுசிறு வினாக்களைத் தொடுப்பர். அதற்குப் பேச்சாளர் விளக்கம் அளிப்பர்.

நிறைவாகக் கருத்துக்களைத் தலைவர் தொகுத்துரைப்பார். தொகுப்புரையுடன் கருத்தரங்கம் நிறைவடையும்.

பட்டிமன்றம்

உயர்நிலைப்பள்ளி மாணவர்கருக்கும்ளுக்கும் கல்லூரி மாணவர்களுக்கும் வாய்தொழிப் பயிற்சி பெறுவற்குப் பட்டிமன்றம் சிறந்ததோர் சாதனம். பட்டிமன்றம் நடைபெறும்போது மாணாக்கர் இருபிரிவாகப் பிரிந்து அணித்தலைவர்களின் கீழ் நான்கு நான்கு பேர்களாகவோ மூன்று மூன்று பேர்களாகவோ அமைந்து பொருளை ஒட்டியும் வெட்டியும் பேசுவார்கள். நடுவர் ஒருவர் இருப்பர். அவர் அணித் தலைவர்க்கு 5 மணித்துளிகளும் உறுப்பினர்களுக்கு 4 மணித்துளிகளும் கொடுத்து பேசச் செய்வார். (எ.கா.) செய்ந்நன்றிக் கடமையில் மிகவும் சிறந்தவன் கும்பகர்ணனா? கர்ணனர் நடுவர் இறுதியாகப் பிரச்சினையுள்ள பகுதிகளை நீக்கிக் கொண்டே வந்து ஒரு தலைப்புக்கான காரணங்களைத் தொகுத்துக் கூறி, அதுவே வென்றதென்று கூறி முடிப்பார். மற்றும் கட்சியின் வாதங்களில் குற்றநற்றங்களை எடுத்துக் கூறி அவையினரை வாக்குகள் வழங்கச் செய்து பெரும்பான்மையான வாக்குகள் பெற்ற கட்சியை வெற்றி பெற்றதாக அறிவிப்பர். 'பள்ளி பாராளுமன்றம்' பல பட்டிமன்றங்களுக்கு வாய்ப்பினை நல்கும்.

பட்டிமன்றம் முறையில் மாணாக்கர் ஆர்வத்துடன் கலந்து கொள்வதால் அனைவரும் நல்ல பயன்பெறுவர்.

குழு விவாதம்

குழுவிவாதம் என்பதனை வாய்மொழிப் பயிற்சிக்குப் பயன்படுத்திக் கொள்ளலாம். பள்ளி ஆண்டுவிழா, விளையாட்டுப் போட்டி இலக்கியக் கழக ஆண்டுவிழா, பெரியோர்களின் திருநாள்களைக் கொண்டாடுதல் ஆகியவற்றை எவ்வாறு சிறப்புற நடத்துவது என்பதைப் பற்றி ஆராயலாம்.

அண்மைக்கால கற்பித்தல் போக்குகள்

அறிவியல் வளர்ச்சியின் காரணமாக இன்று கற்பித்தல் என்பது பல மாற்றங்களைக் கண்டுள்ளது. மின்னாற்றல் காரணமாக கணினி, கணினிவழியே வலைதளம் என விரிவடைந்தது. ஆனால் இன்று வலைதளத்தில் இருந்து பதவிறக்கம் செய்து எதனையும் கற்கும் நிலை உருவாகியுள்ளது. "பழையன கழிதலும் புதியன புகுதலும் வழு அல கால வகையிலான" என்பார் நன்னூல் ஆசிரியர் பவணந்தியார்.

பழையவற்றின் அடிப்படையில் புதிய வளர்ச்சிகள் இன்று பிரமிப்பை ஊட்டுவனவாக உள்ளன. அனைத்து நடவடிக்கைகளையும் மின்மயமாக்கல் என்ற அடிப்படையில் திட்டமிட்டுப் பணிகள் நடைபெறுகின்றன. அதற்கெனத் தனியே தொழில்நுட்பக் கருவிகள் கண்டுபிடிக்கப்பட்டுள்ளன. கற்பித்தல் என்பது குரல் ஒலி, காட்சி வழி, தகவல் தொகுப்பு, அச்சு வடிவில் அமைந்தவை என அமைகின்றன.

குரல் ஒலி

குரல் ஒலி இருவகையாக அமைகின்றது. ஒரு வழித் தகவல் அளிப்புக் கருவிகளாகிய ஒலிப்பேழைகள் வானொலி போன்றவை அமைகின்றன. இரு வழித் தகவல் அளிப்புக் கருவிகளாகத் தொலைபேசிஇ ஒலிஇ விண்ணரங்கம்மற்றும் வானொலி போன்றவையும் ஒலி வழியே கற்க உதவுகின்றன.

கருத்துக் கட்டமைப்புக் கற்றல்

பல்லூடகம், கணினி சார்ந்த தொழில்நுட்பமாகும். ஒலி, ஒளி, அசைவு, அட்டவணை முதலிய பல்வேறு ஊடகங்களை இணைத்துப் பயன்படுத்துவது பல்லூடகம் ஆகும்.

கருத்துக்கள் என்பவை தொகுக்கப்பட்டு வடிவமைக்கப்பட்டிருக்கும். அவற்றைத் தகவல் தொகுப்பு, விவர அடங்களால் கருத்துக் கட்டமைப்பு எனப் பல பெயர்களில் அழைக்கின்றனர்.கணிப்பொறிவழிக் கற்பித்தல் முறையில் மாணவர்களுக்குக் கற்பிக்கப்படும் பாடங்கள் கணிப்பொறி வழியே வழங்கப்படும்.

ஆசிரியரின் கற்பித்தல் நுட்பமானது கற்பித்தல் பொருள்களாக மாணவர்களுக்கு வழங்குவதிலேயே உள்ளது. கற்பித்தல் விளைபயன் எவ்வாறு அமைகிறது என்பதில் ஆசிரியர் அதிக கவனம் செலுத்த வேண்டும்.பாடப்பொருள்களைக் குறைந்த செலவில் விரைவாகவும், திறமையாகவும் மாணவர்களுக்கு வழங்கிட உதவும் தொழில் நுட்பமே தேர்வு செய்யப்பட வேண்டும்.

இ.கற்றல்

இ.கற்றல் என்பது மின்னியல் சாதனங்கள் வழியே நடைபெறும் கற்றலை குறிக்கும். பின்வருமாறு இதனை நிரல்படுத்தலாம்.

1. உளவியல் அடிப்படையில் தயாரிக்கப்பட்ட பல்லூடக முறையில் மின்னணு நுட்ப வழி மற்றும் தொலைத் தொடர்புச் சாதனங்களைப் பயன்படுத்தி எந்த நேரத்திலும், எந்த இடத்திலும் கற்கும் வசதியைத் தான் இ-கற்றல்(மின்னியல் முறையில் கற்றல்) என அழைக்கிறோம்.
2. மின்னியல் முறையில் கற்றல் என்பது மின்னியல் தூண்டல்கள் நிறைந்த சூழலில் கற்றல் நடைபெறுவதாகும்.
3. பயிற்சியளித்தல், தேவைப்படும் தகவல்களை உடனடியாகக் கிடைக்கச் செய்தல், வல்லுநர்களின் வழிகாட்டுதல் பெறுவதற்கு வாய்ப்பளித்தல் ஆகிய மூன்றையும் மின்னியல் கற்றல் உள்ளடக்கியது.

காணொலிக் காட்சிவழிக் கற்றல்

தொலை தூரத்தில் பல்வேறு இடங்களில் உள்ளவர்கள் பயணம் ஏதும் செய்யாமலேயே இணையதளத்தின் உதவியால் வீடியோ காட்சிகள் மற்றும் உரைகள் ஆகியவற்றை இருக்கும் இடத்தில் ஏற்பாடு செய்யப்பட்டுள்ள வெண் மென் திரையின் மூலம் கண்டு கற்றுக் கொள்ளுதலையே காணொலி காட்சி வழிக்கற்றல் என்கிறோம்.

நிறைகள்

→ஆசிரியர் இல்லை,இ கரும்பலகை இல்லை,இ சுண்ணக் கட்டிகளும் இல்லாமலும் கண்டு களிக்க முடிகிறது. தேவையானவற்றை கற்றுக் கொள்ள முடிகிறது.

→ஆசிரியர்கள் தங்கள் கற்பித்தல் திறன்களைத் தாமே தெரிந்து கொள்ளலாம்.

குறைகள்

→ இடையிடையே வினாக்கள் கேட்கவோ, தெளிவு பெறவோ விளக்கங்கள் பெறவோ முடியாது. ஆசிரியர்-மாணவர் தொடர்பு அற்றுப் போகிறது.

→ பலராக இருப்பதால் யாருக்கு என்ன தேவை என்பதை அறிந்து கொள்ள இயலாது.

அச்செழுத்து வளங்கள்

புல்லிலும் கல்லிலும் எழுதிவைத்த காலம்மாறி பனையோலையினைப் பக்குவப்படுத்தி ஓலைச் சுவடியில் எழுதிய நிலை மேலும் வளர்ந்து அச்சுக் கலையாக மாறியது. புத்தகங்கள், நாளிதழ், மாத இதழ், வார இதழ் போன்றவை இதில் அடங்குமாறு அமைந்திருக்கும். தமிழ் எழுத்துக்களை அச்சில் வார்த்து நிரந்தரப் பயன்பாட்டுக்கு வழிவகுப்பது அச்செழுத்து வளங்கள்.

எப்போதோ அச்சிட்ட நூல்களையும் இப்போது நாம் படிக்கிறோம் என்பது அச்செழுத்து வளத்தின் முக்கியப் பயனாகும். ஒரு சிலரே பயன்படுத்தும் சூழ்நிலையில் ஒரே நேரத்தில் பலர் படித்து மகிழ வாய்ப்பளிக்கிறது. நீண்ட காலத்துக்குப் பயன்படுத்தலாம். ஒன்றைப் பார்த்து மற்றொன்றை எளிதாகப் படி எடுக்கலாம். கல்விப் பரவலுக்கும் படிப்பறிவு பெருக்கத்துக்கும் அச்செழுத்து வளங்கள் பயன்படும்.

நாளிதழ்கள்

நாளிதழ்கள் மிகப்பெரிய செய்தி ஊடகங்கள். அவை பல்வேறு வகைப்பட்ட தகவல்களின் தொகுப்பாகும். பல்வேறு இடங்களில் நடக்கின்ற நிகழ்வுகளையும் உடனுக்குடன் தெரியப்படுத்தி தேவையான செயல்பாட்டுக்கு வழிகாட்டுகின்றன. நாளிதழ்கள், நிழற்படங்கள், புதிய அறிவியல் செய்திகள், இயற்கைச் சீரழிவுகளான புயல், வெள்ளம், நிலநடுக்கம், நெருப்பு போன்றவற்றிலிருந்து காப்பாற்றிக் கொள்ள உரிய நடவடிக்கை மேற்கொண்டு அவற்றை எதிர்கொள்ளும் வகையில் செயலாற்ற தூண்டுகின்றன. நாளிதழ்களில் வெளிவரும் செய்திப் படங்களை வெட்டி பொருத்தமான தலைப்புகளில் வகைப்படுத்தி வரிசைப்படுத்தி ஒட்டி வைக்கலாம். இத்தகைய தொகுப்புகளை குழு விவாதத்திற்கு, கட்டுரை தயாரிப்பு, வரலாற்று இணைப்புத் தயாரித்தல் போன்றவற்றிற்குத் தந்து உதவலாம். இத்தகைய தயாரிப்புகளை நூலகங்களில் பாதுகாப்பாக வைத்துப் பின்னால் பயன்படுத்தும் பார்வைத் தொகுப்புகளாகப் பயன்படுத்த உதவலாம். அந்த வகையில் இன்று தினத்தந்தி, தினமலர், தினமணி போன்ற நாளிதழ்களை எண்ணிப் பார்க்க முடிகிறது.

ஆய்விதழ்கள்

இதழ்கள் நாள் இதழ்கள், வார இதழ்கள், மாத இதழ்கள், பருவ இதழ்கள் எனப் பல வகைப்படும். இவ்வகையிலே ஆய்விதழ்களும் இடம் பெறுகின்றன.

ஆய்வு நோக்கில் கருத்துக்களை, படைப்புகளை, மொழியாக்கங்களை, கலைச்சொல் ஆக்கங்களைத் தாங்கி வரும் இதழ்கள் ஆய்விதழ்களாக அடையாளப்படுத்தப்படுகின்றன. இவை பள்ளி நூலகங்களில் இடம்பெறுதல் வேண்டும். அவற்றையும் படித்துக் குறிப்புகள் எடுத்துப் பயன்படுத்தும்படி மாணவர்களை ஆசிரியர்கள் தூண்டுதல் வேண்டும்.

(எ.கா) தமிழ்ப் பொழில், செந்தமிழ்ச் செல்வி, கலைக்கதிர் மற்றும் பல்வேறு கல்வி இதழ்கள்.

கலைக்களஞ்சியங்கள் ஒலிசார் வளங்கள்

தமிழாசிரியருக்கு மிகச் சிறந்த செய்திகளைத் தரவல்ல பார்வை நூல்களுள் ஒன்று கலைக்களஞ்சியம். தமிழ்க் கலைக்களஞ்சியம், அபிதான சிந்தாமணி, அபிதான கோசம், தமிழ்மொழி அகராதி போன்றவை சொல் விளக்கும் பொருள்களைக் காரண காரியத் தொடர்புபடுத்தித் தொகுத்து அளிப்பவை கலைக்களஞ்சியங்கள். என்பன தமிழாசிரியருக்கும் பயன் தரக்கூடிய கலைக்களஞ்சியங்களாகும்.

ஒலிசார் வளங்கள்

ஒலிசார் வளங்கள் என்பவை ஒலியை அடிப்படையாகக் கொண்டவை. இவற்றைக் காதால் மட்டுமே கேட்க முடியும்.கண்களால் சில நேரங்களில் காட்சிகள் ஒலி-ஒளி வாயிலாகக் காணலாம். வானொலிப் பேச்சுகள், ஒலிநாடாக்கள், குறுந்தகடுகள் போன்றவை இவ்வகையைச் சார்ந்தவை. இங்கு ஒலியே முதன்மைப் பெறுகிறது. கூர்மையான செவிப்புலன் சிறப்பானது.

வானொலிப் பேச்சுகள்

சுவைமிக்க நிகழ்ச்சிகளை மக்கள் பலரும் ஒரே நேரத்தில் கேட்டு மகிழ உதவுவது வானொலி. இது கல்வித் துறையில் மாணவர்களுக்கு அறிவு புகட்டவும்இ பொது அறிவு வளர்க்கவும் உதவுகிறது.

இதனை இருவகைகளாப் பிரிக்கலாம்

1. விளக்கப் பாடங்கள்
2. பின்னணிப் பாடங்கள்

விளக்கப் பாடங்கள்

அறிவியல், இலக்கியம், வரலாறு போன்ற பாடங்களில் சில குறிப்பிட்ட தலைப்புகளை விளக்குவதற்காக ஒலிபரப்பப் பெறும் நிகழ்ச்சிகளாகும்.

பின்னணிப் பாடங்கள்

பயணப் பேச்சுகள், வரலாற்றுக் கதைகளை நடித்துக் காட்டல், போன்ற கல்வி ஒலிபரப்பு இவ்வகையைச் சாரும். இவை பள்ளிப் பாடங்களின் பின்னணியாகும்.

ஏற்பாடுகள்

1. ஒவ்வொரு வகுப்பும் வானொலிப் பாடவேளைகளைத் திட்டமிடுதல் வேண்டும்.
2. கல்வி ஒலிபரப்பைக் கேட்கும் முன்னர் அப்பொருளைப் பற்றிய சில குறிப்புகளை முன்னதாக விளக்குதல் வேண்டும்.
3. வானொலி கேட்கும்போது குறிப்பு எடுத்துக் கொள்ளுதல் வேண்டும்.

நன்மைகள்

1. காலத்தாலும், தொலைவாலும் பிரிக்கப்பட்ட சிறந்த தலைவர்களின் ஒலியைக் கேட்கச் செய்கிறது.
2. மாணாக்கரின் ஆர்வத்தை தூண்டுகிறது.

குறுந்தட்டுகள்

கற்பிக்க வேண்டிய செய்திகளை வட்டமான மெல்லிய மின்தகட்டில் பதிவு செய்து வைத்துக் கொண்டு தேவையான நேரத்தில் அதனை ஓடச் செய்து செய்திகளை அறிந்து கொள்ளப் பயன்படுபவைக் குறுந்தட்டுகள். எத்தகைய செய்திகளையும், தகவல்களையும், இலக்கியங்களையும், இத்தட்டில் பதிவு செய்து வைத்துக் கொள்ளலாம். தம் குரலையே, பாட்டையோ இத்தட்டில் பதிவு செய்து கொண்டு மீண்டும் ஓடச் செய்து தம் குரலைத் தாமே கேட்டு நிறை குறைகளை அறிந்து கொள்ளலாம். தனக்கு விருப்பமான எதையும் பதிவு செய்து மீண்டும் கேட்கப் பயன்படுபவையே குறுந்தட்டுகள் ஆகும்.

தமிழ் இணையப் பல்கலைக்கழகம் மழலைக் கல்வி, சான்றிதழ்க் கல்வி ஆகியவற்றுக்குப் பயன்படும் வகையிலும் பயணியரின் தமிழ் உரையாடலுக்குப் பயன்படும் வகையிலும் குறுந்தட்டுகளை உருவாக்கி வருகிறது.

ஒலிப்பதிவு நாடாக்கள்

பயிற்சியாளர் ஒவ்வொருவரும் தனித்தனியே பயிற்சி பெறுவதற்காக இக்கருவிகள் கூடத்தில் இருக்கும். ஆய்வுக் கூடத்தில் வசதிக்கேற்ப இக்கருவிகளின் எண்ணிக்கை அமைந்திருக்கும். பிற கருவிகளினின்றும் தடுப்புகளால் பிரிக்கப்பட்ட பகுதிகளில், ஏற்ற இருக்கை வசதிகளுடன் கூடியதாக இக்கருவிகள் வைக்கப்பட்டிருக்கும்.

தலையணித் தொகுதிகள்

பயிற்சியாளர்கள் தங்களுக்கென ஒதுக்கப்பட்ட பகுதிகளில் சென்று அமர்ந்து ஒலிப்பதிவு நாடாக் கருவிகளுடன் இணைந்த தலையணித் தொகுதியை அணிந்த பின்னர் பயிற்சிக்கு ஆயத்தமாதல் வேண்டும்.

நுண்ணொலிக் கருவிகள்

பயிற்சியாளர்கள் பயிற்சியின் போது தூண்டலுக்கு ஏற்ற துலங்களைச் செய்தால் அவற்றை ஒலிப்பதிவு நாடாக்களால் பதிய வைப்பதற்காக அமைந்த நுண்கருவி இதுவாகும்.

காட்சியொளி வளங்கள்

காட்சியொளி வளங்கள் என்பவை இருப்பவற்றை கண் எதிரே காணும் வகையில் ஒளிப்படமாக்கிக் காட்டுவதாக அமையும். இது வெறும் காட்சிப் பாடங்களாகவோ, ஒலி-ஒளி காட்சிப் படங்களாகவோ அமையும். இன்று நாம் காண்கின்ற சின்னத்திரை, வண்ணத்திரை, குறும்படங்கள் போன்றவை காட்சியொளி வளங்களே. இவை வண்ணமாகவும் இருக்கலாம், கருப்பு வெள்ளையாகவும் இருக்கலாம். படங்கள், ஒளிப்படங்கள், மின் அட்டைகள் எனப் பலவாக அது விரிந்து செல்லும்.

படங்கள்

படங்கள் கையால் வரையப்பட்டதாகவோ புகை படங்களாகவோ இருக்கலாம். இவை சுய விளக்கம் தருபவையாக இருக்க வேண்டும். சிறந்த படம் சிறந்த தரம், அமைப்பு, வேறுபாடு, குறிப்பான தன்மை, வண்ணம் ஆகியவற்றைப் பெற்றிருப்பதோடு சிறந்த முறையில் கருத்தை வெளியிடுவதாகவும் இருத்தல் வேண்டும்.

இவை விலை குறைவானது எளிதில் கிடைக்கக் கூடியது மேலும் சுலபமாக தயாரித்து பயன்படுத்த முடியும். ஆனால் சிறிய அளவிலானவை, கருத்தாழமற்றவை, இயங்காதவை என்ற குறைகளைக் கொண்டவை. பயனுள்ள படங்களை சிறந்த அட்டை மீது ஒட்டி வைத்து எதிர்காலத்தில் பயன்படுத்தலாம்.

ஒளிப்படங்கள்

காட்சியொளி வளங்களில் ஒளிப்படங்களுள் ஒன்று ஒளிக் காட்சிகளாகப் படங்கள் காட்டப்படும் நிலையை இவை விளங்குகின்றன.

தலைமேல் பிம்பம் படம் வீழ்த்தி

மாணவர்களுடைய கண்களையும் கவனத்தையும் ஈர்த்து அவர்களைக் கற்றலில் ஆர்வத்துடன் ஈடுபடச் செய்யும் சாதனங்கள் ஒளிப்படங்கள் ஆகும். ஒலியும் ஒளியும் சார்ந்தவையாகவோ இருக்கும் அவை தலைமேல் பிம்பம் படம் வீழ்த்தி, திரவப் படிகக் காட்சி வீழ்த்தி, தொலைக்காட்சி, நழுவப்பட வீழ்த்தி எனப் பலவகைகளில் உள்ளன.

மின் அட்டைகள்

மின்னட்டைகளை மூன்று விதமாக தயாரிக்கலாம். ஒருபுறம் படம் அதன் மற்றொருபுறம் விளக்கம். ஒருபுறம் சொல், அதன் மற்றொருபுறம் பொருள். இருபுறமும் படம் என்னும் முறையில் அமையலாம். மூன்று அட்டைகளில் முதலட்டை படமும் சொல்லும் இரண்டாவது அட்டையில் படம் மட்டும் மூன்றாவது அட்டையில் சொல் மட்டும் என்றவாறு தொகுப்பு மின்னட்டையைத் தயாரிக்கலாம். மின்னட்டையின் அளவு 18ஓ10 செ.மீ. மின்னட்டையின் ஓரப்பகுதிகள் வண்ணமிடப்பட வேண்டும். செய்திகள் அடர்வண்ணத்தில் எழுதப்பட வேண்டும்.

மின்னல் வேகத்தில் மாணவர் படிக்கும் வண்ணம் செய்திகள் மிகப் பெரிய அளவில் எழுதப்பட வேண்டும்.

வரைபடங்கள்

கற்பித்தல் துணைக் கருவிகளில் வரைபடங்களும் ஒருவகை படங்களாக வரையப்பட்டு காட்சிப் படுத்தப்படுபவை. அவை விளக்கப் படங்கள், கணித வரைகோட்டுப் படங்கள், படவரைபடம் எனப் பலவகைப்படும். அவற்றுள் சிலவற்றை இங்குக் காண்போம்.

விளக்கப்படங்கள்

விளக்குவதற்குப் படங்களலால் கூறப்படும் கருத்துகளை எளிதாகப் புரிந்து கொள்ள உதவுபவையே விளக்கப்படங்களாகும்.

பாடக் கருத்துக்களின் தன்மை மற்றும் கற்றல்-கற்பித்தல் செயல்பாடுக்கேற்ப தயாரிக்கப்படும் விளக்கப்படங்களை பல வகைகளாகப் பிரிக்கலாம். அவையாவன

1. எளிய விளக்கப் படம்
2. கிளை விளக்கப் படம்
3. தொடர் விளக்கப் படம்
4. தொகுப்பு விளக்கப் படம்
5. மேற்பொருத்து விளக்குப் படம்.

விளம்பரத் தட்டிகள்

ஒரே ஒரு செய்தியைப் பெரிய எழுத்துக்களில் எழுதி மாணவர்களுக்கு காண்பிப்பதற்கு விளம்பரத் தட்டுகள் பயன்படுத்தப்படுகின்றன. விளம்பரத் தட்டிகள் சுய விளக்கத்தைத் தருகின்றன. ஆசிரியர்கள் விளக்கம் அளிக்கும் போது துணைச் செயலாக அவற்றைப் பயன்படுத்தலாம். பொதுவாக விளம்பர தட்டிகள் ஒரு சிறந்த மக்கள் தொடர்புச் சாதனமாகும். அவற்றின் பெருக்கமானது மக்களை எளிதில் அதன்பாலும் அது குறிப்பிடும் தகவல்களிலும் ஈர்ப்பினை உண்டாக்கிவிடும்.

தகவல் தொடர்பு வளங்கள்

தகவல் தொடர்பு என்பது ஒரு தகவலை அல்லது செய்தியை ஒருவரிடமிருந்து மற்றொருவருக்கோ அல்லது ஒரு கூட்டத்திற்கோ தெரிவித்தல் ஆகும். தகவல் தொடர்பினைச் செயற்படுத்தும் வளங்கள் பல உள்ளன. எனினும் வானொலி, தொலைக்காட்சி, இணைய பல்லூடகம், இடைவினை, வெண் மென் பலகை ஆகியவற்றில் மூலம் நடைபெறும் தகவல் தொடர்புகளை இங்குக் காணலாம்.

வானொலி

சுவைமிக்க நிகழ்ச்சிகளை மக்கள் பலரும் ஒரே நேரத்தில் கேட்டு மகிழ உதவுவது வானொலி. இது கல்வித்துறையில் மாணவர்களுக்கு அறிவு புகட்டவும் பொது அறிவு வளர்க்கவும் உதவுகிறது. நாட்டு நடப்புகளை, விலைவாசி விவரங்களை, வானிலை விவரங்களை, பிறநாட்டுச் செய்திகளை, விளையாட்டுக் கட்டளைகளை வானொலி மூலம் தகவல்களைப் பெறலாம்.

பள்ளிகளில் மாணவர்களுக்கு வேண்டிய பாடங்களைக் கற்பதற்கும் வானொலி உதவுகிறது.

தொலைக்காட்சி

இது நான்காவது ஐந்தாண்டுத் திட்டத்தில் கொண்டுவரப்பட்டது இதில் கல்வி ஒளிபரப்பும் நடைபெறுகிறது. பத்தாம் வகுப்பு, பன்னிரண்டாம் வகுப்பு, பல்கலைக்கழகப் பட்டப் படிப்புகளுக்கான பாடவகைகள் நடத்தப்படுகின்றன.

தொலைக்காட்சியை இங்கிலாந்து நாட்டைச் சேர்ந்த ஜான் பேயர்டு என்பவரும் ஐக்கிய நாட்டைச் சேர்ந்த ஜென்கின்ஸ் என்பவரும் கண்டுபிடித்தனர்.

இணையம்

உலகெங்கும் கணினியில் உள்ள செய்திகளை இணைத்தலையே 'இணையம' என்கின்றனர். இதனை ஆங்கிலத்தில் இண்டர்நெட் என அழைக்கின்றனர். இலக்கியம், வரலாறு, புவியியல், வானவியல், அறிவியல், கணிதம், திரைப்படம், என எண்ணற்ற துறைகளில் பல்வேறு தலைப்புகளில் இணையத்தின் வழியாகச் செய்திகளைப் பெற முடிகின்றது.

உலகெங்கும் சிதறிக் கிடக்கும் செய்திகளை இருக்கும் இடத்திலிருந்து கொண்டே பெற இணைய இணைப்பு உதவுகின்றது. 1960-ல் ஒருகணினியிலிருந்து மற்றொருக் கணினிக்குச் செய்தியை மாற்ற மின்காந்த நாடாவைப் பயன்படுத்தினர். இது மிகுந்த கால விரயத்தை ஏற்படுத்தியதால் இதற்கு தீர்வு காணும் பொருட்டு ஒரு கட்டத்துக்குள் இருக்கும் கணினிகளையெல்லாம் கம்பிச் சுருளுடன் இணைப்பதில் கணினி வல்லுநர்கள் வெற்றி கண்டார்கள்.

பல்லூடகம்

பல்லூடகம், கணினி சார்ந்த தொழில்நுட்பமாகும். ஒலி, ஒளி, அசைவு, அட்டவணை முதலிய பல்வேறு ஊடகங்களை இணைத்துப் பயன்படுத்துவது பல்லூடகம் ஆகும். தமிழில் இதுவரை வெளிவந்துள்ள கற்றல், கற்பித்தல் சார்ந்த குறுவட்டுகள் பலவும் பல்லூடகத் தொழில் நுட்பத்தைப் பயன்படுத்தி வெளிவந்துள்ளன.

பல்லூடத்தின் கூறுகள்

1. **பனுவல்**

எழுத்துக்களின் வாயிலாக உருவாக்கப்படும் ஆவணம் பனுவல் ஆகும். பல்லூடகம் மூலம் எழுத்துருக்களுக்குப் பல வகையான உத்திகளைக் கொடுக்க முடியும்.

2. **புகைப்படம்**

தரமான புகைப்படங்களைப் பல வண்ணங்களில், வடிவங்களில் பல்லூடகத்தில் தர இயலும்.

3. **திரைப்படங்கள்**

பல்வேறு நிகழ்ச்சிகள், விழாக்கள், திரைப்படங்கள், படங்கள் போன்றவற்றைப் பல்லூடகத்தின் வழி தேவைக்கேற்ப இடம் பெறச் செய்யலாம்.

4. **அசையும் படங்கள்**

கார்ட்டூன் படங்கள், கற்பனையான உருவங்களுக்கு உயிரூட்டி அசையும் நடமாட வைக்க முப்பரிமாண காட்சிகளையும் உருவாக்க இயலும்.

5. **ஒலி**

ஒலியைப் பதிவு செய்ய, தொகுக்க மென்பொருள்கள் உள்ளன. இதனைக் கொண்டு சிறப்புற ஒலி நுட்பங்களைத் தர முடியும்.

பல்வகை ஊடக வழிக்கற்றல்

கற்றல்-கற்பித்தல் செயல்முறைகளில் ஒன்றிற்கு மேற்பட்ட ஊடகங்களைப் பயன்படுத்தி விரும்பத் தகுந்த புதிய தொழில் நுட்பக் கற்றலே பல்வகை ஊடக வழிக்கற்றல் எனப்படுகிறது.

பல்வகை ஊடக மையம்

கல்வி நிலையங்களில் வெவ்வேறு நிலைக்கும் வெவ்வேறு பாடப் பொருள்களைக் கற்பிக்க ஏதுவாக ஒவ்வொரு பாடத்திற்கும் பொருத்தமான பல ஊடகங்கள் தெரிவு செய்யப்பட்டு திட்டமிப்படுகிறது. இது "பல்வகை ஊடக மையம்" எனப்படுகிறது.

கணினி மூலம் பல்வகை ஊடகங்களின் வாயிலாகத் தகவல் அளித்தல்

கற்றலுக்கான தகவல்களை, வண்ணக்காட்சிகளாகவும், (நிகழ்வு, செய்முறை) காட்சிகளில் இடம்பெறுபவை இயற்கையில் அமைவதைப்போன்றே அசைவுகளுடன் கூடியதாகவும், ஒவ்வொரு காட்சியிலும் தேவையான இடங்களில் பொருத்தமான ஒலியை இணைத்தும் கணினித் திரையில் தோன்றச் செய்தலேயே தகவல் தொழில் நுட்பவியல் பல் ஊடகவழி தகவலளித்தல் என்றழைக்கப்படுகிறது.

பல்வகை ஊடகங்கள் வாயிலாக தகவலளித்தலை நடைமுறைப்படுத்த தேவையான கருவிகள்

1. கம்ப்யூட்டர்
2. டிஜிட்டல், கம்ப்யூட்டர், அனலாக் மாற்றியமைக்கும் கருவிகள்
3. பல்ஊடக வழியில் தகவல்களைப் பகுத்து ஆராயவும், முறைப்படுத்தவும் தேவையான கம்ப்யூட்டர் வன்கலன்கள்.
4. பல்வேறு தகவல்களை ஒருங்கிணைக்கும் மென்பொருள்கள்
(எ.கா) நுசளைநசளி ீசழஉநளளைபெ எழகவரயஅசந.

பல்வகை ஊடகங்கள் வாயிலாகத் தகவல் அளித்தலின் பயன்கள்

1. மாணவர்களின் தேடிக்கண்டுபிடிக்கும் ஆர்வத்தை வளரச் செய்கிறது.
2. மாணவர்கள் கேட்கும் கேள்விகளுக்கு ஆசிரியர் வரைபடம், திரைபடம் துணைக்கொண்டு பதிலளிக்க முடியும்.
3. மாணவர்கள் கற்கும் பொருள்கள் தொடர்பான தகவல்களைத் எளிமையான வடிவத்தில் பெறலாம்.
4. மாணவர்கள் வீட்டிலிருக்கும்போதே கணினியைப் பயன்படுத்தி அறிவைப் பெருக்கி கொள்ள முடியும்.

இடைவினை வெண்மென் பலகை

இடைவினை புரியும் ஒளிப்பேழை என்பது தொலைக்காட்சி வழிக்கற்றல் மற்றும் கணினி துணைக் கொண்டு கற்றல் ஆகிய இரண்டு உயர் தொழில் நுட்ப சிறப்பம்சங்களையும் இணைத்து பல்ஊடகக் கற்றல் சூழ்நிலையை உருவாக்கிடதலே இடைவினை புரியும் ஒளிப்பேழை அல்லது கருத்தளவு ஒலி ஒளிக் காட்சி என்றழைக்கப்படுகிறது.

இது தனியாள் கற்பித்தலுக்கான உயர் தொழில் நுட்பம் வாய்ந்த சாதனமாகும்.

இடைவினை புரியும் ஒளிப்பேழையின் மூலமாக ஏற்கனவே கோர்வையாக பதிவு செய்யப்பட்ட காட்சிகளின் தொகுப்புகள், கணினியின் கட்டுப்பாட்டின் கீழ்ப் படிப்படியாக குறிப்பிட்ட வேகத்தில் நகர்த்தப்படுகின்றன.

இக்காட்சித் தொகுப்பு ஒவ்வொன்றையும் பார்வையிடும் மாணவர், அதிலுள்ள படங்களையும், ஒலிகளைக் கண்டும், கேட்கும், புரிந்துகொள்வதோடு அதனைத் தொடர்ந்து எழுப்பப்படும் வினாக்களுக்குத் தனது பதிலையளித்து கணினியுடன் இடைவினை புரிய வேண்டியிருக்கும்.

இடைவினை புரியும் ஒளிப்பேழையின் உட்கூறுகள்

இடைவினை புரியும் ஒளிப்பேழையில் கீழ்க்காணும் மூன்று முக்கிய உட்கூறுகள் இடம் பெற்றுள்ளன. அவையாவன

இடைவினை புரியும் ஒளிப்பேழை

1. நுண்ணறிவு கணினி
2. ஒளிப்பேழை
3. தொலைக்காட்சி

சமுதாய வளங்கள்

மொழியை வளப்படுத்துவதில் சமுதாயம் மிகப்பெரிய பங்கு வகிக்கின்றது. சமுதாய வழக்குகள்நாளடைவில் இலக்கியங்களாக உருப்பெறுகின்றன. சமுதாயப் பழக்க வழக்கங்கள், பண்பாடுகள் போன்ற வளரும் இலக்கியங்களின் கருவூலங்களாக அமைந்துள்ளன. நாட்டுப்புறக் கவிதைகளிலிருந்து தான் திருந்திய வடிவமுள்ள கவிதைகள் தோன்றின என்பர். எனவே கிராமங்களிலும்,நகரங்களிலும் உள்ள சமுதாய மக்களின் பங்களிப்பே சமுதாய வளங்கள்

எனப்படுகின்றன.இதில் நாட்டுப்புற கலைஞர்கள், களப்பயணம் என இருநிலைகள் இடம் பெற்றுள்ளன.

நாட்டுப்புற கலைஞர்கள்

நாட்டுப் புறங்களில் வாழும் சமுதாய மக்களை அடிப்படையாகக் கொண்டே இலக்கியங்கள் தோன்றுகின்றன. கற்றறிந்தோரால் எழுதப் பட்டவை மட்டுமே இலக்கியமாகக் கருதப்பட்ட நிலையிலிருந்தது நாட்டுப்புற பாடல்களிலிருந்து தான் மேட்டுக் குடி மக்கள் போற்றும் இலக்கியங்கள் தோன்றின என்பது இன்றைய ஆய்வியல் முடிவு. நாட்டுப்புறப் பாடலைப் பாடி ஆடுபவர்களை நாட்டுப்புறக் கலைஞர்கள் என அழைப்பர். வில்லுப்பாட்டு, கும்மிப்பாட்டு, ஒயிலாட்டம், கரகாட்டம், கணியான் ஆட்டம்,மயிலாட்டம் எனக் கதைப் பாடல்களைத் தாமே எழுதிப் பாடி ஆடும் கலைஞர்களை நாட்டுப்புறக் கலைஞர்கள் என்பர்.

களப்பயணம்

சமுதாய வளங்களில் களப்பயணமும் ஒன்று. ஆய்வாளர்களுக்குக் களப்பயணம் மிகமிக முக்கியம்.

எந்த ஒரு படைப்பாக இருந்தாலும் அது தொடர்பான தகவல்களைத் திரட்டுவதுடன் தொடர்புடைய இடங்களுக்கு நேரில் சென்று உண்மைத் தகவல்களைத் திரட்டுதலே களப்பயணம்.பெரியபுராணத்தை எழுதிய சேக்கிழார் பெருமான் ஒவ்வொரு நாயன்மாரும் வாழ்ந்ததாகக் கூறப்பட்ட இடங்களுக்குச் சென்று விவரம் அறிந்தே நாயன்மார் வரலாற்றைப் பாடினார் என்பர்.

மொழிவள மையங்கள்

மொழியை வளமுடையதாக்கப் பிழையின்றி எழுதுதல், புதிய படைப்புகளை உருவாக்குதல், சரியான உச்சரிப்பை மேற் கொள்ளுதல், கலந்துரையாடல், பட்டிமன்றம்,பெரியபுராணத்தை எழுதிய சேக்கிழார் பெருமான் ஒவ்வொரு நாயன்மாரும் வாழ்ந்ததாகக் கூறப்பட்ட இடங்களுக்குச் சென்று விவரம் அறிந்தே நாயன்மார் வரலாற்றைப் பாடினார் என்பர்.பெரியபுராணத்தை எழுதிய சேக்கிழார் பெருமான் ஒவ்வொரு நாயன்மாரும் வாழ்ந்ததாகக் கூறப்பட்ட இடங்களுக்குச் சென்று விவரம் அறிந்தே நாயன்மார் வரலாற்றைப் பாடினார் என்பர். கருத்தரங்கம், இலக்கியமன்றம், ஆசிரியர் தூய்மையான பல புதிய சொற்களை பொருளறிந்து கற்பித்தல் எனப்பல முறைகள் உள்ளன. அவற்றுள் இலக்கிய மன்றம், ஆசிரியர் பண்பு ஆகியவற்றை இப்பகுதியில் கற்கலாம்.

இலக்கிய மன்றம்

மொழியை வளப்படுத்தும் மூலங்களில் இலக்கிய மன்றமும் ஒன்று. இலக்கிய மன்றங்கள் மூலம் மாணவர்கள் தாயாரிப்புடன் வந்து கலந்து கொள்ளும் மொழிப் பேச்சுத்திறன் சிறப்பாக வெளிப்படும். எழுத்துக்களைச் சரியாகவும் பிழையின்றியும் அதிகமான சொற்களைக் கற்றுக் கொள்ளவும், பல்வேறு கருத்துக்களைச் சிந்தித்துப் பேசவும் இலக்கிய மன்றம் இடமளிப்பதால் அதுவும் ஒரு மொழிவள மையமாகக் கருதப்படுகிறது.

மக்களாட்சியில் ஏற்பட்ட பின்னர் எங்கும் அரசியல்பாதிகளும் பிறரும் தாய்மொழியில் பேசுவதைக் கேட்கும் மாணாக்கர்கள் தாமும் அவ்வாறு பேசி பழக

வேண்டும் என்று எண்ணுகின்றனர். தாய்மொழியில் பல செய்தித் தாள்களையும் படித்த மாணாக்கர் அதைப் பற்றிப் பேச விழைகின்றனர். இவ்விருப்பத்திற்கு ஆக்கமளிப்பவை இலக்கிய மன்றங்களாகும். சமூகவியல் மன்றம், கணிதவியல் மன்றம், அறிவியல் மன்றம் போன்றவை இன்றும் இருக்கின்றன.

நன்மைகள்

1. சிறந்த முறையில் சொற்பொழிவாற்றும் மாணாக்கர் பின்னர் தலை சிறந்த பேச்சாளர்களாக திகழ்கிறார்கள்.
2. மாணாக்கர்களிடம் உள்ள இந்த அரிய பேச்சுத்திறனை வெளிக் கொணர இம்மன்றங்கள் உதவுகின்றன. அவர்கள் இலக்கிய சொற்பொழிவு, கவிதை முற்றம் போன்ற கூட்டங்கள் கூட்டச் செய்யும் வல்லுநராகின்றனர்.

தமிழாசிரியரின் பண்புகள்

தமிழாசிரியர் என்பவர் தமிழ்மொழியின் மீது பற்றும் பாசமும் உடையவராக இருக்க வேண்டும். தமிழ் மொழியையும், இலக்கியங்களையும் அறிந்தவராக இருக்க வேண்டும். தமிழ் மொழித் திறன்களை அறிந்து அவற்றைத் தமது மாணவர்க்குக் கற்பிப்பதுடன் அவர்களைப் பின்பற்றச் செய்து அதனைக் கண்காணிக்க வேண்டும்.

ஆசிரியர்கள் மாணவர்களுக்கு முன் உதாரணமாக இருக்க வேண்டும். அவர் தம்முடைய சொல், செயல் மூலமாக மாணவர்களுக்கு மதிப்புணர்வினைக் கீழ் உள்ள வகைகளில் கற்பிக்கலாம்.

❖ தூய்மையான உடைகளை அணிந்து வரல்.
❖ மாணவர்களுக்கு ஆசிரியர் தாம் கூறும் அறிவுரைகளை நடைமுறையில் தாமும் பின்பற்ற வேண்டும்.
❖ பாடங்களை சுவைபடவும் பிழையின்றியும் தெளிவாக நடத்துதல்.
❖ அனைத்து மாணவர்களையும் சமமாக நடத்துதல்.
❖ மாணவர்களின் தனிப்பட்ட திறன்களைக் கண்டறிந்து ஊக்குவித்தல்.
❖ மாணவர்களின் உணர்வுகளுக்கு நியாயமான கருத்துகளுக்கு மதிப்பளித்தல்
❖ மாணவர்களின் மனம்நோகும்படியாகக் கண்டிக்காமல் இருத்தல்.
❖ மாணவர்களை உடல்ரீதியாக துன்புறுத்தக் கூடாது.
❖ மாணவர்களின் தனிப்பட்ட பிரச்சனைகளைத் தீர்க்க வழி கூறுதல்.
❖ பிரச்சனைக்குரிய மாணவர்களின் பெற்றோர்களுக்குப் பக்குவமாக அதனைத் தெரிவித்தல், அதற்கான தீர்வினைக்கலந்து ஆலோசித்து செயல்படுத்துதல்.
❖ மாணவர்களின் திறன்களை ஆக்கபூர்வமாகப் பயன்படுத்தல்.
❖ மாணவர்களின் அடைவுத் திறனுக்கும் பிற திறன்களுக்கும் முக்கியத்துவம் அளித்தல்.
❖ பிற ஆசிரியர்களைப் பற்றி மாணவர்களின் எதிரில் புறங் கூறாமல் இருத்தல்.
❖ தம்முடைய சொந்த பணிகளுக்கு மாணவர்களைப் பயன்படுத்தாமல் இருத்தல்.
❖ தவறான செயல்களில் ஈடுபடாமல் இருத்தல்.
❖ தாம் செய்கின்ற அனைத்து செயல்களையும் செவ்வனே செய்தல்.
❖ தாம் நடத்துகின்ற பாடங்களின் வழியே மதிப்புணர்வுகளைக் கற்பித்தல்.
❖ தாம் சொந்த விருப்பு விறுப்புகளை மாணவர்களின் மீது காட்டாமல் இருத்தல்.
❖ மாணவர்களிடம் கனிவுடனும், கண்டிப்புடனும் இருத்தல்.
❖ அரசியல், திரைப்படம் குறித்து எக்காரணம் கொண்டும் மாணவர்களிடையே பேசாமல் இருத்தல்.
❖ தம்முடைய கருத்துக்களை மாணவர்களின் மீது திணிக்காமல் இருத்தல்.

முடிவுரை

மேற்கூறப்பட்டவாறு ஆசிரியர் மையக் கற்பித்தல், மாணவர் மையக் கற்பித்தல், சக மாணவர் கற்பித்தல், அண்மைக்கால கற்பித்தல் போக்குகள், அச்செழுத்து வளங்கள், ஒலிசார் வளங்கள், காட்சியொளி வளங்கள் ஆகியன அமைந்துள்ளன.

பயிற்சி வினாக்கள்

1.விரிவுரை முறை என்றால் என்ன?

2.ஆசிரியரணிக் கற்பித்தல் குறித்து எழுதுக.

3.மாணவர் மையக் கற்பித்தல் குறித்து விளக்குக.

4.மாணவர் கருத்தரங்கத்தின் இன்றியமையாமை குறித்து எழுதுக.

5.இ.கற்றல் என்றால் என்ன?

6.கல்வி கற்றலுக்கு தகவல் தொடர்பு சாதனங்கள் எங்ஙனம் துணைப்புரிகின்றன?

7.கற்றல்-கற்பித்தலில் பல்லூடகம் குறித்து விளக்குக.

8.சமுதாய வளங்கள் என்பன யாவை?

9.தமிழாசிரியரின் பண்பு நலன்கள் யாவை?

பரிந்துரைக்கப்பட்ட நூல்கள்

1. **பேரா.வி.கணபதி, பேரா.சந்திரிகா ராஜமோகன்,** சாந்தா பதிப்பகம், நற்றமிழ் கற்பிக்கும் முறைகள், சென்னை.
2. **இரத்தினசபாபதி.பி ரூ விஜயா.கு** (2016)*தமிழ் கற்பித்தல் முறைகள்-1.சென்னை: சாந்தா* வெளியீடு. குமரிச்செழியன், பேரா.இ.ப.வேணுகோபால் தமிழ்மொழி கற்பித்தல், சாரதா பதிப்பகம்.
3. **பேரா.இ.ப.வேணுகோபால், பேரா.க.சாந்தகுமரி** சாராதா பதிப்பகம் பாடப்பொருள் மற்றும் தமிழ் கற்பித்தல் சென்னை.
4. **முனைவர் செ.சுமதி,** தமிழ் கற்பித்தல் பகுதி-ஐ விரிவுரையாளர் , கல்வியியல் பள்ளி, தமிழ்நாடு திறந்தநிலைப் பல்கலைக் கழகம், சென்னை.

அலகு - 6   சோதித்தலும் மதிப்பிடலும்

நோக்கங்கள் :

இப்பாடம் முடிவுறும் தருவாயில் மாணவஆசிரியர்கள்

1. சோதித்தலின் நோக்கங்களையும்,முக்கியத்துவத்தையும் பரிந்துகொள்வர்
2. மொழியறிவுச் சோதனையின் வகைகளை அறிந்துகொள்வர்
3. வினாத்தாள் திட்டவரைவு அட்டவணையை உணர்ந்து பயன்படுத்துவர்

முன்னுரை:

மாணவர்களுடைய கற்றல் திறனை மதிப்பீடு செய்து நேரத்தினை அறிந்துக்கொள்ளப் பின்பற்றப்படும் பல்வேறு வகையான மதிப்பீட்டுச் சோதனைகளை அறியும் பகுதியாக இது அமைகிறது. மாணவர்களை நல்ல பயனள்ள அர்த்தமுள்ள வாழ்விற்காகத் தயார்படுத்துவதே கல்வியாகும். இப்படிப்பட்ட கல்வி எந்த வெற்றிகரமாக மாணவர்களுக்குக் கற்பிக்கப்பட்டிருக்கிறது என்பதை ஆக்கப்பூர்வமாக மதிப்பிடலே சோதனையாகும். ஒரு தனிப்பட்ட மாணவனின் முழுத்திறமைகளை மதிப்பிட அல்லது கல்வியின் நோக்கங்களை நிறைவுபடுத்தச் சோதனைகள் அமைதல் நல்லது. ஒரு குறிப்பிட்ட பாடத்தில் மாணவனின் திறமைகளைப் பரிசோதித்து அவனுக்குரிய படிக்கும் திறனை மதிப்பிட வேண்டும்.

சோதித்தலின் நோக்கம்

மதிப்பிடலும் தேர்வுகளும் மதிப்பு மிக்கவையாக கற்றலை மேம்படுத்துவதாக இருக்க வேண்டும். தேர்வுகள் மாணவர்களின் கற்றலை மதிப்பீடு செய்து எந்த அளவிற்கு அவர்கள் கற்றல் இலக்கை அடைந்திருக்கிறார்கள் என்பதைச் சுட்டிக்காட்டுதல் வேண்டும். இது நிறையறி சோதனையை ஒத்ததாகும்.

கற்றலுக்கான சோதனை என்பது மாணர்களின் முன்னேற்றத்தைத் தொடர்ந்து மதிப்பிடலும் கற்றலின் தேவைகளை அடையாளங்காண புரிந்து கொள்ளுதலும் அவற்றின் மூலம் கற்பித்தலைச் சரியாகத் தகவமைத்துக் கொள்ளுதலும் ஆகும்.

கற்றலுக்கான சோதனையின் மூலம் கிடைக்கும் சான்றுகள் (மதிப்பெண்கள், விவரங்கள்) மாணவர்கள் அவர்களது கற்றல் நிலையில் எந்த இடத்தில் இருக்கிறார்கள் கற்றல் இலக்கை எப்படி அடைகிறார்கள் என்பதை மாணவர்களும் ஆசிரியர்களும் அறிந்துகொள்ள உதவும். சூழ்நிலைக்கேற்ப தேவையான மாற்றங்களை ஏற்படுத்த உதவுகிறது.

மாணவர்கள் எந்த அளவுக்குக் கற்றலைப் புரிந்து கொண்டிருக்கிறார்கள் என்பதை ஆசிரியர்கள் மதிப்பிட வேண்டும். பிறகு மாணவர்களின் அடுத்தகட்டக் கற்றல் முன்னேற்றத்திற்கு ஆசிரியர் துணைபுரிய வேண்டும்.

முக்கியத்துவம்

கற்பித்தலின் நிறைவுப் பகுதி சோதித்தறிதல். கற்றல் களங்கள் அனைத்திதலும் பெற்ற தேர்ச்சி, தேர்ச்சியால் பெற்ற வல்லமை, அதனை வெளிப்படுத்தும் போக்கு என எல்லாவற்றையும் உரிய ஊடகத்தல் அளந்து பெற்ற அளவைகளின் வழியே கற்போரின் தரம் பற்றிய முடிவுகளைக் கூறுவதால் அதன் முக்கியத்துவம் உணரப்படுகிறது. அதனைப் பின்வருமாறு வரிசைப்படுத்தலாம்.

1. மாணவர்களின் அடைவுநிலையைச் சோதிப்பதற்காக.
2. மாணவர்களின் ஆளுமையைத் தீர்மானிப்பதற்காக
3. பெற்றோருக்கும் மேலதிகாரிகளுக்கும் மாணவர் தேர்ச்சி பற்றிய அறிக்கை அளிப்பதற்காக.
4. ஆசிரியரது கற்பித்தல் திறனை மதிப்பிடுவதற்காக.
5. பள்ளியின் தரத்தை உறுதிப்படுத்துவதற்காக
6. எதிர்காலத் தேவையை அறிவதற்காக
7. குறைகளைக் களைவதற்காக .
8. பணி நியமனத்திற்காக.
9. போட்டித் தேர்வுகள் நடத்துவதற்காக
10. உயர்கல்விப் படிப்பிற்குத் தேர்ந்தெடுப்பதற்காக.

உள்ளார்வ ஆற்றல் சோதனை

தமிழ்ப்பாடம் கற்பித்தலில் மாணவனுடைய கவனத்தை ஈர்க்கும் பொருட்டு பல்வேறு உத்திகளைக் கையாள வேண்டும். மாணவர்களுடைய கவனம் சிதறாமல் ஆசிரியரைக் கவனித்துப் பாடத்தில் கருத்தைச் செலுத்துமாறு கற்பிக்க வேண்டும் அவ்வுத்திகளுள் சிலவற்றைத் தெரிந்துக் கொள்ளலாம்.

1. ஆர்வமூட்டல்

பாடநூல் முதன் முதலாகத் தொடங்கப் பெறுமாயின் தகுந்த செய்திகளைக் கூறி நூலைப் படிப்பதற்குரிய ஆர்வமூட்ட வேண்டும்.

2. மாணவர் படித்தல்

திட்டமிட்டபடி மாணவர்களை எந்தப் பக்கம் முதல், எந்தப் பக்கத்தில் எந்தப் பத்தி வரை படிக்க வேண்டுமெனக் கூறுதல் வேண்டுதல். எத்தனை நிமிடங்களில் படிக்க வேண்டுமெனக் கூறுதல் வேண்டும். ஆறாம் ஏழாம் வகுப்புகளில் மாணவர் ஒரு பக்கம் படிக்க 2 நிமிடம் முதல் 3 நிமிடம் வரை கொடுக்கலாம். மேல் வகுப்புகளுக்குச் செல்லசெல்ல நேரத்தைக் குறைக்கலாம். குறித்த கால அளவு மாணவரைப் படிக்கச் செய்தல் வேண்டும். மாணவரை அவர்கள் இல்லத்திலேயும் முன்னதாக ஒருமுறை படித்து வரச் செய்யலாம்.

3. வினாக்கள் கேட்டு கருத்து எழுதுதல்

குறிப்பிட்ட சிறிய பகுதியைப் படித்த பின்னர், அப்பகுதியின் தலைப்பையும், பத்திகளின் மையக் கருத்தையும் தகுந்த வினாக்கள் மூலம் வரவழைத்துக் கரும்பலகையில் முறையாக எழுதிவரல் வேண்டும். இறுதியில் இது கட்டுரை எழுதுவதற்கேற்ற குறிப்புச் சட்டமாக அமையும்.

4. விளக்குதல்

பொதுக்கருத்தை எழுதிய பின்னர், மேற்கோள் செய்யுள், பழமொழிகள், கதைக் குறிப்புகள் ஆகியவற்றை மாணவர் அறிந்துள்ளனரா எனத் தகுந்த வினாக்கள் மூலம் அறிதல் வேண்டும். மாணவர் அறிந்து கொள்ளவில்லையென அறிந்தால் ஆசிரியர் விளக்குதல் வேண்டும். இவ்வாறே குறிப்பிட்ட பகுதிகளைக் கற்பிக்க வேண்டும்.

5. தொகுத்தல்

மாணவர் கூறும் விடைகளை அவர்களையே தொகுத்துக் கூறச் செய்தல் வேண்டும். மாணவர் தொகுத்துக் கூறுவதற்கேற்ற வினாக்களை ஆசிரியர் கேட்கலாம். இல்லையேல் ஆசிரியரே செய்திகளைத் தொகுத்துக் கூறலாம்.

6.   சுருக்குதல்

அவ்வாரே தொகுத்த செய்திகளைக் குறிப்பிட்ட தலைப்பின் கீழ்ச் சுருக்கிக் கூறச் செய்தல் வேண்டும். இவ்வாறு பயிற்சியளிக்கும் பொழுது பத்தித் தலைப்பையும் , பத்தியில் இடம் பெறும் இன்றியமையாக் கருத்துக்களையும் மாணவர் அறிவர். இதுமுறையாக, கோவையாக அமையும்படி பார்த்துக் கொள்ளல் வேண்டும்.

7.   சொற்கள்

துணைப்பாட நூலில் வந்த புதிய சொற்களை ஆசிரியர் விளக்குதலின் போது மாணவர் அறிந்திருப்பர். அப்பொழுதே அவர் அவற்றைக் கரும்பலகையில் எழுதுதல் நன்று. மாணவரும் தம் குறிப்பேட்டில் எழுதி வைத்துக் கொண்டு வீட்டில் சென்று அகராதியைப் பார்த்து மீண்டும் பொருள் அறிதல் வேண்டும். அவ்வாறாயின் அவர்களது சொற்களஞ்சியம் பெருக வாய்ப்புண்டு.

8.   கட்டுரை எழுதுதல்

வகுப்பில் தயாரிக்கப் பெற்ற குறிப்புச் சட்டத்தை வைத்துக் கொண்டு மாணவரைரை கட்டுரை எழுதச் செய்தல் வேண்டும். இவ்வாறு நடுநிலைப் பள்ளி நிலையில் ஆசிரியர் வழிகாட்டியாக இருந்து குறிப்புச் சட்டம் தயாரித்தால்தான் உயர் வகுப்புகளில் மாணவர்களே ஒரு நூலைப் படித்துக் குறிப்புத் தயாரிக்க முடியும். இம்முறையில் துணைப்பாட நூலைக் கற்பித்தால் மாணவர் மௌன வாசிப்புத் திறனில் வளர்ச்சி பெறுவர். துணைப்பாட நூல் கற்பித்தலின் நோக்கங்கள் அனைத்தும் நிறைவேறும்.

திறனறி சோதனை

சோதனை ஒன்றின் அடைவைக் கொண்டு எதிர்காலத்தில் மாணவரின் அடைவ நிலை எவ்வாறு இருக்கும் என முன்கூட்டி அறியத்தக்கதான சோதனையை வருவதுரைக்கும் சோதனை அல்லது திறனறிச் சோதனை அல்லது முன்னறிச் சோதனை என்பர். குறிப்பிட்ட கல்விப் பகுதியில் மாணவன் ஒருவன் வெற்றி பெறும் நிலையை அறிய இத்தகைய சோதனையைத் தரலாம். ஒருவர் எந்த எந்தத் துறையில் என்ன என்ன திறன்கள் பெற்றுள்ளான் என்பதையும் சோதித்தறியலாம். இது நாட்டச் சோதனை, நுண்ணறிவுச் சோதனை போன்றதாகும். மாணவரின் ஆர்வம், நாட்டம், வேலைப் பழக்கம், படிப்புத் திறன்கள் போன்றவற்றை அளவிட இவ்வகைச் சோதனையைப் பயன்படுத்தலாம்.

குறையறிதல் சோதனை

மாணவர்கள் கற்றலில் அடைகின்ற அடைவுத் திறனை அறிவதற்கு ஆசிரியர்கள் அடைவுச் சோதனையைப் பயன்படுத்துகின்றனர். இதில் பாடப்பகுதி பரந்த அளவில் இருப்பதால் இதன் மூலம் மாணவர்களுடைய குறையை முழுவதும் அறிய முடியாது. எனவே மாணவர்கள் பாடப்பொருளில் எந்தப் பகுதியல் எவ்விதம் சிரமம் அடைகின்றனர் என்பதை அறிய ஆசிரியர்கள் தனிப்பட்ட தேர்வுகளை அமைக்க வேண்டும். பாடப்பகுதியின் அளவைக் குறைத்துக் கொண்டு மையப்பகுதி முழுமையையும் ஒன்று விடாமல் சோதித்தறிய வேண்டும். மாணவர்களின் குறைகளைக் கண்டறிய இத்தேர்வு பயன்படுவதால் இவை குறையறி சோதனைகள் எனப்படும்.

பாடப்பகுதியின் ஒவ்வொரு தலைப்பிலும் தனித்தனியாக இச்சோதனைகளை நடத்தலாம். மாணவர்கள் புரிந்து கொள்ளச் சிரமப்படும். திறனையே சோதிப்பதால் அவர்களுடைய குறைகளை அறிவதே முக்கிய நோக்கமாக இருப்பதால் இச்சோதனைகளுக்குக் கால நிர்ணயம் கிடையாது. தேர்வுகளில் மாணவர்கள் செய்யும் தவறுகள் ஆராயப்பட்டு அவற்றை நிவர்த்திச் செய்யும் வழிவகைகள் ஆலோசிக்கப்படுகின்றன.

மொழியடைவுச் சோதனையின் வகைகள்

மாணவர்கள் மொழிகற்றல் பாடத்தில் அடைந்துள்ள அடைவினை அளவிடுவதற்குப் பயன்படும் சோதனை மொழி அடைவுச் சோதனையாகும்.

டென்னிஸ்பேரன், ஹெரால்டு பென்னால்டு குறிப்பிடுவது போல ஒரு மாணவனின் அடைவ அவன் கற்றலில் செலுத்திய நாட்டம், கற்றலுக்கான ஆயத்தநிலை, கற்றலுக்கான வாய்ப்புகள் இம்மூன்றின் விளைவால் ஏற்பட்டதனைக் குறிக்கும்.

பாடத்திட்டத்தில் உள்ள செய்திகளை மாணவர் அறிந்துள்ளனரா? வகுப்பறையில் கற்பித்ததையெல்லாம் மாணவர் அறிந்துள்ளனரா? என்பதை அறியவும் பயன்படும். குறிப்பாகச் சொன்னால், கற்பித்தல் செயலின் வெற்றியையும் கற்றல் செயல் நிகழ்ந்துள்ள அளவையும் அறிய மொழி அடைவுச் சோதனை தேர்வு உதவும்.

மொழி அடைவுச்சோதனையின் நோக்கங்கள்

1. மாணவரின் அடைவினை அறிதல்
2. நினைவாற்றலை அறிதல்
3. பொருளுணராற்றலை அறிதல்
4. கற்பித்தலிலுள்ள குறைகளைக் கண்டறிதல்

முதலியவற்றை நோக்கங்களாகக் கொண்டுள்ளது.

ஒற்றை வினாவிடைச் சோதனை

புறவயத்தேர்வு வினாக்களுக்கு ஒரே ஒரு விடை மட்டுமே உள்ளதால் இ சோதனையாளரின் சொந்த விருப்பு வெறுப்புகளோ, மனநிலையோ அல்லது ஒன்றுக்கு மேற்பட்ட சோதனையாளர்கள் மதப்பீடு செய்தாலோ மதிப்பீடு மாறுவதில்லை. ஆகையால் இ இத்தகைய சோதனை நம்பகத்தன்மையும் ஏற்புடைமையும் கூடுதலாகக் கொண்டிருக்கிறது. எளிதாக மதிப்பீடு செய்யவும், பாடப்பகுதி முழுவதிலும் அதிகமான அளவில் நிறைய வினாக்கள் தயாரிக்கவும் இயலுவதால் இச்சோதனை முறை சிறப்புகிறது.

பிழையறியும் சோதனை

பலவற்றுள் தெரிவு வகை பல்வேறு கற்றல் விளைவுகளை அளந்தறியப் பயன்படினும் அதன் ஏற்புடைமையும், நம்பகத்தன்மையும் வினாவிலுள்ள திசை திருப்புவனவற்றைப் பொறுத்தே அமையும்.

திசை திருப்புவன உரிய எண்ணிக்கையில் தேர்ந்தெடுக்க இயலாத நிலையில் வேறு புறவய அமைப்புடைய வினாக்களை கையாள வேண்டும். திசை திருப்புவதாக ஒன்றே ஒன்று இருப்பின் 'சரியா-தவறா' அமைப்பே பொருத்தமானதாகும்.

சரியா- தவறா வினா அமைப்பை மேற்கொள்வதில் சில இடர்பாடுகள் உள்ளன. அவற்றைப் பற்றிய தெளிவு வினாத் தயாரிப்பாளர்களுக்குத் தேவை.

1. எல்லாக் கூற்றுகளும் அல்லது செய்திகளும் இருநிலைப் பட்டவாறு (சரி – தவறு, ஆம் - இல்லை) இருப்பதில்லை.
2. விடைத் தெரிவில் இரு மாற்று நிலைகளே உள்ளமையால் ஊகித்து எழுதும் வாய்ப்பு 50 விழுக்காடு ஆகும்.
3. பெரும்பாலான நிலையில் அறிதல் ஆற்றலை அளப்பறத்கே இவ்வினா அமைப்புப் பயனுடையதாகும்.

இவற்றைத் தயாரிப்பதற்காக வழிகாட்டும் சில இன்றியமையாத விதிகளை நோக்குவோம்.

விதி-1

வினாக் கூற்றில் ஒரே ஒரு கருத்தை நடுவணாக அமைக்கவும்.

சமய இலக்கியம் படைத்த புலவர்களுள் உவமைகளைக் கையாளுவதில் சிறந்தவர் சிவப்பிரகாசர் (சரி ∴ தவறு)

இக்கூற்றில் , இரு தகவல்கள் உள்ளன. சமய இலக்கியம் படைத்த புலவர், சிவப்பிரகாசர். இதைச் சரி எனவும் கொள்ளலாம். தவறு என்றும் கொள்ள வாய்ப்புண்டு.

சிவப்பிரகாசர் உவமைக் களஞ்சியம் எனப் பாராட்டப்படுகிறார். (சரி ∴ தவறு).

'சரியா∴தவறா' அமைப்புடைய வினாக்களுக்கு இயன்மைகளை வெளிப்படுத்தும் கூற்றுகளே மிகவும் பொருத்தமானதாக அமையும். இருப்பினும் உயர்நிலையில் முடிவு கூறும் கூற்றுகளையும் இவ்வமைப்பு எடுத்தாளலாம்.

எழுத்துச் சோதனைகள்

இத்தேர்வில் கட்டுரைத்தேர்வு மற்றும் புறவயச்சோதனை இரண்டும் அடங்கும். கட்டுரை சோதனைகளில் கேட்கப்படும் கேள்விகளுக்கு மாணவர்கள் கட்டுரை வடிவில் பதில் அளிக்க வேண்டும். கட்டுரைசோதனை பல ஆண்டுகளாகப் பயன்படுத்தப்பட்டு வருவதால் பழைய முறைத் சோதனை என்றும் இ இதன் மதிப்பீடு திருத்துபவரின் மனநிலையைப் பொறுத்து அமைவதால் தன் மனவயப்படுகின்ற சோதனை என்றும் அழைக்கப்படுகின்றது.

புறவயச் சோதனையில் ஒரு வினாவிற்கு ஒரே விடை என்ற வகையில் மதிப்பீடாளரைப் பொறுத்து மதிப்பெண் மாறாத வகையில் அமையும். இவை கட்டுரை மற்றும் சிறு வினா விடை வகையை விட நம்பகத்தன்மை அதிகம் கொண்டது.

குறுவினா விடைச் சோதனை

இவ்வவை வினாக்களுக்கு ஒரிரு வாக்கியத்தில் விடை எழுத வேண்டும். ஒரு கருத்தைப் பிழையின்றி ஒரு தொடரில் எழுதச் தெரிகின்றதா என்பதைத் தேர்ந்தறிய இது பயன்படுகிறது. (எ.கா) சுட்டெழுத்து என்பது யாது?

பத்திவினா விடைச் சோதனை

இவ்வகை வினாக்களுக்கு ஒரு பத்தியில் அதாவது ஒரு அல்லது ஏழு வாக்கியங்களில் விடை எழுத வேண்டும். ஒரு கருத்தை விளக்கப் பல வாக்கியங்கள் எழுதத் தெரிகின்றதா என்பதை தேர்ந்தறிய இது பயன்படுகிறது.

இவ்வகை வினாக்களைத் தயாரிப்பது மிகவும் எளிது. உண்மை தகவல்கள் கிடைக்கும். பாடப் பொருள் அனைத்தும் உள்ளடங்கும். நம்பகத்தன்மை குறையும். மொழிப்பிழையினால் மதிப்பீடு பாதிக்கப்படலாம்.

கட்டுவரை வினாவிடைச் சோதனை

அகவயத் தன்மை உடையவை. இவ்வகையுள் கட்டுப்பாட்டுத் துலங்கல் (சுளவசைவநன சுளழளெற) வினா, வினா, விரிவுத் துலங்கல் வினா, குறுவிடை வினா, நெடுவிடை வினா ஆகியன அடங்கும். இப்பெயர்களெல்லாம் அவற்றிற்கு விடையளிக்கும் பான்மையால் ஏற்பட்டனவாகும். வினாவுக்கு உரிய விடையின் தன்மையினை வரையறுத்துக் கேட்கப்படும் வினாவாகும்.

கட்டுரை வகை வினாவைத் தயாரிப்பது எளிமையாகத் தோன்றினும் வரையறுத்த நோக்கங்களுக்கு ஏற்ப வினாக்களைத் தயாரிப்பது கடினமாகும். இவ்வகை வினாக்களின் மூலம் மொழிப்பாடத்தில் மொழிநடை, வளம், கருத்துகளின் வைப்புமுறை ஆகியவற்றை மதிப்பிட இயலும். ஒரு கருத்தை குறித்து முன்னுரை, பொருளுரை, முடிவுரை எனப் பிரித்து முறையாக எழுதுவரைத் தேர்ந்தெறியும் வினாக்களே கட்டுரை வினாக்கள் ஆகும். சிலபோது

மூன்று அல்லது நான்கு பத்திகளில் விடையெழுத வேண்டியிருக்கும். இவற்றைத் தயாரிப்பதற்குப் பின்பற்ற வேண்டிய விதிகளை இனி நோக்குவோம்.

விதி-1

உயர்நிலை ஆற்றல்களை அளக்கப் பயன்படுகிறது.

அறிதல், புரிதல் ஆகிய ஆற்றல்களை அளக்கப் புறவய அமைப்பு வினாக்களே போதுமானவை. இவற்றை அளக்கக் கட்டுரை வினாக்களைப் பயன்படுத்துவதைத் தவிர்க்கவும். பயன்படுத்துதல் ஆற்றலைக் கூடப் புறவய வினாக்களைத் தயாரிப்பதால் பெறக்கூடும். ஆனால், வினாக்களைத் தயாரிப்பதற்கு நேரச் செலவு ஆகும். எனவே, பயன்படுத்துதல, பகுத்தல், தொகுத்தல், மதிப்பிடல் போன்ற உயர்நிலை ஆற்றல்களை அளக்கக் கட்டுரை வினாக்களைப் பயன்படுத்துக. ஆற்றல்களின் நிலை உயர்வினைக் காட்டும், கீழ்வரும் வளர்வரைவு வினாத் தயாரிப்போருக்குப் பயனுடையதாக அமையும்.

ஆசிரியர் தயாரிக்கும் கற்றலடைவுச் சோதனை

கற்றலுக்குப் பின் மாணவர்களின் அடைவினைக் கண்டறிய ஆசிரியரே உருவாக்கும் தேர்வாகும். இது ஆசிரியருக்கு ஆசிரியர் வேறுபடும். கற்றலுக்கு முன்னும், கற்றலுக்குப் பின்னுமுள்ள மாற்றத்தை ஆசிரியரால் அளந்தறிய முடியும். கற்பித்தலில் தேவைப்படும் மாற்றங்களை உணர்த்தும் வழிகாட்டியாகவும் அமையும். இது வாய்மொழித் தேர்வு, எழுத்துத் தேர்வு என இருவகைப்படும்.

தயாரித்தலில் உள்ள படிகள்

கற்றலடைவுச் சோதனைத் தயாரித்தலில் இரு படிநிலைகள் உள்ளன. அவை வாய்மொழித் தேர்வு, எழுத்துத் தேர்வு என இருவகைப்படும். அவற்றை அறிந்து கொள்ளலாம்.

வாய்மொழித் தேர்வு

ஆசிரியர் மாணவனிடம் வாய்மொழியாக வினாக்களைக் கேட்டு விடை பெறுதலை வாய்மொழித் தேர்வு என்பர். மாணவர்களின் பேச்சில் காணப்படும் மொழிவளம், உச்சரிப்பு, மொழிநடை, குரல்வளம், உணர்வு வெளிப்படும் பாங்கு ஆகிய மொழிக் கூறுகளை வாய்மொழித் தேர்வின் மூலம் மதிப்பீடு செய்யலாம்.

எழுத்துத் தேர்வு

இத்தேர்வில் கட்டுரைத் தேர்வு மற்றும் புறவயச் சோதனை இரண்டும் அடங்கும். கட்டுரைத் தேர்வுகளில் கேட்கப்படும் கேள்விகளுக்கு மாணவர்கள் கட்டுரை வடிவில் பதில் அளிக்க வேண்டும். கட்டுரைத் தேர்வு பல ஆண்டுகளாகப் பயன்படுத்தப்பட்டு வருவதால் பழைய முறைத் தேர்வு என்றும், இதன்மதிப்பீடு திருத்துபவரின் மனநிலையைப் பொறுத்து அமைவதால் தன் மனவயப்படுகின்ற சோதனை என்றும் அழைக்கப்படுகின்றது.

புறவயச் சோதனையில் ஒரு வினாவிற்கு ஒரே விடை என்ற வகையில் மதிப்பீட்டாளரைப் பொறுத்து மதிப்பெண் மாறாக வகையில் அமையும். இவை கட்டுரை மற்றும் சிறுவினா விடை வகையை விட நம்பகத்தன்மை அதிகம் கொண்டவை.

ஆசிரியர்களால் உருவாக்கப்படும் தேர்வுகளின் தன்மைகள்

1. ஆசிரியரால் உருவாக்கப்பட்ட தேர்வுகள் குறிப்பிட்ட பள்ளித் தேவையினைக் கருத்தில் கொண்டு ஆசிரியரால் உருவாக்கப்பட்டவை.
2. இவற்றுள் வகுப்பறையில் கற்பிக்கப் பெற்ற விவரங்களைப் பற்றிய வினாக்கள் மட்டுமே அடங்கும்.

3. நம்பகம், ஏற்புடைமை – ஆகியன உள்ளவையாகவோ இல்லாதவையாகவோ இருக்கக் கூடும். காலச்செலவும் பணச்செலவும் குறையும்.

4. கட்டுரை வகை அல்லது குறுவினா தேர்வுகளாகவோ இருக்கக் கூடும்.

5. மாணாக்கரது அடைவை ஒப்பிட்டு அவர்களது முன்னேற்றம் பள்ளி முடிவெடுக்க உதவும் தரங்கள் இல்லை.

6. பொதுவாக இவை தொகுதிச் சோதனைகளாக இருக்கும்.

வினா வகைகளின் அட்டவணை தயாரிப்பு

கற்றல் பொருளை ஊடகமாகக் கொண்டு, மாணவர் பெறும் ஆற்றல்களை அளந்து, கற்பித்தல் நோக்கங்கள் நிறைவேற்றப்படுகின்றன. ஆற்றல்களை அளப்பது தேர்வு வினாத்தாள்.

எனவே வினாத்தாள் தயாரிப்பில் கற்றல் பொருள், கற்றல் நோக்கங்கள் கருதத்தக்க கூறுகளாகின்றன. தேர்வு வினாத்தாள், வினாக்களைக் கொண்டமைவதாகும். வினாக்கள் பல்வகைப்படும் என்றும், ஒவ்வொரு வகைக்கும் சில தனித்தன்மைகள் உண்டு என்றும் முன்பகுதியல் பார்த்தோம்.

எனவே, அளந்தறிய வேண்டிய நோக்கங்களுக்கு ஏற்ப வினா வகைகளும் மதிப்பெண்கள் அளவும் தேர்வுத்தாளைத் தயாரிக்கும் போது கருதத்தக்கனவாகின்றன. இப்போது, தேர்வுத்தாளைத் தயாரிப்பதற்குக் கருதத்தக்க கூறுகளைப் பட்டியலிட்டுப் பார்ப்போம்.

  1.கற்பித்தல் நோக்கம்   2.கற்றல் பொருள்
  3.வினாவகை   4.மதிப்பெண்கள் ஒதுக்கீடு

எனவே வினாத்தாள் திட்டவரையில் இந்நான்கும் காட்டப்பட வேண்டும்.

கற்றல் நோக்கம்

கற்பித்தல் நோக்கங்களைப் பல அடிப்படைகளில் வகைப்படுத்தலாம். எனிலும் கற்றல் நிகழ்வு அடிப்படையல், அறிதல், புரிதல், பயன்படுத்துதல், பகுத்தல், தொகுத்தல், மதிப்பிடல் எனும் ஆறு வளர்ச்சிப் படிநிலைகளைக் கொண்டது. இந்த ஆறு வளர்ச்சிப் படிநிலைகளும் அறிவுக்களம் சார்ந்தவை என அறிக. தேர்வில் அறிவுக்கள நோக்கமே அளக்கப்படுகிறதென்று அறிக. இவற்றிலுள்ள பகுத்தல், தொகுத்தல் , மதிப்பிடல் ஆகிய மூன்றினையும் 'திறன்' எனும் சொல்லால் குறிப்பர். எனவே, வினாத்தாள் திட்ட வரைவில் குறிக்கப்படும் நோக்கக்கூறுகள் அறிதல், புரிதல், திறன், பயன்படுத்துதல் ஆகிய நான்குமாகும்.

கற்றல் பொருள்

கற்றல் பொருளைத் தருவது பாடநூல். பாடநூலின் அனைத்துப் பகுதிகளிலும் கற்போரின் அடைவ அல்லது தேர்ச்சி எதிர்பார்க்கப்படுகிறது. தேர்வு வினாத்தாளில் அனைத்துப் பகுதிகளையும் உள்ளடக்கிய வினாக்களை அமைத்தல் நடைமுறைச் சாத்தியமன்று. பாடப்பொருளின் பரவலான மாதிரிக் கூறுகளே போதும்.

அவற்றைத் தேர்ந்தெடுப்பதற்கு ஏற்றவாறு கற்பித்த அனைத்துப் பகுதிகளையும் நடைமுறைக்கு ஏற்ப அலகுகளாகப் பிரிக்க வேண்டும். அனைத்து அலகுகளையும் உள்ளடக்கியவாறு மாதிரிக் கூறுகள் அடங்கிய வினாக்களை வினாத்தாளில் அமைக்க வேண்டும். மேலும் பாட அலகின் தன்மைக்கேற்ப மதிப்பெண்கள் ஒதுக்குவதை விட அலகுகள் அடங்கும் பாடப்பொருள் தன்மைக்கேற்ப மதிப்பெண்களை ஒதுக்க வேண்டும்.

வினாவகை

வினாதிட்ட வரைவில் கருதப்பட வேண்டிய பிறிதொன்று வினா வகையாகும். பல்வகைப்பட்ட வினாக்களை ஒரு தேர்வுத்தாளில் அமைத்தால் விடைத்தாள் திருத்தும்போது நடைமுறைச் சிக்கல்கள் ஏற்படுகின்றன. மூன்று அல்லது நான்கு வகைப்பட்ட வினாக்களிருத்தல் சிறப்பு.

மதிப்பெண்கள் ஒதுக்கீடு

வினாத்தாளில் மதிப்பெண்கள் ஒதுக்கீடு செய்யும் போது கற்பித்தல் நோக்கங்கள், பாடப்பகுதிகள், வினாக்கள் ஆகிய மூன்றும் தனித்தனியே கருதப்பட வேண்டும். அறிதல், புரிதல், பயன்படுத்துதல், திறன் ஆகியவற்றில் உயர்நிலை ஆற்றல்களுக்கு மிகுந்த மதிப்பெண்களும் தாழ்நிலை ஆற்றல்களுக்குக் குறைந்த மதிப்பெண்களும் ஒதுக்கலாம்.

பாடப்பொருளுக்கு மதிப்பெண்கள் ஒதுக்கும் முறை பற்றி முன்னரே கூறப்பட்டது. வினாக்களை மூன்று வகைக்குள் அடக்கினால், 1.புறவயவினா, 2.குறுவினா 3. கட்டுரை விடை என மூன்றாகக் கொண்டு, இவற்றிற்கு நிரலே 1,2,5 மதிப்பெண்களை ஒதுக்கீடு செய்யலாம்.

வினாத்தாள் திட்ட வரைவின் மாதிரி

தமிழ்ப்பாடத்திற்குப் பொருந்திய திட்ட வரைவின் மாதிரி இப்பகுதியிலும் அதன் அடிப்படையிலும் தயாரிக்கப்பட்ட வினாத்தாள் அடுத்த பகுதியிலும் தரப்படுகின்றன.
ஆறாம் வகுப்புத் தமிழ்

வினாத்தாள் திட்ட வரைவு

கற்பித்தல் நோக்கம்	(10) அறிதல்			(10) புரிதல்			(15) பயன்படுத்துதல்			(15) திறன்			(50) மொத்தம்		
பாட அலகு	பு	கு	க	பு	கு	க	பு	கு	க	பு	கு	க	பு	கு	க
	1	2	5	1	2	5	1	2	5	1	2	5	1	2	5
செய்யுள்(15)	2	..	..	1	..	..	3	1	..	..	1	1	5	2	1
உரைநடை (15)	2	..	..	1	..	..	3	1	..	..	1	1	5	2	1
துணைப்பாடம் ∴ கட்டுரை ∴ கடித« (10)	..	2	..	..	2	..	..	1	..	..	..	..	..	5	..
இலக்கணம் (10)	..	1	..	4	..	..	3	..	..	1	..	..	8	1	..
மொத்தம் (50)	4	3	..	8	2	..	9	2	..	1	2	2	20	10	2

மொத்த மதிப்பெண்கள் 50, நேரம் 1 மணி

குறிப்பு – "உள்நிலைத் தெரிவு கொண்ட வினாக்கள் மதிப்பெண் ஒதுக்கீடு ஐ ஸ சதுர அடைப்பிற்குள் கொடுக்கப்பட்டுள்ளன. வினாவிற்குரிய மதிப்பெண் ∴ மதிப்பெண்கள் '( )' – பிறை அடைப்பிற்குள் கொடுக்கப்பட்டுள்ளன.

தமிழ் - முதல்தாள்

வினாவகை	மதிப்பெண்	
	செய்யுள்	உரைநடை
புறவயவினா	10	10
குறுவினா	10	10
சிறுவினா	17	17
நெடுவினா	8	8
மனப்பாடப் பகுதி	10	-
மொத்தம்	55	45

தமிழ் - இரண்டாம்தாள்

பாடப்பகுதி	மதிப்பெண்
இலக்கணம	30
துணைப்பாடம்	10
கட்டுரை	10
கடிதம்	10
மொழிப்பயிற்சி	20
பா நயம்	5
படிவம்	5
படைப்பாற்றல்	5
வாழ்வியல் திறன்	5
மொத்தம்	100

பிற எண்கள் வினா எண்ணிக்கையினைக் குறிக்கும்.
1.   மதிப்பெண் கொண்டன புறவய வினாக்கள் (பு)
2.   மதிப்பெண் கொண்டன குறுவிடை வினாக்கள் (கு)
3.   மதிப்பெண் கொண்டன கட்டுரை வினாக்கள் (க)

<div align="center">

மதிப்பெண் வழங்கும் முறையும்
மதிப்பிடுதலுக்கான விடைக்குறிப்புகளும்

</div>

தேர்வு எழுதுவோர் விடையளிக்கும் அடிப்படையில் வினாக்கள், தேர்ந்தெடுப்பு வகை என்றும் அளிப்பு வகை என்றும் வகைப்படுத்தப்பட்டன. விடைகளை அளவிடும் அடிப்படையில் புறவயம். அகவயம் என வினாக்கள் வகைப்படுவதையும் அறிவீர்கள். விடைகளைத் திருத்தும் நெறிமுறைகள் இந்த அடிப்படையில் பின்வரும் பகுதிகளில் விளக்கப்படுகிறது.

புறவய வினாக்கள்

பலவற்றுள் தெரிவு, சரியா, தவறா பொருத்துதல், கோடிட்ட இடம் நிரப்பல் ஒரு சொல்∴தொடர்விடை ஆகியன புறவய வினாக்கள். இவற்றுள் பலவுள் தெரிவு சரியா, தவறா,

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பொருத்துதல் ஆகிய வினாக்களுக்குரிய விடைகளைத் தேர்வு எழுதுவோரே கொடுக்கப்பட்ட தெரிவுகள் அல்லது நூல்களிலிருந்து தேர்ந்தெடுக்க வேண்டும். எனவே, இவற்றிற்குரிய விடை துல்லியத்தை உறுதிப்படுத்துவதில், அளவீட்டாளர்களுக்குச் சிக்கல் நேராது. பலவற்றுள் தெரிவு. பொருத்துதல் ஆகிய வினாக்களின் விடைகள் (அ), (ஆ) .... எனக் குறியீடுகளாகவே அமையும். 'சரியா, தவறா' அமைப்பிலுள்ள வினாக்களுக்கு விடைகள் சரி, தவறு, ஆம், இல்லை போன்று ஒரு சொல்லால் அமையும். இங்கும் விடைத் துல்லியத்தினை உறுதிப்படுத்துவதில் சிக்கல் ஏற்படாது. எனினும் இவ்வினாக்களில் தேர்வு எழுதுவோர் ஊகித்து விடை தரும் வாய்ப்பு உள்ளது. ஒரு சொல்∴தொடர் விடை வினாக்களின் விடைகளில் சொல், பிழை ஆகியனவற்றைக் கருதி அவற்றை அளவிட நெறிமுறைகள் தேவை.

ஊகம் தவிர் திருத்தம்.
பலவற்றுள் தெரிவு வினாக்களில் மூன்று, நான்கு அல்லது ஐந்து தெரிவுகள் கொடுக்கப்பட்டிருக்கும். தேர்வு எழுதுவோர் விடைகளை ஊகித்து எழுதும் வாய்ப்புண்டு.
1. ஐந்து தெரிவுகளாயின் ஊகிக்கும் வாய்ப்பு 1∴5 – 20மூ
2. நான்கு தெரிவுகளாயின் ஊகிக்கும் வாய்ப்பு 1∴4 – 25மூ
3. மூன்று தெரிவுகளாயின் ஊகிக்கும் வாய்ப்பு 1∴3 – 33 1∴3மூ
4. சரியா-தவறா அமைப்பில் ஊகிக்கும் வாய்ப்பு 1∴2 –50மூ

மேற்காட்டிய கணிப்பிலிருந்து, தெரிவுகளின் எண்ணிக்கை குறையக் குறைய ஊகித்து எழுதும் வாய்ப்பு மிகுதியாகிறது. ஊகிக்கும் வாய்ப்புகளுக்கு ஏற்பத் தேர்வர்கள் பெறும் மதிப்பெண்களின் நம்பகத் தன்மை குறைகிறது. எனவே, தேர்வர்கள் ஊகித்து விடை தருவதைத் தடுக்க 'ஊகம் தவிர் திருத்தம்' எனும் முறையைக் கல்வியாளர்கள் பரிந்துரைத்துள்ளனர்.

எடுத்துக்காட்டு
ஒவ்வொன்றிலும் நான்கு தெரிவுகள் கொண்ட 40 வினாக்களுக்குத் தேர்வு விடை தரும்போது 31 வினாக்களுக்கும் சரியாக விடையளித்து. 9 வினாக்களுக்குத் தவறாக விடையளித்திருப்பின்

உண்மை மதிப்பெண்   - சரியான விடைகளின் எண்ணிக்கை -3

தவறான விடைகளின் எண்ணிக்கை – 9

தெரிவுகளின் எண்ணிக்கை – 1
மேற்காட்டிய எடுத்துக்காட்டில்
உண்மை மதிப்பெண்   ᵂரீ   31 – 9∴4-1

ᵂரீ   31 – 9∴3

ᵂரீ   31 – 3 ᵂரீ 28
இம்முறை ஊகித்து எழுதுவதைத் தடுப்பதற்கு மேற்கொள்ளப்படுகிறது.
சொல் ∴ தொடர் விடைகளில் பிழைகள்
ஒரு சொல் அல்லது தொடர் விடை கொண்ட வினாக்களுக்குத் தேர்வர்கள் விடையளிக்கும்போது விடைகளில் எழுத்து,சொல், தொடர் பிழைகள் இருப்பின் அவற்றை எவ்வாறு அளவிடுவது? மதிப்பெண் வழங்குவதா வேண்டாமா?

இத்தகைய பிழை ஏற்பட்ட விடைகளை அளவிடும் போது வினாவின் நோக்கத்தைக் கருதுதல் வேண்டும்.

எடுத்துக்காட்டாக, சிலப்பதிகாரத்தை எழுதிய புலவர் யார்? என்ற வினாவிற்கு இளங்கோவடிகள் என்பது விடை, இப்பெயரினைத் தேர்வு எழுதுவோர் இளங்கோ என்றோ, இளகோ என எழுத்துப் பிழையுடனோ தந்திருப்பினும் முழு மதிப்பெண் வழங்க வேண்டும். இந்த வினாவின் நோக்கம் பெயரைத் தேர்வர் வெளிப்படுத்துவதை அறிவதாகும்.

எனவே தகவலறி வினாக்களின் விடைகளில் எழுத்து, சொல், தொடர் பிழைகளைக் கொண்டு மதிப்பெண்களைக் குறைக்கக் கூடாது. மொழித் திறன் அளக்கும் வினாக்களில் எழுத்து, சொல் தொடர் பிழைகள் அளவீட்டில் கருத்த தக்கனவாகும். 'வா' எனும் வினையின் பெயரெச்ச வடிவம் யாது? எனும் வினாவிற்கு 'வந்த' என்பதுதான் விடை. வாந்த, வத்த, வந்தா என வடிவில் இருப்பினும் அது தவறே. மதிப்பெண் வழங்கக் கூடாது.

புறவய வினாவிற்கான மதிப்பெண்

புறவய வினாக்களுக்கு மதிப்பெண், 'உண்டு - இல்லை' எனும் இரு நிலைப்பாற்பட்டை அமைய வேண்டும். இவ்வினாக்கள் ஒவ்வொன்றிற்கும் 1 மதிப்பெண்ணே ஒதுக்கப்படும். எனவே விடை சரியாக இருப்பின் மதிப்பெண் 1, தவறாயின் 0. 0க்கும் 1க்கும் இடையே ½இ ¼ போன்ற மதிப்பெண்கள் வழங்கக் கூடாது. ஊகம் தவிர் திருத்தத்தால் மதிப்பெண்கள் பின்ன எண்களாக இருப்பின் முழு எண்களை உரிய மதிப்பெண்களாகக் கொள்க.

½இ ஐயும் மேலுள்ள பின்னத்தையும் 1 எனக் கருதவும்.

கட்டுரை அகவய வினாக்கள்

கட்டுரை வினாக்கள அகவயமை கொண்டிருப்பினும், மொழிப் பாடத்தில் அவற்றைத் தவிர்க்க இயலாது. சில நெறிமுறைகளைப் பின்பற்றி அகவயமை அளவினைக் குறைக்கலாம். அம்முறை அடுத்து வரும் பகுதிகளில் வளர்க்கப் படுகின்றன.

கற்றல் விளைவுகளுக்கு ஏற்ப மதிப்பெண்கள் வழங்கல்

உயர்நிலை ஆற்றல்களில் பெற்ற திறனை அளப்பதற்குக் கட்டுரை வினாக்கள் கேட்கப்படுகின்றன. ஆற்றல் தன்மையினை வெளிப்படுத்தும் அளவிற்கேற்ப மதிப்பெண்கள் வழங்கப்பட வேண்டும்.

ஒரு வினாவில் ஏதுக்களும் விளைவுகளும் கேட்கப்படின் ஏதுக்களின் எண்ணிக்கை, விளைவுகள் பற்றிய விளக்கம் ஆகியனவற்றைப் பொறுத்து மதிப்பெண்கள் வழங்கப்பட வேண்டும். இவ்வகையாக மதிப்பெண்கள் வழங்கப்படுதல். 'பகுப்பு அளவீடு' எனப்படும். மொழிப்பிழைகளையும், பகுப்பு அளவீட்டின் கூறாக கொள்ள வேண்டும்.

திருத்தல் குறிப்பைப் பின்பற்றல்

கட்டுரை வினாக்களுக்குச் சரியான விடை வினாத் தயாரிப்பவராலோ பிறராலோ கொடுக்க இயலாது. திருத்தற் குறிப்பினையே வழங்க இயலும். திருத்தற் குறிப்புகளுக்கு ஏற்ப, முன் பகுதியில் கூறப்பட்டது போலப் பகுப்பு அளவீட்டைக் கட்டுரை வினாக்களுக்கு மேற்கொள்ள வேண்டும்.

திருத்தல் குறிப்பினை அடிப்படையாகக் கொள்ளாமல் முழு நோக்குப் பார்வையில் கட்டுரை வினாக்களின் விடைகளைத் திருத்தக் கூடாது.

கட்டுரை வினாக்களை முதலில் அளவிடுதல்

ஒவ்வொரு தேர்வு எழுதுவோரின் விடைத்தாளையும் முழுமையாக அளவிட்ட பின்னரே அடுத்தவரின் விடைத்தாளை அளவிடும் போக்கு நடைமுறையில் உள்ளது. இப்போக்கு, கட்டுரை விடைகளை மதிப்பிடுவதற்குப் பொருத்தமானதன்று. ஏனெனில் பிறவகை வினாக்களின் விடைகளால் தேர்வாளர் அகவயப்படும் வாய்ப்பு நேரிடும். தேர்வு எழுதுபவர் ஒருவர், புறவய வினாக்களில் குறைந்த மதிப்பெண் பெற்றிருப்பதாகக் கொள்வோம். அவற்றை அளவிட்ட தேர்வாளர், தேர்வு எழுதுவோரின் அகவய கட்டுரை வினாக்களுக்குக் குறைந்த மதிப்பெண்களே வழங்க முற்படுபவர். இக்குறைபாடு ஈர்ப்பு விளைவு எனப்படும். எனவே ஒரு தேர்வரின் கட்டுரை விடையை அளவிட்டபின் அடுத்த தேர்வரின் கட்டுரை விடையை அளவிட வேண்டும். இம்முறையில் எல்லாக் கட்டுரை விடைகளையும் அளவிடுவதால், அளவிடுவதில் புறவயமையினை ஏற்படுத்தலாம்.

தேர்வு எழுதுவோரை அறியா நிலையில் அளவிடுதல்

ஈர்ப்பு விளைவால் அளவீட்டில் குறைபாடு ஏற்படும். கட்டுரை விடைகளை அளவிடும்போது இக்குறையினைப் பிறிதொரு முறையாலும் போக்கலாம். தேர்வர் எழுதுபவர் பெயர், எண் ஆகியவற்றை மறைத்து விடைகளை அளவிடலாம்.

ஒன்றுக்கு மேற்பட்ட தேர்வாளர்களால் அளவிடப்படல்

கட்டுரை வினாக்கள் பெருமளவில் உயர்கல்வியில் இடம் பெறுகின்றன. முதுகலை வகுப்புகளில் தேர்வு எழுதுபவர் ஒருவரின் கட்டுரை வினாக்களின் விடைகள் ஒன்றுக்கு மேற்பட்ட தேர்வாளர்களால் அளவிடப்பட்டு, அவர்கள் வழங்கிய மதிப்பெண்களின் சராசரி, தேர்வு எழுதியவருக்குரிய மதிப்பெண்களாகக் கொள்ளப்படுகின்றன. இம்முறையினை எல்லா வகுப்புகளுக்கும் விரிவுபடுத்தலாம்.

வினாக்களைப் பகுப்பாய்வு செய்தல்

கற்றல் கற்பித்தல் நிலையை அளவிடுதல் போல மாணவர்கள் எழுதிய விடைகளின் அடிப்படையில் வினாக்களின் நிறைகுறைகளைப் பகுப்பாய்வு செய்து அடுத்த நிலைக்குத் தயாராக வேண்டும்.

வினாப்பகுப்பாய்வு

தேர்வு எழுதுவோர் தேர்வினை எதிர்கொண்டு அளித்த விடைகள் அடிப்படையில் வினாக்களைப் பகுப்பாய்வு செய்தல் வேண்டும். பின்னர் வினாக்கள் தயாரிக்கும்பொழுது அவ்வினாக்களைச் செம்மைப்படுத்த இப்பகுப்பாய்வு உதவும். இப்பகுப்பாய்வையும் பிற தகவல்களையும் பதித்தது வைக்கும் ஆவணம் வினாக்கோப்பு ஆகும். வினாக்கோப்பின் தொகுதியே வினா வங்கியானும். ஒவ்வொரு வினாவுக்கும் கீழ் உள்ள படிவத்தின்படி தகவல்களை எழுதுக.

வினாக் கோப்பு

1. வினா எண்
2. வினா
3. பாடப்பகுதி (வினாவை இங்கு எழுதுக) செய்யுள் ∴ உடைநடை ∴ துணைப்பாடம் இலக்கணம் ∴ கடிதம ∴ கட்டுரை (ஏதேனும் ஒன்றாக அமையும்)
4. நோக்க அடிப்படை அல்லது அறிதல் ∴ புரிதல் ∴ அளக்கப் படும் திறன் ∴

பயன்படுத்துதல் ∴ திறன் (ஏதேனும் ஒன்றாக அமையும்)

5. கால அளவு. . . . . நிமிடம்

6. மதிப்பெண் . . . . . .

7. வினாவகை புறவயப்பட்டது? - ஒரு சொல் கோடிட்ட இடம் நிரப்பல்
பொருத்துதல் சரியா, தவறா பலவற்றுள் தெரிவு அகவயப்பட்டதா, குறுவிடை
கட்டுரை

8. கடினத் தன்மை எளிமை ∴ சராசா ∴ கடினம்

எடுத்துக்காட்டு-1

வினா எண் : 1 வினா
நளவெண்பாவைப் பாடிய ஆசிரியர் பெயர் என்ன?
பாடப்பகுதி : செய்யுள்
நோக்க அடிப்படை அல்லது
அளிக்கப்படும் ஆற்றல் : அறிதல்
கால அளவு : 1 நிமிடம்
மதிப்பெண் : 1
வினாவகை : புறவயப்பட்டது.   ஒரு சொல் விடை
கடினத்தன்மை : எளிமை

எடுத்துக்காட்டு-2

வினா எண் : 8
வினா : 'இனியவை கூறல்' என்பது குறித்து வள்ளுவர் கூறியுள்ள கருத்துக்களைத் தொகுத்து
எழுதுக.
பாடப்பகுதி : செய்யுள்
நோக்க அடிப்படை அல்லது
அளிக்கப்படும் ஆற்றல் : திறன்
கால அளவு : 10 நிமிடம்
மதிப்பெண் : 5
வினாவகை : அகவயப்பட்டது ∴ கட்டுரை
கடினத்தன்மை : சராசரி

வினாவங்கி

இவ்வாறு ஒவ்வொரு பாடத்துக்கும் தயாரிக்கக்கூடிய புறவயப்பட்ட வினாக்கள்,
அகவயப்பட்ட வினாக்கள் (குறும் விடை- கட்டுரை) அனைத்தையும் தயாரிக்க வேண்டும்.
அவ்வினாக்களின் தொகுப்பே வினா வங்கியாகும். வினாவங்கியிலிருந்து தேவைப்படும்
வினாக்களைத் தேர்ந்தெடுத்து வினாத்தாள் தயாரிக்கலாம்.

முடிவுரை:

இவ்வியலில் சோதித்தலின் முக்கியத்துவம் மொழியறிவுச் சோதனையின் வகைகள்
உள்ளார்வஆற்றல சோதனைதறனறிச் சோதனை, குறையறிதல் சோதனை மொழியறிவுச்
சோதனையின் வகைகள் ஆசிரியர் தயாரிக்கும் கற்றலடைவுச் சோதனை
தயாரித்தலிலுள்ளபடிகள்,வினாத்தாள்திட்டவரைவுஅட்டவணை,வினாக்களைப்பகுப்பாய்வு

செய்யும்முறை ஆகியவற்றைபயிற்சி ஆசிரியர்கள் தெளிவாக கற்கும்பொழுது வருங்காலத்தில் மாணவர்களின் திறனைசோதிப்பதற்கு உதவியாக இருக்கும்.

பயிற்சிவினாக்கள்:
குறிப்புவகை:

1. (அ) திறனறிச் சோதனை

   (ஆ) குறையறிச் சோதனை
   (இ) மொழியறிவுச் சோதனை

2. ஆசிரியர் தயாரிக்கும் கற்றலடைவுச் சோதனைபற்றிஏர் கட்டுரைவரைக

3. ஒன்பதாம் வகுப்பு தமிழ்பாடம் ஒன்றிற்கு வினாத்தாள் திட்டவரைவுஅட்டவனை ஒன்று தயாரித்து, விடைக்குறிப்புகளும் தருக

குறிப்புரை

- **முனைவர். குமரிச்செழியன்,** நல்லாசிரியர் **டாக்டர் இ.பா. வேணுகோபால்** (2016) தமிழ்மொழிக் கற்பித்தல், சாரதா பதிப்பகம், சென்னை -14.
- **வேணுகோபால் இ.பா.** (2014), *பைந்தமிழ் கற்பிக்கும் முறைகள்*, சென்னை: சாரதா பதிப்பகம்.
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தமிழ்நாடு ஆசிரியர் கல்வியியல் பல்கலைக்கழகம்

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Course Material for B.Ed (First Year)

(2016-2017)

Course: 3 Learning and Teaching

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Unit-VI: LEARNER-CENTERED TEACHING

Objectives:

1. Know the meaning and characteristics of learner-centered teaching.
2. Describe the Need for learner-centered approaches.
3. Explain teacher-centered learning.
4. Comprehend learners – central techniques of teaching.

Introduction:

Student-centered learning, also known as **learner-centered education**, broadly encompasses methods of teaching that shift the focus of instruction from the teacher to the student. In original usage, student-centered learning aims to develop learner autonomy and independence by putting responsibility for the learning path in the hands of students. Student-centered instruction focuses on skills and practices that enable lifelong learning and independent problem-solving. Student-centered learning theory and practice are based on the constructivist learning theory that emphasizes the learner's critical role in constructing meaning from new information and prior experience.

Student-centered learning puts students' interests first, acknowledging student voice as central to the learning experience. In a student-centered learning space, students choose what they will learn, how they will learn, and how they will assess their own learning. This is in contrast to traditional education, also dubbed "teacher-centered learning", which situates the teacher as the primarily "active" role while students take a more "passive", and receptive role. In a teacher-centered classroom, teachers choose what the students will learn, how the students will learn, and how the students will be assessed on their learning. On the Contrary, student-centered learning requires students to be active, responsible participants in their own learning and with their own pace of learning.

Usage of the term "student-centered learning" may also simply refer to educational mindsets or instructional methods that recognize individual differences in learners. In this sense, student-centered learning emphasizes each student's interests, abilities, and learning styles, placing the teacher as a facilitator of learning for individuals rather than for the class as a whole.

Meaning:

Learner-centered teaching is an approach to teaching that is increasingly being encouraged in higher education. Learner-centered teachings do not employ a single teaching method. This approach emphasizes a variety of different types of methods that shift the role of the instructors from givers of information to facilitating student learning.

Traditionally, instructors focused on what they did, and not on what the students learnt Educators call this traditional method, "instructor-centered teaching." In contrast, "learner-centered teaching" occurs when instructors focus on student learning.

Learner-Centered Teaching /Learner -Centered Learning

Educators commonly use three phrases with this approach. Learner- centered teaching places the emphasis on the person who is doing the learning (Weimer, 2002). Learning-centered teaching focuses on the process of learning. Both phrases appeal to faculty because these phrases identify their critical role of teaching in the learning process. The phrase student centered learning is also used, but some instructors do not like it because it appears to have a consumer focus, seems to encourage students to be more empowered, and appears to take the teacher out of the critical role.

Five Characteristics of Learner Centered Teaching

Active learning, student engagement and other strategies that involve students and mention learning are called learner-centered. And although learner-centered teaching and efforts to involve students have a kind of bread and butter relationship, they are not the same thing. In the interest of more definitional precision, I'd like to propose five characteristics of teaching that make it learner-centered.

1. Learner-centered teaching engages students in the hard, messy work of learning.

Teachers are doing too many learning tasks for students. We ask the questions, we call on students, and we add detail to their answers. We offer the examples. We organize the content. We do the preview and the review. On any given day, in most classes teachers are working much harder than students. I'm not suggesting we never do these tasks, but I don't think students develop sophisticated learning skills without the chance to practice and in most classrooms the teacher gets far more practice than the students.

2. Learner-centered teaching includes explicit skill instruction.

Learner-centered teachers teach students how to think, solve problems, evaluate evidence, analyze arguments, generate hypotheses all those learning skills essential to mastering material in the discipline. They do not assume that students pick up these skills on their own, automatically. A few students do, but they tend to be the students most like us and most students aren't that way. Research consistently confirms that learning skills develop faster if they are taught explicitly along with the content.

3. Learner-centered teaching encourages students to reflect on what they are learning and how they are learning it.

Learner-centered teachers talk about learning. In casual conversations, they ask students what they are learning. In class they may talk about their own learning. They challenge student assumptions about learning and encourage them to accept responsibility for decisions they make about learning; like how they study for exams, when they do assigned reading, whether they revise their writing or check their answers. Learner-centered teachers include assignment components in which students reflect, analyze and critique what they are learning and how they are learning it. The goal is to make students aware of themselves as learners and to make learning skills something students want to develop.

4. Learner-centered teaching motivates students by giving them some control over learning processes.

Teachers make too many of the decisions about learning for students. Teachers decide what students should learn, how they learn it, the pace at which they learn, the conditions under

which they learn and then teachers determine whether students have learned. Students aren't in a position to decide what content should be included in the course or which textbook is best, but when teachers make all the decisions, the motivation to learn decreases and learners become dependent. Learner-centered teachers search out ethically responsible ways to share power with students. They might give students some choice about which assignments they complete. They might make classroom policies something students can discuss. They might let students set assignment deadlines within a given time window. They might ask students to help create assessment criteria.

5. Learner-centered teaching encourages collaboration.

It sees classrooms (online or face-to-face) as communities of learners. Learner-centered teachers recognize, and research consistently confirms, that students can learn from and with each other. Certainly the teacher has the expertise and an obligation to share it, but teachers can learn from students as well. Learner-centered teachers work to develop structures that promote shared commitments to learning. They see learning individually and collectively as the most important goal of any educational experience.

Need For Learner Centered Approach

Strong, research evidence exists to support the implementation of learner-centered approaches instead of instructor-centered approaches. Knowledge of this research helps instructors defend their teaching methods to their students and to more traditional faculty peers.

A task force of the American Psychological Association integrated this research into fourteen Learner-Centered Psychological Principles which can be summarized through the following five domains.

➢ **The knowledge base.** The conclusive result of decades of research on knowledge base is that what a person already knows largely determines what new information he attends to, how he organizes and represents new information, and how he filters new experiences, and even what he determines to be important or relevant.

➢ **Strategic processing and executive control.** The ability to reflect on and regulate one's thoughts and behaviors is an essential aspect of learning. Successful students are actively

involved in their own learning, monitor their thinking, think about their learning, and assume responsibility for their own learning.

➢ **Motivation and affect.** The benefits of learner-centered education include increased motivation for learning and greater satisfaction with school; both of these outcomes lead to greater achievement. Research shows that personal involvement, intrinsic motivation, personal commitment, confidence in one's abilities to succeed, and a perception of control over learning lead to more learning and higher achievement in school.

➢ **Development and individual differences.** Individuals progress through various common stages of development, influenced by both inherited and environmental factors. Depending on the context or task, changes in how people think, believe, or behave are dependent on a combination of one's inherited abilities, stages of development, individual differences, capabilities, experiences, and environmental conditions.

➢ **Situation or context.** Theories of learning that highlight the roles of active engagement and social interaction in the students' own construction of knowledge strongly support this learner-centered paradigm. Learning is a social process. Many environmental factors including how the instructor teaches, and how actively engaged the student is in the learning process positively or negatively influence how much and what students learn (Lambert & McCombs, 2000). In comparison studies between students in lecture and active learning courses, there are significantly more learning gains in the active learning courses.

Advantages of Learner Centered Teaching

- It improves learning achievement of students.
- It leads to better retention of the learnt material.
- It improves self – esteem of students.
- It facilitates interaction among group members and stimulates their thinking process to find solution to the problems which they encounter in accomplishing the assigned task.
- It fosters students reasoning power.

Learner centered teaching Vs Teacher centered learning

Teacher centered learning	Learner centered teaching
1. Knowledge is transmitted from professor to students.	1. Students construct knowledge through gathering and synthesizing information and integrating it with the general skills of inquiry, communication, critical thinking, problem solving and so on.
2. Students passively receive information.	2. Students are actively involved.
3. Emphasis is on acquisition of knowledge outside the context in which it will be used.	3. Emphasis is on using and communicating knowledge effectively to address enduring and emerging issues and problems in real-life contexts.
4. Professor's role is to be primary information giver and primary evaluation.	4. Professor's role is to coach and facilitate Professor and students evaluate learning together.
5. Teaching and assessing are separate.	5. Teaching and assessing are intertwined.
6. Assessment is used to monitor learning.	6. Assessment is used to promote and diagnose learning.
7. Emphasis is on right answers.	7. Emphasis is on generating better questions and learning from errors.
8. Desired learning is assessed indirectly through the use of objectively scored tests.	8. Desired learning is assessed directly through papers, projects, performances, portfolios and the like.
9. Focus is on single discipline.	9. Approach is compatible with interdisciplinary investigation.
10. Culture is competitive and individualistic.	10. Culture is co-operative, collaborative and supportive.
11. Only students are viewed as learners.	11. Professors and students learn together.

Learner Centered Techniques of Teaching and Their Advantages

Integrating technology in instruction learners may offer the flexibility to extend learning beyond that available in a formal program. Technology also offers access to new, dynamic opportunities for interaction among students and between teachers and students. The use of technology with adults learning can also reduce the digital divide by helping these Students develop a basic understanding of computers and that the technology. Finally, there is evidence that use of technology with adult learners may facilitate their progress to understand the level of students.

Principles of Selecting Technology for Instruction

Onsite Uses of technology involve learning that takes place in the classroom or computer lab in a teacher- led, whole –group setting. Technology- based activities usually serve as a supplement to the core curriculum and are carried out within normal course meeting times.

Early examples of onsite technology used include computer assisted instruction (CAI), which involved the use of computers to teach vocabulary and structures (e.g., verb conjugations). This focus was augmented by computer- assisted language learning (CALL), which emphasized second language acquisition processes and provided opportunities for learners to work together on specific topics and projects. Today CALL typically involves use of the computer, Internet, or software programs to provide authentic and interactive opportunities for learning.

Perhaps the most widespread application of technology in onsite settings to date is the use of Software programs designed for learning. Lessons are designed so that learners hear interactions in a variety of everyday settings and explanations of vocabulary and grammatical structures, which allows them to experience the application of the materials in real- world settings. Learners can play recordings at different speeds and record and play back their own language (Ibarz&Webb, 2007, p.8). Versions of the software available in the United States contain course management and assessment tools for instructor use.

Blended Uses

In Blended uses, Technology serves as a supplement to the primary course curriculum and is used both within classes or labs and outside the classroom (e.g. in the home, library, or

community centre) without the teacher. Technologies that lend themselves to blended uses include software such as the programs described above; computer – mediated communication (CMC), in which learners in a program interact online among themselves or with learners in other programs and settings and Web-based learning. There examples of Web-based learning-project-based Web learning, Web quests, and Web-based games.

Online Learning

Online learning is entirely Internet-based. While there may or may not be teacher involvement, teachers and students rarely meet onsite. Communication and the transmission of course content take place online.

Considerations

Several issues need to be considering when using technology to support instruction in adult education programs. With all three types of uses (onsite, blended, and online), deliberate attempts should be made to promote group work and interaction, both online and face to face otherwise, the use of technology may result in isolated language learning and limited opportunities for meaningful in-person interaction.

Advantages and Disadvantages

CAI can dramatically increase a student's access to information. The program can adapt to the abilities and preferences of the individual student and increase the amount of personalized instruction a student receives. Many students benefit from the immediate responsiveness of computer interactions and appreciate the self-paced and private learning environment. Moreover, computer-learning experiences often engage the interest of students, motivating then to learn and increasing independence and personal responsibility for education.

Although it is difficult to assess the effectiveness of any educational system, numerous studies have reported that CAI is successful in raising examination scores, improving student attitudes, and lowering the amount of time required to master certain material. While study results vary greatly, there is substantial evidence that CAI canning processes, hence learning at all educational levels. In some applications, especially those involving abstract reasoning and problem-solving processes, CAI has not been very effective. Critics claim that poorly designed

CAI systems can dehumanize or regiment the educational experience and thereby diminish student interest and motivation. Other disadvantages of CAI stem from the difficulty and expense of implementing and maintaining the necessary computer systems. Some student failures can be traced to inadequate teacher training in CAI systems. Student training in the computer technology may be required as well, and this process can distract from the core educational process. Although much effort has been directed at developing CAI systems that are easy to use and incorporate expert knowledge of teaching and learning, such systems are still far from achieving their full potential.

Conclusion

Technology is increasingly used in language learning either as a complement to teacher mediated instruction or as the sole means of learning. Although access to technology may present challenges to adult education programs and practitioners, these can be overcome. Online platforms have progressed considerably in recent years and promise to offer increasingly useful, affordable, and accessible application and accessible application and tools for learning. Teachers using technology need to continue to provide opportunities for in-person interaction to promote language and literacy development. Further research is needed on the impact of different used of technology and on uses that promote English acquisition over time. Giventhe rapid rate of innovations in software and internet access, long –term research studies are needed to understand more about the role and impact of using technology with learning.

Question for discussion and Reflection

1. Give the meaning of learner – centered teaching.
2. Explain the characteristics of learner – centered teaching.
3. Write about the need for learner – centered approaches.
4. Explain learner – centered teaching Vs Teacher – centered learning.

UNIT VII: TEACHING IN DIVERSE CLASS ROOM

Objectives:

1. Develop an understanding of meaning of diverse classroom teaching
2. Analyze the strategies for diverse learners in teaching
3. Understand the techniques of teaching in a diverse classroom
4. Comprehend the teaching of a diverse class room

Introduction:

Diverse teaching in a diverse classroom is a buzz word echoing in the recent scenario of education because diversity means understanding and appreciating interdependence of humanity, cultures, and the natural environment. In this regard, planning the course with the multicultural classroom in mind by considering syllabi, course assignments, examples, stories, and potential classroom dynamics for the diverse students is important. Likewise the role of the teachers is very significant to handle diverse students. The teachers should have adequate professional knowledge, skills, and dispositions to have an impact on diverse learners in diverse settings. We will have extensive ideas about strategies for diverse learners, technique of teaching in diverse class room and preparation of teachers of diverse class room below in our further course.

Meaning and definition of diverse class room

The concept of diversity encompasses acceptance and respect. It means understanding that each individual is unique, and recognizing our individual differences. These can be along the dimensions of race, ethnicity, gender, sexual orientation, socio-economic status, age, physical abilities, religious beliefs, political beliefs, or other ideologies. It is the exploration of these differences in a safe, positive, and nurturing environment. It is about understanding each other and moving beyond simple tolerance to embracing and celebrating the rich dimensions of diversity contained within each individual.

Diversity is a reality created by individuals and groups from a broad spectrum of demographic and philosophical differences. It is extremely important to support and protect diversity because by valuing individuals and groups free from prejudice, and by fostering a climate where equity and mutual respect are intrinsic.

"Diversity" means more than just acknowledging and/or tolerating difference. Diversity is a set of conscious practices that involve:

- Understanding and appreciating interdependence of humanity, cultures, and the natural environment.
- Practicing mutual respect for qualities and experiences that are different from our own.
- Understanding that diversity includes not only ways of being but also ways of knowing;
- Recognizing that personal, cultural and institutionalized discrimination creates and sustains privileges for some while creating and sustaining disadvantages for others;
- Building alliances across differences so that we can work together to eradicate all forms of discrimination.

Diversity includes, therefore, knowing how to relate to those qualities and conditions that are different from our own and outside the groups to which we belong, yet are present in other individuals and groups. These include but are not limited to age, ethnicity, class, gender, physical abilities and qualities, race, sexual orientation, as well as religious status, gender expression, educational background, geographical location, income, marital status, parental status, and work experiences. Finally, we acknowledge that categories of difference are not always fixed but also can be fluid, we respect individual rights to self-identification, and we recognize that no one culture is intrinsically superior to another.

Teaching in a diverse class room

Knowing who your students are as a group and as individuals is an important part of good teaching. In recent years, higher education has become increasingly diverse. The variety of students is far greater, and their needs are very different, than in the past. This module will consider how to teach effectively in an environment of diverse learners. If you wish to facilitate the learning process of students with a variety of backgrounds and needs, the following points are important: Treat all students as individuals with unique strengths, weaknesses, and needs rather than as generalized representatives of particular racial, ethnic or cultural groups. Employ a variety of teaching styles to respond to the needs of diverse learners. Create an open classroom that values the experiences and perspectives of all students.

1. Diversity: In Higher Education

Colleges and universities have become, in recent years, increasingly diverse institutions. Van Note Chisom (1999) identifies the following trends to illustrate this point: Older students now make up more than half of student population in higher education. Nationally, women account for 54 percent of bachelor's degree students. The presence of minority students is growing. Students with learning or physical disabilities are being identified more frequently.

2. Learning Styles in a Diverse Classroom

Eddy (1999) describes a learning style as the way in which we prefer to organize. However, in their most basic form, there are three main learning styles (Eddy): Auditory learners prefer to receive ideas and information by hearing them. These students may struggle with reading and writing, but excel at memorizing spoke words such as song lyrics. They often benefit from discussion-based classes and the opportunity to give oral presentations. Visual learners prefer to receive information by seeing it. Typically these students pay much attention to detail. They are less likely to speak in class than their auditory peers, and generally use few words when they do. Outlines, graphs, maps and pictures are useful in helping these students learn. Kinesthetic-Tactile learners tend to learn best via movement sand touch. These students are often labeled "hyperactive" because they tend to move around a great deal. Because they like movement, they may take many notes and learn best when allowed to explore and experience their environment. It is important to note that the various styles are those preferred by learners. The fact that we learn in many ways is further justification for utilizing variety of teaching approaches is so important. Understanding learning styles can help you create more inclusive classrooms where everyone has a chance to succeed.

Preparations of teachers for diverse class room

The opportunity to obtain a quality education is one of the most important points of access in our society. In many cases, and for many reasons, children and adolescents do not have access to an equitable education. To address this opportunity gap and at the same time meet the important national, state, and local goals for improving learning outcomes for all students, teachers require sophisticated professional knowledge, skills, and dispositions to have an impact on diverse learners in diverse settings. This in turn requires a comprehensive teacher education program that can prepare new teachers for this important work.

Techniques of teaching in a diverse class room

There are many techniques available to teach in a diverse class room.

1. Brainstorming.

In this, all diverse students will discuss a problem interestingly to arrive a solution.

2. Critical incidents.

Here, the students make nonverbal communication to explain about a critical incident that took place in their life.

3. Acting it out.

It is also a non verbal communication which is practiced by enacting a play.

4. Mime.

In this technique, the students do miming for enacting a small skit.

5. Focus of symposium.

This is done to engage the diverse learners based on the consideration of the learners, nature of content and desired outcome.

Here are **six types of knowledge** we can develop to help Diversified learners to succeed in the classroom.

a) **Learn about culture**

Become aware of how the influence of your own culture, language, social interests, goals, cognitions, and values could prevent you from learning how you could best teach your students of culturally and linguistically diverse backgrounds.

b) **Learn about students' culture**

Understand how your students' cultures affect their perceptions, self-esteem, values, classroom behavior, and learning. Use that understanding to help your students feel welcomed, affirmed, respected, and valued.

c) **Understand your students' linguistic traits**

Learn how students' patterns of communication and various dialects affect their classroom learning and how second-language learning affects their acquisition of literacy.

d) **Use this knowledge to inform your teaching**

Let your knowledge of your students' diverse cultures inform your teaching. This, along with a sincerely caring attitude, increases student participation and engagement.

e) **Use multicultural books and materials to foster cross-cultural understanding**

Sensitively use multicultural literature, especially children's literature, to honor students' culture and foster cross-cultural understanding. Be open to a variety of instructional strategies as students' cultures may make certain strategies (such as competitive games or getting students to volunteer information) uncomfortable for them.

f) **Know about your students' home and school relationships**

Collaborate with parents and caregivers on children's literacy development and don't rely on preconceived notions of the importance of literacy within your students' families.

Diverse Teaching Strategies for Diverse Learners with Effectiveness

Teaching in racially diverse college classrooms often leaves people feeling uncertain about how to proceed and how to behave. Unlike the days when one teaching style fit all students, in today's context there is pressure to acknowledge and accept students with perspectives other than our own, to diversify our syllabi, to be more aware of classroom dynamics, and to pay more attention to how our students are experiencing the learning process. Our collective ability to respond to and be enriched by these challenges will determine the success of our institutions and students.

To assist faculty and teaching members seeking to enhance learning for all students, we have put together this Tip Sheet, in the hope that it will empower educators to create the conditions under which diversity can flourish. When teaching in a multicultural context, we suggest that they prepare themselves in several ways. The strategies are

➢ Plan the course with the multicultural classroom in mind by considering syllabi, course assignments, examples, stories, and potential classroom dynamics.

➤ Find ways to make the actual classroom open and safe for all students, and to make the material accessible to all students.

➤ Learn how to intervene tactfully and effectively in racially charged classroom situations and to manage hot moments or hot topics.

➤ Assess conscious and unconscious biases about people of cultures other than your own.

Tips for Teaching in Racially Diverse College Classrooms:

The following tips are meant to be suggestions and not guaranteed solutions for teaching in racially diverse classrooms. Teachers should develop a range of pedagogical skills that best serve the needs of *all* their students.

1. Develop a syllabus that explores multiple perspectives on the topic

- Incorporate multicultural examples, materials, and visual aids as much as possible in lectures.
- Make sure that the expectations for the pedagogical process and learning outcomes are stated clearly on the syllabus.
- Structure project groups, panels, laboratory teams, and the like so that membership and leadership roles are balanced across ethnic and gender groups.
- Develop paper topics that encourage students to explore different racial and cultural perspectives.
- Assign work of scholars from a variety of racial and ethnic backgrounds relevant to the topic being studied.

2. Design classroom instruction and materials with a diverse group of students in mind

- Develop ground rules or norms that will guide how students are expected to interact with each other in the classroom.
- Design classes with a clear structure (there is a method and meaning to how teaching and learning is to occur) and flexibility (not so rigid that adjustments cannot be made).
- Consider how all students would experience the syllabus.
- Consider whether students of all cultures are likely to have a background in the material.
- Consider whether different approaches to learning are accounted for.

- Anticipate sensitive areas in the subject matter being taught.
- Think in advance about how one might handle sensitive topics or explosive moments.

3. Create opportunities to get to know your students on an individual/personal basis

- Get to know each student individually. Learn their names and how to pronounce them correctly.
- Use eye contact with all students; be open and friendly outside of class.
- Be accessible and encourage students to meet with you during office hours.
- Interact with your students in respectful, challenging, and collaborative ways.

4. Design opportunities for students to interact with each other in respectful and meaningful ways.

- Divide the class into smaller groups, and when appropriate, assign one person with the responsibility of reporting on the small group's work.
- Encourage students to form study groups.
- Create opportunities for students to present their work to each other and the whole class.

5. Activate student voices.

- Create opportunities for mutual teacher-student participation so that everyone feels a responsibility and openness to contribute.
- When appropriate, encourage students to share their thoughts about the subject, acknowledging their statements as they are made.
- When appropriate, create opportunities for students to personalize course content with examples from their own history so that they can make connections between ideas learned in the classroom and those learned through life experiences.
- Let students know from the very beginning that their thoughts have a place in the classroom, that we all have unique perspectives, and that these different perspectives are an important component of the learning process.
- Make it safe for everyone to voice their views by accepting all views as worthy of consideration. Don't permit scapegoating of any student or any view. Don't leave students alone out on a limb.

- Avoid creating situations where students are placed in the position of being representatives of their race.

6. ***Generate a challenging but vibrant learning process that encourages students to develop their creative, critical, and analytical thinking skills***

- Make the classroom norms explicit.
- Keep expectations high and provide the support required to meet these expectations.
- Ask students to locate cultural or even discriminatory content in textbooks or other materials.
- Ask students to research the position they are least comfortable with and to come prepared to articulate a defense of that posture.
- Present all sides of an issue. Play the devil's advocate for the least popular view
- Create opportunities for students to link theory with practice -- that is, encourage them to apply what they are learning with what's going on in the world.
- Use multiples modes of instruction to account for the range of learning styles that may be present in a diverse group of students.
- Provide direct and clear feedback in an effort to demonstrate your commitment to your students' learning.

Effective teaching in a diverse class room

Every classroom is a cultural community reflective of the disciplines and perspectives studied the authors, the students, and the professor. One can argue that successful learning requires an intercultural approach where students are responsible for listening and reading and experiencing to understand both the perspectives of others peers, authors, faculty and for understanding their own perspectives and how they acquired them. Students can come to understand that learning is about the generation, mutual reflection, and critiquing and expanding of ideas and concepts, and that this is most effectively done in a collaborative and non-competitive environment.

One effective approach to this challenge is to attend to the variety of learning styles in any college classroom. Understanding multiple learning styles allows one to focus on individual students' own learning styles; sub-groups within a classroom community; and the class as a learning community.

Even in the most transformed classes, however, faculty are often unaware of the variety of pedagogies that can produce enhanced learning for students and faculty and that can facilitate growth in intellectual complexity and capacity.

Student can also learn that there are patterns of values, speech, preferences, and behaviors associated with different cultures, and they can learn that there are as many differences within cultural groups as there are across different cultures. This helps student's break down cultural stereotypes in the society as a whole.

Diversity in the Classroom

In the day-to-day classroom is often hard to do. The goal of this teaching module is to highlight a few of the key challenges and concerns in promoting diversity, and illustrate ways to incorporate an understanding of diversity in the classroom and beyond.

Diversity is a term that can have many different meanings depending on context. This module will not offer a comprehensive definition of the term; instead, this module will highlight two key areas related to diversity:

- Identify how diversity affects the classroom
- Provide practical tips for promoting an inclusive classroom

Much discussion about diversity focuses on the following forms of marginalization: race, class, gender, and sexual orientation — and rightfully so, given the importance of these forms of difference. In fact, students come to the university classroom with different backgrounds, sets of experiences, cultural contexts, and world views.

However, diversity is an issue that plays a role in the classroom beyond these categories. For example, much educational and psychological literature demonstrates that students have diverse ways of learning. Some learn visually, through charts, graphs, tables and drawing; others may

Learn primarily through aural means (i.e. through listening to lecture); and others still may be primarily kinesthetic (i.e. learning by doing, project work, etc.). Attention to learning preferences is an important aspect of addressing differences among all students.

Additionally, issues of diversity play a role in how students and teachers view the importance of the classroom and what should happen there. For example, assumptions about what a typical student should know, the resources they have and their prior knowledge are extremely important.

Students may perceive that they do not "belong" in the classroom setting a feeling that can lead to decreased participation, feelings of inadequacy, and other distractions. Teachers may make flawed assumptions of students' capabilities or assume a uniform standard of student performance. Teachers may themselves feel out of place based on their own attributive traits.

Questions for discussion and reflection:

1. Define diverse class room and diverse learners.
2. What are the techniques of teaching in a diverse class room?
3. Explain the strategies of diverse teaching for the diverse learners.
4. What is the role of a teacher to teach in a racially diverse classroom?
5. Bring out the learning style in a diverse class room.

UNIT – VIII : LEARNING IN AND OUT OF SCHOOL

Objectives:

   1. Understand the purpose of learning in and out of school.

   2. Explain the advantages of learning in school and outside the classroom

   3. Understand the importance of observation out of school

   4. Comprehend the approaches to learning outside the classroom

Introduction:

   Learning inside school gives pleasure and enthusiasm to the students. It is a natural way of learning. This learning is linked to students' lives and a variety of different teaching methods are used in school whereas, out of school learning consists of curricular and non – curricular learning experiences for pupils. Out of school experiences are organized with community partners such as museums, sport facilities, charity initiatives, and more. So, students should be enlightened the advantages of learning in and out of school here in a detailed study.

Purpose of Learning in School

`   It is a concept of traditional but it adopts the natural way of learning. It's a pleasure to learn inside the school rather than outside leaning. For the budding children inside learning helps a lot to learn abundant in naturally. Students learn new and newer things only in school setting with the help of the teachers and with models. School is where we have our first experience of formal learning, and how things go for us here can affect how we learn throughout our lives. When school is exciting and involving, it gives us confidence in ourselves as learners, but when it isn't, we can be turned off and think we can't learn or that learning is boring. To make sure children today and tomorrow have good school experiences to sustain their learning in future, the Campaign works with schools and teachers to develop good practice.

1. The classroom

   The classroom itself is the locus of regular and sustained interactions among Students and teachers around curriculum. If the classroom is at the heart of students 'opportunities to learn, the quality of teachers' instructional practices are of Paramount importance. Inside school Quality instructional practices include linking learning to factors that

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are important in students' lives are taught. Different method is used to make the learning effective and interesting.

Using formative and summative assessments in a systematic manner provides available information to students and significantly improves learning and achievement. Setting objectives and providing regular feedback (including praise) on student progress.

2.Teacher Communities

Teacher communities can affect instruction and other aspects of the classroom, and thereby can exert an indirect influence on student outcomes. Teacher communities have a strongly positive impact on student outcomes in the school.

3. Features of Learning in School

- Learning is linked to students' lives
- A variety of different teaching methods are used
- Different learning styles are respected
- High expectations for all students
- Formative evaluations are used systematically
- Teachers set clear objectives, monitor progress, and provide feedback
- Opportunities for classroom participation
- Diversity and individual differences are respected
- Social and emotional learning is valued
- Positive student-teacher and student-student relationships
- Classroom management strategies are systematic
- Disciplinary strategies are consistent and non-coercive

Purpose of Learning out of school learning

Out of school learning is an educational concept first proposed by Lauren Resnick in her 1987 AERA presidential address, which consists of curricular and non-curricular learning experiences for pupils and students outside the school environment. She points of out of school learning is to overcome learning disabilities, development of talents, strengthen communities and

increase interest in education by creating extra learning opportunities in the real world. Out of school learning is typically not coordinated by the school itself. Out of school experiences are organized with community partners such as museums, sport facilities, charity initiatives, and more. Out of school experiences can range from Service Learning to summer school and expeditions or more commonly occur in day to day experiences at after school with creative ventures such as arts courses and even sports. Some other examples of out of school learning are:

- homework and homework clubs
- study clubs extending curriculum
- mentoring by other pupils and by adults, including parents
- learning about learning
- community service and citizenship
- residential activities study weeks or weekends

It has been found that out-of-school learning can be a great opportunity to discover and develop talent.

Importance of Observational learning

Observation learning is learning that occurs through observing the behavior of others. It is a form of social learning which takes various forms, based on various processes. In humans, this form of learning seems to not need reinforcement to occur, but instead, requires a social model such as a parent, sibling, friend, or teacher. Particularly in childhood, a model is someone of authority or higher status.

According to Bandura's social cognitive learning theory, observational learning can affect behavior in many ways, with both positive and negative consequences. It can teach completely new behaviors, for one. It can also increase or decrease the frequency of behaviors that have previously been learned.

1. Causal learning

Humans use observational causal learning to watch what other people's actions and use that information to find out how something works and how we can do it ourselves.

2. Apprenticeship

Apprenticeship can involve both observational learning and modeling. Apprentices gain their skills in part through working with masters in their profession and through observing and evaluating the work of their fellow apprentices.

3. Peer model influences

Observational learning is very beneficial when there are positive, reinforcing peer models involved. Peers will always enhance learning. Peers observe their friends good behavior and try to imitate.

4. Cultural variation

Cultural variation can be seen in the extent of information learned or absorbed by children through the use of observation and more specifically the use of observation without verbal requests for further information.

Extending Curriculum Learning to the Local Area

Learning outside the classroom can be used to facilitate Education for Sustainable Development. This includes short visits into the school grounds and local community, as well as visits to farms, factories, offices, neighborhood science centers and natural settings such as a forest, beach or a national park.

Providing students with high quality learning activities in relevant situations beyond the walls of the classroom is vital for helping students appreciate their first hand experiences from a variety of different perspectives. An experience outside the classroom also enhances learning by providing students with opportunities to practice skills of enquiry, values analysis and clarification and problem solving in everyday situations.

However, taking students outside the classroom requires careful planning of the learning activities and attention to the health and safety risks that might be faced.

1. Constraints on Learning outside the Classroom

Despite the arguments in favor of learning outside the classroom, several key challenges do need to be faced:

- Organizational factors such as the difficulty of supervising a large group of students and providing them with the assistance they may need.

- The 'normal' lessons missed by teachers and students, and alterations that have to be made to the school timetable.

- Time needed to plan a worthwhile field trip.

- Cost of transport and accommodation, if required.

- Lack of detailed knowledge of the locality.

- Safety of the students.

- Lack of necessary skills in students.

Despite these challenges it should not be forgotten that often the most meaningful and lasting learning takes place when students are actively exploring the great variety of environments outside the classroom.

Learning outside the classroom also provides opportunities for teachers and students to get to know each other better through interacting outside the structures of the classroom and school grounds.

Approaches to Learning outside the Classroom

Two common approaches are (i) Field Teaching and (ii) Field Research.

1. Field Teaching

- Study of topic or theme in class. Teacher talk, textbook study, note taking, slide viewing, videos, etc.

- Field observations (often teacher directed). Recording of information in the field. Some field interpretation.

- Back in the classroom – further interpretation and explanation together – writing up field report.

- This is the traditional approach to teaching and learning outside the classroom. It involves taking students to a field location and delivering a mini-lecture from which students are expected to take notes. Little opportunity exists for student input and reaction.

This approach can involve students in the careful observation and description of a scene or activity and in suggesting possible explanations based on previously acquired information.

This approach is useful if students are inexperienced in making their own observations or if they lack confidence in their ability to solve problems. This approach provides a structured way for them to find their own examples as an integral part of the learning experience.

2. Field Research

- Identification of a problem as the result of direct observations; or from class work; or from special interests of students.
- Formulation of and hypothesis as a result of reading, discussion, thinking.
- Field activities to collect data to test hypothesis.
- Data analysis – processing information.
- Hypothesis testing – accept or reject.
- Discussing and writing up of possible ways to solve the originally identified problem using information gathered in the field.

This approach represents an inductive approach to learning. It involves observation, description and explanation but with a problem solving focus. Students often use techniques similar to those used in historical enquiry, geographical research or scientific explanation. This is the inductive approach to fieldwork.

Opportunities for Learning outside the Classroom

Students can learn in a number of outside environments including:

- The school grounds and environs
- Urban centers
- The local community
- Rural and natural areas

Advantages of Learning outside the Classroom

➢ Learning outside the classroom supports the development of healthy and active lifestyles by offering children opportunities for physical activity, freedom and movement, and promoting a sense of well-being.

- Learning outside the classroom gives children contact with the natural world and offers them experiences that are unique to outdoors, such as direct contact with the weather and the seasons.

- Playing and learning outside also help children to understand and respect nature, the environment and the interdependence of humans, animals, plants, and lifecycles.

- Outdoor play also supports children's problem-solving skills and nurtures their creativity, as well as providing rich opportunities for their developing imagination, inventiveness and resourcefulness.

- Children need an outdoor environment that can provide them with space, both upwards and outwards, and places to explore, experiment, discover, be active and healthy, and to develop their physical capabilities.

- The outdoor environment offers space and therefore is particularly important to those children who learn best through active movement. Very young children learn predominately through their sensory and physical experiences which supports brain development and the creation of neural networks.

- For many children, playing outdoors at their early years setting may be the only opportunity they have to play safely and freely while they learn to assess risk and develop the skills to manage new situations

- Learning that flows seamlessly between indoors and outdoors makes the most efficient use of resources and builds on interests and enthusiasms.

- Anyone who takes children outside regularly sees the enjoyment, and sense of wonder and excitement that is generated when children actively engage with their environment.

Questions for discussion and reflection:

      1. What is the purpose of learning in school?

      2. Write a note on observation out of school learning

      3. Bring out the merits of learning out of school.

      4. What are the approaches that enhance outside learning?

      5. Explain the merits and demerits of learning in and out of school.

UNIT – IX TEACHER – STUDENT RELATIONSHIP

Objectives:

- To obtain knowledge on teacher student relationship.
- To understand the need for maintaining teacher –student relationship.
- To comprehend the interpersonal approach in class room management
- To analyse healthy class room management and academic achievement

INTRODUCTION

Human relation is one of the essential elements for developing a peaceful environment by minimizing conflict and misunderstanding. Particularly, in school the human relations (i.e. teacher – student relations) is very much useful to develop a congenial environment to perform classroom activities, which is very much supportive for the teacher to understand the students' learning capacity and based on that the teacher can make use of his manpower and available material resources and provide a teaching in an effective way. In this circumstance, the students promote interest in listening to the subject matter and interact with the teachers to clear their doubts and to enhance the academic achievements. The good human relations in the school environment is the medium for enhancing the level of satisfaction of social and psychological wants on the part of the teachers as well as students relationship in an organization which will be an objective of increasing academic activities

Teacher Student relationship is very significant in the process of teaching learning. Teachers should be imparting knowledge with concern and care to the students. Teacher'srole is to guide and to reflect good character. He is like a beacon and ladder to lead the students in the right path. Student should be a receptacle to receive the knowledge given by the teacher. Students also should be submissive and obliging always to the teacher.

Teacher must take active role in the classroom activities and seek to understand and direct the students' interest in order to link with subject matter so that, learning will be a sustainable one. Teacher must also bring out the interest among children that underlie the sustainable involvement in teaching. The main task of the teachers is to search for meaningful teaching activities and to create a situation in which the child is willing to project himself into an

activity so as to bring his own innate resources and innate sense of orderliness into play. The important task of the teacher is to create an environment that will support students' initiated learning.

Teacher –student relationship

Meaning

It is the academic relation between teachers and their students in the teaching learning process.

Need for maintaining student-teacher relationship:

The student-teacher relationship is very important for children and adolescents for improving their mental health. Children spend approximately 5 to 7 hours a day with a teacher for almost 10 months a year. All of us have gone through schooling and we have had a many number of favourite teachers. A positive relationship between the student and the teacher is difficult to establish. Improving students' relationship with teachers has essential, positive and long lasting implications for student's academic and social development.

Battistich, Schaps, &Wilson, have exposed Positive teacher-student relationships — evidenced by teachers' reports of low conflict, a high degree of intimacy and support, and little dependency — have been shown to support students' adjustment to school, contribute to their social skills, uphold academic performance, and foster students' resiliency in academic performance. It is the duty of a professional teacher to bring out the potentiality of a student. Nobody is fool and it is also foolish to call a student a fool. Sigmund Freud has told that if a dozen children were entrusted to him, he would make one an engineer, one a doctor, one a carpenter, one a rowdy, etc. From this, we can perceive that a students' mental growth depends upon a balanced feeding of constructive knowledge imparted by a teacher. Here the relationship between the teacher and the student is strengthened in a positive way.

Necessity for teachers' involvement and interaction

According to Birch & Ladd, it is stated that teachers who experience close relationships with students reported that their students were less likely to avoid school, appeared more self-directed, more supportive, and more engaged in learning. The communication between the

student and the teacher serves a connection between the two and which provides a better atmosphere for a classroom environment. A teacher then needs to understand the value of the students' senses of belonging which can be of greater value to overall development of the students in all aspects irrespective of the racial confrontations. By making a student like the school, he/she reaps important social advantages such as building friendship, gaining respect for peers and adults and learning social skills. These side by side help the student get good academic records and performance. The student-teacher relationship is made strong by the teachers' inspiring the students to interact constructively in the classroom situations.

Interpersonal approach in classroom management

In the interpersonal perspective, we describe teacher-student relationships in terms of two dimensions: Control andAffiliation. Control refers to the degree to which the teacher determines what happens in the communication with the students, whereas affiliation refers to the emotional closeness between teacher and students or the degree to which the teacher and the students are in harmony versus conflict. Here, the teacher delivers the goods to the students and the students receive them. The interpersonal relationship between the students and the teachers are very important. If this is good, educational transaction will be good.

Strategies for improving student engagement in learning.

Clearly, educators hope students will become successful learners. Teachers' experiencesalso clearly tell them that students disengage and do so for a variety of reasons – perhaps each ofwhich could be studied and mediated on its own. For very good reasons, a large number ofresearchers have studied student's engagement. Several types of engagement were noted– academic, cognitive, intellectual, institutional, emotional, behavioural, social, and psychological.

Claxton (2007) summarizes his recommendations of strategies that promote learningengagement.

1. Language (talk about process of learning, nature of oneself as a learner,
2. Activities – a potentiating milieu (learning is both attractive and challenging; activities and topics that stretch the learners)
3. Sit-screen thinking

4. Wild topics – rich, real, responsible (problems or projects are real, relevant, and make a positive difference in some way

5. Transparency and involvement

6. Transfer thinking – looking for wider relevance and application

7. Progression – stronger, broader, deeper into subjects and learning

8. Modelling – walking the learning talk

Healthy classroom management and academic achievement

"Classroom management refers to those *activities* of classroom teachers that create a positive classroom climate within which effective teaching and learning can occur"

Teachers who foster positive relationships with their students create classroom environments more conducive to learning and meet students' developmental, emotional and academic needs. Here are some concrete examples of closeness between a teacher and a student:

- A high school student chooses to share the news that he recently got a part in a community play with his teacher because he knows that his teacher will show genuine interest in his success.

- A fourth grade boy who is struggling in math shows comfort in admitting to his teacher that he needs help with multiplying and dividing fractions even if most of the students in the class have moved beyond this work.

- Positive teacher-student relationships contribute to school adjustment and academic and social performance.

- Positive teacher-student relationships — evidenced by teachers' reports of low conflict, a high degree of closeness and support, and little dependency — have been shown to support students' adjustment to school, contribute to their social skills, promote academic performance and foster students' resiliency in academic performance.

- Teachers who experience close relationships with students reported that their students were less likely to avoid school, appeared more self-directed, more cooperative and more engaged in learning Teachers who use more learner-cantered practices (i.e., practices that show sensitivity to individual differences among students, include students in the decision-making, and acknowledge students' developmental, personal and relational needs) produced greater motivation in their students than those who used fewer of such practices

- Students who attended math classrooms with higher emotional support reported increased engagement in mathematics learning. They enjoyed thinking about and solving problems in math and were more willing to help peers learn new concepts.

Create a positive classroom climate

Be sure to allow time for your students to link the concepts and skills they are learning to their own experiences. Build fun into the things you do in your classroom. Plan activities that create a sense of community so that your students have an opportunity to see the connections between what they already know and the new things they are learning, as well as have the time to enjoy being with you and the other students. Make sure to provide social and emotional support and set high expectations for learning.

Teacher is a friend, philosopher and guide to the students. He should have willingness to cooperate with student and realize the divinity in the student. His job is to take care of the child so that the young mind may be saturated with many ideas. A teacher can play a vital role in the development of harmony among the students under his charge. The following points may guide the teachers to have relations with students:

Teacher should:

- Know his students very well. He should know their intelligence, interest, aptitude, likes and dislikes
- Take real interest in the development of his students
- Earn respect rather than create fear in the mind of his students
- Able to come down to the level of his pupils
- Treat all the students with love and affection and be just and impartial to all irrespective of caste, colour, creed, sex, status, religion, region, language and place of birth.
- Help the students in their intellectual, physical, social, emotional development and promote intrinsic values which builds the character of the students.
- Promote a scientific temper and a spirit of enquiry, creative self-expression and aesthetic sense, leadership qualities, right concepts and right attitudes towards the environment among the students and encourage them to ask question to satisfy their curiosity
- Ensure non-truancy among the students.
- Enable the students to appreciate the nation's cultural heritage and unity in diversity.

- Create interest towards his subject in the students. This is possible if he knows his subject thoroughly and applies new methods and techniques of teaching.
- Be polite in talk and firm in action.
- Deal students carefully and handle them with care that will promote best efforts.
- Not permit or tolerate any misdeed on the part of students

CONCLUSION

Through positive relationships, students not only learn that particular beliefs are useful for functioning in school and the classroom, they also internalize beliefs valued by significant others such as teachers and parents. Positive relationships have an energizing function on the self, working to activate positive mood and affect. Teacher-student relationships require much attention from teachers in the classroom, and are an important source of their concerns and happiness. This energy gained from positive interpersonal relationships provides an important pathway to motivation and engagement.

Question for discussion and reflections

1. Discuss the need for maintaining teacher –student relationship.
2. Write an essay on interpersonal approach in class room management.
3. Discuss in detail the strategies for improving student engagement in learning.
4. Explain the necessity for teachers' involvement and interaction.
5. Analyse the role of Healthy classroom management and academic achievement

UNIT -X TEACHING AS A PROFESSION

Objectives:

- To obtain knowledge on the characteristic of effective teaching and ineffective teaching.
- To understand the importance of faculty development programme.
- To explore the importance of teaching as a profession.
- To analyse the qualities of a professional teacher.

INTRODUCTION

The current system of schooling poses tremendous burden on children. Knowledge is essentially a human construct, a continuously evolving process of reflective learning. The NCF 2005, requires a teacher to be a facilitator of children's learning in a manner that the child is helped to construct his/her knowledge. Education is not a mechanical activity of information transmission and teachers are not information dispensers. Teachers have to increasingly play the role of crucial mediating agents through whom curriculum is transacted. Hence, teaching profession is a noble profession and teacher should maintain his nobility.

Nature of teaching

In its broadest sense, teaching is a process that facilitates learning. Teaching is the specialized application of knowledge, skills and attributes designed to provide unique service to meet the educational needs of the individual and of society. The choice of learning activities whereby the goals of education are realized in the school and it is the responsibility of the teaching profession.

In addition to providing students with learning opportunities to meet curriculum outcomes, teaching emphasizes the development of values and guides students in their social relationships. Teachers employ practices that develop positive self-concept in students. Although the work of teachers typically takes place in a classroom setting, the direct interaction between teacher and student is the single most important element in teaching.

Teaching as a Profession

- Among all profession teaching profession is very noble and great. Professionalism is a complex and elusive concept; it is dynamic and fluid. Six generally accepted criteria are used to define a profession. The teaching profession fulfils those criteria in the following ways:

- Its members have an organized body of knowledge that separates the group from all others. Teachers are equipped with such a body of knowledge, having an extensive background in the world and its culture and a set of teaching methods experientially derived through continuous research in all parts of the world.

- **Teaching profession serves a great social purpose.** Teachers carry responsibilities weighted with social purpose. Through a rigid and self-imposed adherence to the Code of Professional Conduct, which sets out their duties and responsibilities, teachers pass on their accumulated culture and assist each student under their care in achieving self-realization.

- **There is co - operation achieved through a professional organization**. Co - operation plays an important role in the development of the teaching profession The teaching profession has won its well-deserved place in the social order through continuous cooperation in research, professional preparation and strict adherence to the Code of Professional Conduct, which obligates every teacher to treat each student within a sacred trust.

- **There is a formal period of preparation and a requirement for continuous growth and development**. Teachers are required to complete a defined teacher preparation program followed by a period of induction or internship prior to being granted permanent certification. This period includes support for the formative growth of teachers and judgments about their competence. Teachers are devoted to continuous development of their ability to deliver their service.

- **There is a degree of autonomy accorded the professional**. Teachers have opportunities to make decisions about important aspects of their work. Teachers apply reasoned judgment and professional decision making daily in diagnosing educational needs, prescribing and implementing instructional programs, and evaluating the progress of students.

> ➢ The profession has control or influence over education standards, admissions, licensing, professional development, ethical and performance standards, and professional discipline.

Characteristics of an effective and ineffective teaching

The effective teachers and ineffective teacher's characteristics were discussed as follows:

Caring about students was particularly prevalent in the descriptions of effective teachers. They were described as warm, friendly, and caring. Conversely, ineffective teachers often were said to create a tense classroom and were described as cold, abusive, and uncaring. Effective teachers were said to know how to create an effective learning environment. They were organized, prepared, and clear. Ineffective teachers consistently were indicted for their inept pedagogy, boring lectures, and unproductive learning environment.

Effective teachers were described a scaring about learning and teaching. "Enthusiasm" or "enthusiastic" often appeared in these descriptions. In contrast, a common statement was that their worst teachers hate teaching. In the category of student participation, the descriptions of their best teachers emphasized activities that involved the students in authentic learning, interactive questioning, and discussion. Their worst teachers were characterized as requiring isolate behaviour with little interaction, activity, or discussion.

In the category of rules and grades, the most effective teachers motivate their students and have little difficulty with classroom management. Their take care about student accomplishment and advocacy for student success the tone for fair rules and grading. Such teachers frequently were depicted as requiring and maintaining high standards of conduct and academic work. In effective teachers were faulted for unreasonable or unfair assignments, tests, and grades.

Opposite poles in classroom management were expressed, in which the ineffective teacher either was a dominating ogre or had no control. But expert teachers would appear (a) to have better developed schemata for classroom teaching with strong links between subject matter and ways to teach it, (b) to be more effective lesson planners and implementers, and yet (c) to be more flexible and reflective in meeting student needs and facilitating student social and academic growth

Teaching is an important profession

Teaching is a highly professional activity which demands specialised knowledge, skill and behaviour. Teacher professionalism comprises competence, performance and behaviour which reflect on teachers' personality in school and society. Professional competence is

fundamental in teaching profession which includes preparation of teacher for classroom processes, acquisition of knowledge of subject and facilitates personality development of children. Competencies of an effective teacher include interpersonal communication, pedagogical empowerment and organizational leadership. Professional competence results in performance of teacher in terms of overall development of children. The competent teacher is supposed to perform better in the interest of the children and society as well.

All the education commissions reports emphasis on the quality of teachers. At present teachers are not the mere transmitters of information but facilitators in the path of students urge for more knowledge.

Over the last 8 - 12 years, huge shifts have been occurring in education that is continuing to impact teaching and learning today. Some changes are positive, such as our nation's record high school graduation rate, narrowing achievement gaps, and a greater number of students are attending college.

But all types of change particularly those that have the potential to yield the most positive outcomes can be challenging. Change requires that we confront the status quo. It demands new ways of approaching our work. And it takes resolve to see new beginnings through to their end.

Teachers are our nation builders—the strength of every profession in our country grows out of the knowledge and skills that teachers help to instil in our children.And, as a nation, we must do much, much more too fully appreciate and support their work.

With the transition to more rigorous achievement standards and better student assessments, a focus on data to drive instruction, and the use of technology to personalize learning, teachers are carrying an incredible amount of responsibility. They are in the midst of a new era one with more engaging lessons and creativity and innovation, which is bringing joy back into the classroom.

Attitude of student teachers towards teaching profession

The teacher's roles and responsibilities have found extension outside the classroom. The implementation of educational policies, transaction of curricula and spreading awareness are the main areas which keep teacher in the forefront. Changing times have added new dimension to this profession, which requires specified competencies and right attitude. Behaviour, attitude and interest of teacher help in shaping the personality of the student. Attitude is a tendency to react in a particular manner towards the stimuli

Teaching being a dynamic activity requires a favourable attitude and certain specific competencies from its practitioners. Teachers' proficiency depends on the attitude shepossesses for the profession. The positive attitude helps teacher to develop a conductiveearner friendly environment in the classroom. This also casts a fruitful effect on learningof the students. Attitude being a social construct is influenced by many factors likegender social strata, age, and stream of education and previous experience of the job.

Qualities of a Professional Teacher

Teachers can be popular just because they are friendly and helpful, but to be truly professional and effective they need other qualities. Students may not be able to put their finger on just why one teacher is more effective than another but we need to be able to identify the skills and behaviour we require in a true professional. A professional teacher needs to be confident without being arrogant.

The following are the Qualities of a Teacher:

➢ **Positive –** He or she should think positively and enthusiastically about people and what they are capable of becoming. Sees the good in any situation and can move forward to make the most of difficult situations when confronted with obstacles.

➢ **Communicative** –A teacher shares with others in a manner that encourages effective two-way communication. Communicates personal thoughts and feelings on a wide spectrum of issues and can listen to students in an empathetic manner.

➢ **Dependable –**A teacher is always honest and authentic in working with others.

➢ **Personable –**He or She establishes and maintains positive mutual working relationships. Has many ways of getting to know students as persons while building trust and appreciation through personal interaction and involvement.

- ➤ **Organized -** Makes efficient use of time and moves in a planned and systematic direction. Knows where he or she is heading and is able to help students in their own organization and planning.

- ➤ **Committed -** Demonstrates commitment to students and the profession and is self-confident, poised and personally in control of situations. Has a healthy self-image.

- ➤ **Motivational -** Enthusiastic with standards and expectations for students and self.

- ➤ **Compassionate -** Caring, empathetic and able to respond to people at a feeling level. Knows and understands the feelings of students.

- ➤ **Flexible -** Willing to alter plans and directions in a manner which assists people in moving toward their goals.

- ➤ **Individually Perceptive -** Sees each student as a unique and valuable individual. Quickly diagnoses student difficulties and assists in the management of individual situations.

- ➤ **Value Based** - Focuses upon the worth and dignity of human beings. Is sensitive to community values.

- ➤ **Knowledgeable -** Is in a constant quest for knowledge. Keeps up in his or her specialty areas, and has the insight to integrate new knowledge.

- ➤ **Creative –**A teacher is ever versatile, innovative, and open to new ideas. Strives to incorporate techniques and activities that enable students to have unique and meaningful new growth experiences.

- ➤ **Patient -** Is deliberate in coming to conclusions. Believes that problems can be resolved if enough input and attention is given by people who are affected.

- ➤ **Sense of Humour -** Knows how to take the tension out of tight situations. Uses humour, spontaneously, in a tasteful manner. Builds togetherness in the classroom, through the use of humour.

7Faculty development programmes for teachers

The professional development of teachers has received a great deal of attention in all countries, including India, The volume of professional and research literature on in-series education and professional development is also considerable. In comparison, the attention that teacher education has received is marginal. Even when research and policy initiatives are directed towards teacher education, the focus is on curriculum reform, programme structure,

institutional development, instructional resources, and the like. The content of teacher educator's professional development is rarely examined and critiqued.

Faculty Development Programme (FDP)

CurrentlyFDP reflecting its commitment to nation building through management education and infrastructure development.

The programmesfocusses on:

- Enhancing functional area expertise

- Improving one's classroom delivery both as a teacher and trainer

- Enhancing abilities for conducting meaningful research.

Teaching and Learning For Sustainable Future

In order to develop future citizens who promote equitable and sustainable development for all sections of society and respect for all, it is necessary that they be educated through perspectives of gender equity, perspectives that develop values for peace, respect the rights of all, and that respect and value work. In the present ecological crisis promoted by extremely commercialized competitive lifestyles, children need to be educated to change their consumption patterns and the way they look at natural resources. There is also a increasing violence and polarization both within children and between them, that is being caused by increasing stress in society. Education has a crucial role to play in promoting values of peace based on equal respect of self and others. The NCF 2005 and subsequent development of syllabi and materials is attempting to do this as well.

Teaching and Learning for a Sustainable Future is a UNESCO programme for the United Nations Decade of Education for Sustainable Development. It provides professional development for student teachers, teachers, curriculum developers, education policy makers, and authors of educational materials. The modules are divided into 4 themes as follows:

Theme1

Curriculum Rationale

These modules present an introduction to the global realities, imperatives for sustainable development and educational issues that form the rationale of Education for a Sustainable Future.

- Exploring global realities.
- Understanding sustainable development.
- A futures perspective in the curriculum.
- Reorienting education for a sustainable future.
- 5 Accepting the challenge

Theme2

Sustainable Development across the Curriculum

These modules illustrate ways in which Education for Sustainable Development can be integrated into all areas of the curriculum, especially into cross curriculum themes such as health and consumer education.

- Sustainable futures across the curriculum
- Citizenship education.
- Health education.
- Consumer education

Theme 3

Contemporary Issues

This section illustrates ways in which a variety of curriculum themes may be recognized to integrate an interdisciplinary emphasis on a sustainable future.

- Culture religion for a sustainable future
- Indigenous knowledge sustainability
- Women sustainable development
- Population development

- Understanding world hunger
- Sustainable agriculture
- Sustainable tourism
- Sustainable communities
- Globalization
- Climate change

Theme4

Teaching & Learning Strategies

This set of modules develops professional skills for using teaching and learning strategies that can help students achieve the wide range of knowledge, skill and values objectives of Education for Sustainable Development.

- Experimental learning
- Story telling.
- Values Education.
- Enquiry learning.
- Appropriate Assessment.
- Future problem solving.
- Learning outside the classroom.
- Community problem solving

CONCLUSION

The teacher needs to understand that in many schools, especially in big cities like Chennai, children come from different cultures and backgrounds. A teacher then needs to understand the value of the students' senses of belonging, which can be of greater value and build self-worth for minority students. If the teacher demonstrates an understanding of the student's culture, it will provide a better understanding between the teacher and the student.

Question for discussion and reflection

1. What are the characteristics of effective and ineffective teaching?
2. Write short notes on the nature of teaching.

3. Critically examine the importance of Teaching as a profession.

4. Enumerate the qualities of professional teacher

5. Write an essay on teaching and learning for sustainable future.

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