Institute of Distance and Open Learning
Gauhati University

MA in Educatiomn

Semester I

Paper 105
METHODS AND TECHNIQUES OF TEACHING

Contents:

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Syllabus
105: Methods and Techniques of Teaching

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Unit 2 : Taxonomy of Educational Objectives: Historical Background - Problems of Classifying Educational Objectives.

Unit 3 : Teaching Techniques: Maxims of Teaching, Teaching Devices, Explanation, Questioning, Illustration, Teaching Aids, Style of Teaching.

Autocratic Style: Lecture Method, Demonstration, Tutorial, Team Teaching.

Permissive Style: Brain Storming, Group Discussion. Panel Discussion, Project, Seminar, Symposia, Workshop. Virtual Classroom.

Unit 4 : Micro Teaching: Skill Development and Stimulation.

Unit 5 : Lesson Plan: Essential of a Good lesson Unit, Types of Lesson skill, Knowledge. Appreciation, Methods of Teaching different subjects - Languages, Mathematics, General Science and Social Studies.

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Unit 1
The Teaching Learning Process

1.1 Introduction :

The teaching and learning process is as old as human civilisation. So, like human civilisation, teaching and learning process also has its own history. Teaching means to train up the children to adjust in any situation. In modern times, teaching is regarded as skilled job and complex task as it provides maximum benefit to the students to develop themselves as human resources. The success of teaching-learning process largely depends on good planning and proper execution. In this unit, we shall discuss about concept and general characteristics of teaching, meaning, aims and nature of learning, concept of teaching-learning process, marks of good teaching and principles of teaching.

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1.2 Objectives

After going through this unit you will be able to-

- *know* the meaning and general characteristics of teaching.
- *know* the meaning, aims and characteristics of learning.
- *develop* understanding about the concept of teaching learning process.
- *examine* the marks of good teaching.
- *understand* the general and psychological principles of teaching.

1.3 Meaning of Teaching

To know the meaning of teaching, it is necessary to know what teaching is not. Teaching is not merely imparting knowledge to students. Meaning of teaching can be explained by narrow meaning and broad meaning.

In the narrow sense, teaching is a process which is imparted by a teacher or other person of the society to a student at a particular place or a school. From this sense, teaching may according to signify a process that runs prescribed curriculum an already or one's own experience. This type of teaching is given to make a student able to stand on his own legs and establish his own individuality.

In the broad sense, it is a process by which different stakeholders like the family, the neighbours, friends, social and religious institutions, the educational institutions etc. teach a person throughout his life as to how to achieve his necessities and make an environment. Hence, according to wider meaning, all the persons or things in the environment teach something or give some experience.

Meaning of teaching can also be described with the help of different definitions provided by different educationists. Some of these definition are:

- According to W. M. Ryburn, "Teaching is a relationship which helps the child to develop all his powers."
- According to Burton, "Teaching is the stimulation, guidance, direction and encouragement of learning."
- In the words of John Brubacher, "Teaching is an arrangement and manipulation of a situation in which there are gaps and obstructions

which an individual seeks to overcome and from which he will learn in the course of doing so."

- According to Thomas P. Green, "Teaching is the task of a teacher which is performed for the development of a child."

- Clarke defined teaching as "the activities that are designed and performed to produce changes in students' behaviour."

- In the words of Yoakm and Simpson, "Teaching is the means where by society trains the young in a selected environment as quickly as possible to adjust themselves to the world in which they live."

- To quote Silverman "Teaching is considered as an art as well as a science" because teaching can be studied objectively and scientifically.

- In the words of Henry C. Morrison, "Teaching is an intimate contact between a more mature personality and less mature one which is designed to further the education of the later."

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. It is a partnership between schools, community, and parents to help children succeed in their academic careers.

1.4 General Characteristics of Teaching

Teaching is a very unique activity. So, its characteristics are also unique. Some of the general characteristics of teaching are discussed below:

1) **Interactive Activity:** Teaching activity is mainly the interaction of teachers and students. Through proper interaction, teacher provide different areas of valuable knowledge to students and students receive it.

2) **Well Planned Process:** Teaching is a well planned activity. Well planning is needed to reach the goal of teaching. Presentation of teaching is done effectively with the help of proper planning.

3) **Informative:** To live a happy life, knowledge of adjustment is required by every student. Teaching provides different information through which students can successfully adjust in every situation properly.

4) **Both Formal and Informal Type:** Teaching is both formal and informal. Formal teaching is delivered in the educational institutions with the help of proper rules and regulations. Informal teaching is related to different types of real life experience acquired by students in their day to day life from different stakeholders.

5) **Skilled Job:** Teaching is a difficult activity. Only the knowledge of subject-matter can never help teacher to be effective in his/her teaching. It requires skills. Teaching is a skilled job. With the help of skills, a teacher can modify the behaviour of the students.

6) **Communication Process:** Proper communication between the teacher and the taught is developed with help of teaching activity. This communication may be verbal or non verbal through which good bond is established between them.

7) **Diagnostic and Remedial:** Teachers can identify the strength and weakness of the students during the time of teaching. After identifying the weakness, teachers can apply diagnostic and remedial measures to remove the weaknesses.

8) **Measurable:** Teaching can change the behaviour of the students. Instinctive nature of students can be changed with the help of teaching. Measurement of teaching can be done by the amount of changing behaviour of the students. So, it is said that teaching is measurable.

9) **Tri-polar Process:** Teaching is a tri-polar process. These three poles of teaching are objectives of education, content and students.

10) **Stimulating Work:** Teaching is a stimulating work. Through teaching, teacher can stimulate the students to acquire new knowledge actively.

11) **Cooperative Process:** It is not possible for teachers to make teaching effective without the participation of students. Teaching will be effective only when teachers and students are cooperatively involved in it.

12) **Both Art and Sciences:** Teaching is a combination of both art and sciences. As art, teachers use his creativity and style in it. As sciences, different scientific principles, maxims, devices, methods are applied in teaching.

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1.5 Meaning of Learning

Learning is a lifelong continuous process, it starts from birth of an individual and continues till the time of death. Simply learning means modification of human behaviour. Human behaviour is modified with different experiences and training. These experiences may be direct or indirect.

Instinctive behaviour of human being is not learned. Through experience and training, this behaviour is modified which enables one to adjust properly and effectively with the new environment. Everyone wants to acquire new behaviour and skill, and seeks engagements will new activity as well as exposure to experiences in order to effectively cope with the new situations. Throughout life, human beings change, modify and improve their crude instinctive behaviour. This change, modication and improvement called learning.

For a complete understanding of the meaning of 'learning' you need to familiarise yourself with is the views of various psychologists. Some such definitions of learning provided by psychologists mentioned below:

- In the words of Gates and others, "Learning is the modification of behaviour through experience".

- According to Henry, P. Smith, "Learning is the acquisition of new behaviour or strengthening or weakening of old behaviour as a result of experience".

- According to Crow and Crow, "Learning is the acquisition of habits, knowledge and attitudes. It involves new ways of doing things, and it operates in an individual's attempt to overcome obstacles or to adjust to new situations."

- To quote Skinner, "Learning is the process of progressive behaviour adaptation."

- In the words of Munn, "To learn is to modify behaviour and experience."

- According to M. L. Bigge, "Learning may be considered as change in insights, behaviour, perception, motivation or a combination of these."

- In the words of Pressey, Robinson & Horrocks, "Learning is an episode in which a motivated individual attempts to adopt his behaviour so as to succeed in a situation which he perceives as requiring action to attain a goal."

- In the words of Hilgard, "Learning is the process by which an activity originates or is changed through reacting to an encountered situation, provided that the characteristics of the changes in activity cannot be explained on the basis of native response, tendencies, maturation or temporary states of the organism (e.g. fatigue or drugs, etc.)."

1.6 Aims of Learning

Main aim of learning is to modify the instinctive behaviour of human being. There are, besides, some other aims of learning, which are as follows:

- One important aim of learning is to help the individual to adjust with the new situation. With the help of learning, an individual can adjust himself to new situation very easily.

- Another aim of learning is to develop the balanced personality of the individual. The process of learning brings all round development of the personality of the learners through experiences and training.

- To attain teaching-learning objectives is another aim of learning. This objective can be effectively achieved through the help of learning and, consequently, children can be made to acquire essential knowledge, skills, applications, attitude and interests etc.

- Another aim of learning is to proper growth and development of an individual. Learning helps in reaching to one's maximum growth and development in different aspects such as physical, mental, intellectual, emotion, social, moral aesthetic and language etc.

- Solving different real life problem is another aim of learning. It makes one's life happy.

1.7 Nature of Learning

Comprehensive nature of learning may be understood with the help of following characteristics of learning.

1) **Active Process:** Learning is termed as active process because without activeness of learner, it is not possible to learn something.

2) **Adjustment:** Learning is a process of adjustment of an individual in his environment. With the help of learning, one can adjust in a new situation very easily.

3) **Problem Solving:** Every individual faces different problems in their day-to-day life. Learning helps the individual to find out the problem properly and with the help of experience and proper education one can solve his/her problem.

4) **Goal Oriented:** Learning is always a purposive and goal oriented process. Individuals learn with a clear goal or purpose in mind to achieve. Learning helps to achieve its goal.

5) **Continuous Process:** Learning is a lifelong continuous process. It starts from birth of an individual and continues till the time of death. People learn new experiences everyday in his/her whole life.

6) **Modification of Behaviour:** Learning is a process through which behaviour of human being is modified by experiences and training. When people learn something, it helps him to modify his/her behaviour.

7) **Based on Maturation:** Leaning of an individual is always based on psycho-physical maturation. More maturity may result in more capability to learn. Immaturity indicates unfit to learn.

8) **Depends upon Motivation:** Learning always depends upon motivation. It renders a learner ready to learn something new. Learning effectiveness is the result of the motivation of the learner.

9) **Habit Formation:** Sometimes learning is based on habits also. Habitual activity makes learning permanent.

10) **Individualised Activity:** All people in this world do not have equal ability to learn, as all individuals are not the same. That is why learning is termed as individualised activity.

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11) **Intellectual Activity:** Learning is also an intellectual activity, because learning helps individual to solve different problems, adjust in new situation it create something new or innovative.

12) **Bond between Stimulus and Response:** Learning is the establishment of bond between stimulus and response. Without the bond between stimulus and response, it is not possible to learn anything.

CHECK YOUR PROGRESS

Q 4: What is learning?

....

Q 5: Mention one objective of learning.

....

Q 6: 'Learning depend on motivation'- explain briefly.

....

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1.7 Concept of Teaching-Learning Process

Teaching-learning process is as old as human civilisation in this world. It is a very complex yet interesting process. Related to this process are the teachers and the students. This process is actually that of exchanging knowledge and experiences. When learning is effective, teaching is also effective. Teaching learning process is a mutual activity between teachers and students, the purpose of which is learning oriented.

In the words of J.C. Aggarwala, "Teaching learning process is a mean through which the teacher, the learner, the curriculum and other variables are organised in a systematic manner to attain pre-determined goals and objectives".

According to Bernard, "In the teaching learning process, teachers and students encourage learning".

Teaching-learning provides a means to the society to train the young generations in a chosen environment (for example school, college and university) as quickly as possible to adjust themselves in the environment where they live. Teaching-learning has four aspects to it. These are: teacher,

student, learning process and learning situation. Effectiveness of all these aspects makes the teaching-learning process successful.

Now-a-days, classroom transaction between teacher and students has been drastically changed. Teachers use different strategies and methods to develop the inherent capabilities of children. At present apart from classroom transaction, students can learn at different other places of educational institutions like library, laboratory and also through different activities like discussion, seminar, extempore speech, debate competition, group discussion etc. Teaching learning process is influenced by totality of the situation. Teaching leaning will be effective and fruitful when the total teaching learning situation is related with the life situation.

Teaching learning process has a three way communication cycle. These are:

Communication Cycle	Steps involved in the Cycle
Communication from the teacher to the learner	Educational objectives and Contents
	Information Presenting
Communication from the learner to the teacher	Information receiving
	Information processing
	Responding
Communication again from the teacher to the learner	Diagnosing
	Evaluating
	KR* information Presenting

*KR is a kind of feedback information provided to students by the teacher for his/her behaviour. These are 'good', 'wrong', 'no', 'well done' etc.

1.8 Characteristics of Teaching Learning Process

Some characteristics of teaching learning process are mentioned below:

- Teaching learning is a complex social and psychological process. It is complex because if the students does not want or not ready to learn, than it is not possible for teacher teach. To learn something, psycho-physical readiness is needed.

- Teaching learning process has pre-determined aims and objectives. To achieve these aims and objectives, interaction between teacher and students is mandatory.

- Teaching learning process is formal as well as informal. Formally from educational institutions and informally from real life situations people learn and acquired knowledge.

- Teaching learning process is a tri-polar communication process. These three poles are teacher, students and teaching environment. All these three poles make teaching learning process effective.

- Teaching learning is an interconnected process. One always depend on others. Teaching is incomplete without learning and learning is incomplete without the discussion of teaching.

- Teaching learning process helps the learner to adjust with the social environment. With the help of new knowledge and experiences, one can adjust in new situations.

- Teaching learning activity make possible the interaction between teacher and students. This interaction motivates the teachers to teach effectively and students to make the acquired knowledge permanent.

1.9 Marks of Good Teaching

Teaching is effective when teachers teach in a proper way. There are different criteria or marks of good teaching. All the teachers must follow these criteria to make his or her teaching effective. These are:

1) **Recognise Individual Differences among Pupils:** Each child is unique and different from others. Their interest, likings, hobby, capacity and needs are different from each other. It is the duty of the teacher to recognise individual differences of pupil while teaching. Otherwise all round development of pupils are not possible. A teacher should always remember that standardized procedure do not fit every student.

2) **Systematic and Well Planned:** Success of teaching learning process depends on proper planning. Students can learn easily if planned subject matter is presented systematically. Thus, it is said that good teaching always should be systematic and planned

properly. Teacher should always study the mental make-up of his students that he teaches.

3) **Democratic:** Good teaching should be democratic. Equal importance should be given to all children irrespective of any barrier. All childrens have their own capacity to learn something. A good teacher always respects the individuality of the students. For this, a democratic atmosphere should be maintained at educational institutions.

4) **Helps to Adjust in the Environment:** Teaching learning process helps students to adjust in a new situation. Good teaching helps students to learn the skills of adjustment. These skills help the students to cope up with any new situation properly. To live a happy life, adjustment in new situation is essential.

5) **Follows Laws of Learning:** Major and minor laws of learning introduced by Thorndike helps to make teaching successful and permanent. Teachers should follow the law of readiness, law of effect and law of exercise while teaching in the class.

6) **Sympathetic:** Good teaching involves kindness and sympathy. Teacher should have sympathetic understanding of those whom he or she teaches. When the learner fails to understand the teaching of the teacher, the teacher first checks himself or herself and those of learner afterwards. Good teaching creates an atmosphere of acceptance, understanding and sympathy.

7) **Easily Motivate the Students:** Without motivation it is not possible for the students to learn something. Good teaching should easily motivate the students to acquire new knowledge and experiences. If students are motivated to learn, half of the teacher's work is done.

8) **Co-operative:** Good teaching is always co-operative. Teacher should look after the complants and problems of students and try to solve them. As teaching and learning is an interactive process, teaching is not effective without cooperation.

9) **Skilled Job:** It is a famous saying that 'teaching is not everybody's cup of tea'. Because teaching of a teacher requires knowledge of subject matter, capacity of classroom management, techniques to

use methods, use of technology etc. All these make teaching effective. Thus it is said that good teaching is a skilled job.

10) **Selective:** Good teaching is selective. Subject matter to be taught is selected on the basis of interest and needs of the students and also in consideration of the relevant skills they possess.

11) **Helps in Learning by Doing:** Learning activity is effective if students acquire real life experiences. The knowledge acquired through doing something is permanent. Great educationists and philosophers like Rousseau, Mahatma Gandhi, Rabindra Nath Tagore and John Dewey gave emphasis on learning by doing.

12) **Helps in Emotional Stability:** While teaching, teacher should control his emotions. More emphasis is to be given on controlling the emotions of his or her students. Otherwise, excessive emotions, such as those of anger, sorrow, fear etc, can impede as students learning. So, good teaching always helps to train and sublimate the instincts and emotions.

13) **Means of Learning:** Good teaching prepares the children physically and mentally to learn. Effectiveness of learning depends on attraction of teaching. So, teaching is termed as a means of good learning.

14) **Not Tied to Any Method:** A good teacher considers methods and devices as something of a servant, not as his/her master. Good teaching should not be tied to any method, as teacher should select teaching method and device according to the needs of the learner as well as the demand of the situation. For example, project method is not applied for all subjects, while discussion method is not recommended for all problems and so on.

15) **Reduces the Distance between the Teacher and the Students:** For effective teaching and learning, interaction between the teacher and the students is essential. Teachers should come out from their ivory towers and stay as close with the students as possible. Good teaching increases intimacy between teacher and students and make the process of teaching and learning effective.

16) **Helps in Self-Learning:** Good teaching inspires the students for self learning. Teaching plays an important role in developing

independent thinking capacity, self-confidence and work ethics. All these help the students to learn at their own pace.

1.11 Principles of Teaching

A Teacher can develop the innate power of the children by his/her teaching. So, teaching is called as a noble profession. Educationist Thomas P. Green viewed that "Teaching is a task of a teacher which is performed for the development of a child". Teacher should follow some principles while teaching. Principles of teaching are divided into two parts. These are:

- General principles of teaching and
- Psychological principles of teaching.

  Both these types of principles are explained below:

- **General Principles of Teaching:**

1) Principle of Goal Setting: Teaching is an activity directed through specific aims and objectives. Teacher should fix the aims and objectives while he or she teaches a particular course of study. Teaching is not effective without objective or goal. Without goal, it is not possible to change the behaviour of the students.

2) Principle of Planning: Proper planning helps to make teaching-learning successful. A Teacher should always work out a lesson plan before he/she enters the class. Planning of a lesson includes the planning of teaching methods, teaching strategy and teaching aids. Without proper planning it is very difficult for teachers to teach a lesson.

3) Principle of Child Centeredness: Child is the main centre of the education system. To teach the children, teaching method and teaching aids are selected according to the need, interest, aptitude and attitude of the children. Thus, the education system of the present time is known as child centred education.

4) Principle of Activity: One important principle of teaching is to facilitate learning activity. Child is active by nature. Educationist Froebel also emphasis to provide education through activity. Mahatma Gandhi also gave emphasis on activity in learning. Children can learn by 3Hs i.e. head, hand and heart.

5) Principle of Individual Differences: We all know that no two individual in this world is same. Thinking, attitude, reasoning of every individual

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is different from each other. Again, learning capacity of the children is also different. So, teacher should design, perform and evaluate his or her teaching keeping in view the principle of individual differences.

6) **Principle of Linking with Life:** One important aim of education is to prepare children for life. So, teaching should be essentially linked with the necessities and happenings in the actual life of the child. Pragmatic philosopher John Dewey said that the knowledge provided to students must be related with real life situation.

7) **Principle of Flexibility:** Both time and society is very dynamic. So, subject matter of education should be related with the changing time and society. Flexible subject matter also changes the teaching methods. The teacher must be imaginative, resourceful and creative for adopting himself and his teaching according to the changing teaching-learning process.

8) **Principle of Material Selection:** Proper teaching learning materials should be selected on the basis of age of the students, teaching objectives and teaching content. Proper teaching materials make the teaching learning process easy and real.

9) **Principle of Co-operation:** Teaching learning is a co-operative task. Both teacher and students co-operate in the classroom to make teaching and learning successful. In a wider perspective, cooperation of teachers, guardians, educational authority is needed to all round development of personality of the child.

10) **Principle of Creating Conducive Environment:** Conducive learning environment play an important role in effective learning. To create conducive environment in the classroom, teacher should treat all the students equally. Apart from that environmental factors like proper seating arrangement, light and ventilation, classroom instruction, discipline also influence the teaching learning process.

- **Psychological Principles of Teaching:**

1) **Principle of Motivation:** Motivation plays an important role in teaching learning process. To arouse interest among the students, the teacher should try to motive them. In this regard Kelly opined that, "Motivation is the central factor in the effective management of the process of learning". The teacher should do his best to motivate students in the lesson.

2) **Principle of Stimulation:** In the words of Burton, "Teaching is the stimulation, guidance, direction and encouragement of learning". One major task of the teacher is to stimulate students with the help of proper presentation of subject matter. Ryburn also emphasized in this regard that "the guidance of the teacher is mainly a matter of giving the right kind of stimulus to help him to learn right things in the right way".

3) **Principle of Repetition and Exercise:** There is a proverb that 'practice makes man perfect'. In the same way exercise and repetition of activity makes the learning permanent. This principle of teaching is based on Thorndike's law of exercise. Repetition is very essential for strengthening the connection between stimulus and response.

4) **Principle of Readiness:** Psycho-physical readiness of students plays a pivotal role in teaching learning process. According to this principle of teaching, the teacher should try to prepare the students to learn. Students can acquire knowledge effectively if they are ready to learn. The teacher must encourage his students to learn a new topic.

5) **Principle of Individual Difference:** One important concept of psychology is individual difference. Intellectual capacity, learning capacity, problem solving ability, motor ability, hopes and aspiration, interest, attitude, reasoning capacity of an individual is different from others. Teacher should always consider individual differences of the students while teaching.

6) **Principle of Creativity:** Every child comes into this world with varied and vasions creative powers which is varied. To explore and develop this creative power of children is another principle of teaching. Teacher should provide the opportunities to the students to explore things and events and find cause-effect relationship.

7) **Principle of Rest and Recreation:** Psycho-physical activeness is required in teaching learning process. To become active in this process, rest and recreation is required. Fatigue, lack of attention and monotony can be overcome by making appropriate provision for rest and recreation. Rest and recreation refreshes and re-energises the learner.

8) **Principle of Self-learning:** Present education system gives more importance on self-learning or self education. Apart from providing knowledge and experiences in the classroom, teachers also prepare their students for self-learning. Self-learning provides independent thinking of

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the learner and develops his/her self-confidence. In this regard Galileo Galileo opined that "You cannot teach a man anything, you can only help him to find it himself".

9) Principle of Feedback and Reinforcement: One important principle of teaching is to provide feedback (knowledge of the results) and reinforcement (praise, grade, certificate, token money and other incentives). Teacher can know his strength and weakness through this process and also inspire the unsuccessful students for better learning.

10) Principle of Association: Psychologist Thorndike viewed that things we want to go together should be put together. It is generally observed that many things or ideas which we want to go together should be associated with each other. They should be form a part of a process. This way, students can easily understand the relationship of the process.

CHECK YOUR PROGRESS

Q 7: Define teaching-learning process.

....

....

Q 8: Why teaching is called a skilled job?

....

....

Q 9: Mention one psychological principle of teaching.

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1.12 Summing Up

- Teaching is the specialized application of knowledge, skills and attributes designed to provide unique service to meet the educational needs of both the individual and society.

- Teaching is a skilled job. With the help of skills, a teacher can modify the behaviour of the students.

- Throughout life, human being change, modify and improve their crude instinctive behaviour. This change, modification and improvement are called learning.

- Main aim of learning is to modify the instinctive behaviour of human being.

- Learning helps the individual to find out the problem properly and with the help of experience and proper education one can solve his/her problem.

- Teaching learning process is a means through which the teacher, the learner, the curriculum and other variables are organised in a systematic manner to attain pre-determined goals and objectives.

- Teaching-learning has four aspects. These are: teacher, student, learning process and learning situation. Effective functioning of these elements makes the teaching-learning process successful.

- Teaching learning process is a tri-polar communication process. These three poles are teacher, students and teaching environment. All these three poles make teaching learning process effective.

- Different marks of good teaching are: recognise individual differences among pupils, systematic and well planned, democratic, helps to adjust in the environment, follows laws of learning, sympathetic, easily motivate the students, co-operative, skilled job, selective, helps in learning by doing, helps in emotional stability, means of learning, not tied to any method, reduces the distance between teacher and students and helps in self-learning.

- General principles of teaching are: principle of goal setting, principle of planning, principle of child centeredness, principle of activity, principle of individual differences, principle of linking with life, principle of flexibility, principle of material selection, principle of co-operation and principle of creating conducive environment.

- Psychological principles of teaching are: principle of motivation, principle of stimulation, principle of repetition and exercise, principle of readiness, principle of individual difference, principle of creativity, principle of rest and recreation, principle of self-learning, principle of feedback and reinforcement and principle of association.

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1.13 Answers to Check Your Progress

Answer to Q. No. 1: According to Henry C. Morrison, "Teaching is an intimate contact between a more mature personality and less mature one which is designed to further the education of the later."

Answer to Q. No. 2: Informal teaching is related with different types of real life experience acquired by students in their day to day life from different stakeholders.

Answer to Q. No. 3: Three poles of teaching are: objectives of education, content and students.

Answer to Q. No. 4: Learning is the modification of behaviour through experience and training.

Answer to Q. No. 5: One important aim of learning is to help individual to adjust with the new situation. With the help of learning, an individual can adjust himself to new situation very easily.

Answer to Q. No. 6: Learning is always depending upon motivation. It gives readiness to the learner to learn something. Learning effectiveness is the result of the motivation of learner.

Answer to Q. No. 7: In the words of J.C. Aggarwala, "Teaching learning process is a mean through which the teacher, the learner, the curriculum and other variables are organised in a systematic manner to attain pre-determined goals and objectives".

Answer to Q. No. 8: Teaching of teacher requires knowledge of subject matter, capacity of classroom management, techniques to use methods, use of technology etc. All these make teaching effective. Thus it is said that good teaching is a skilled job.

Answer to Q. No. 9: One important psychological principle of teaching is to provide feedback (knowledge of the results) and reinforcement (praise, grade, certificate, token money and other incentives). A Teacher can know his/her strength and weakness through this process and also inspire the unsuccessful students for better learning.

1.14 Questions and Exercises

Short-Answer Questions

1. What is meant by teaching?
2. Write two important characteristics of teaching.
3. Define learning.
4. What is teaching-learning process?
5. Why good teaching is democratic?

Long-Answer Questions

1. Explain the characteristics of teaching.
2. What is learning? Discuss the aims of learning.
3. Elucidate the marks or criteria of good teaching.
4. Discuss the general and psychological principles of teaching.

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Unit 2
Taxonomy of Educational Objectives

Contents:

2.0 Introduction

Through this you will know about the historical background of educational objectives and the taxonomy of instructional objectives. Different approaches of taxonomies are discussed in this chapter which help in efficient teaching-learning process.

Teaching learning begins with some kind of planning and aimed at realizing some goals and purpose. These goals may include simple objectives like classroom control and at the same time the ideals of inculcation of

values. They may be limited to achieve the specific classroom teaching purpose or broad objective of national and international understanding through education. A teacher should have very clear idea regarding the educational goals and instructional objectives.

Educational aims are the broad goals planned to be achieved through education. They often remain vague and indefinite and their attainment is quite difficult through the existing classroom conditions. Educational objective is a desired change in behaviour in the students through educational venture. It is related to the philosophy of a nation. The main aim of educational objectives is to provide a basic foundation for an educational systemas well as lay the fundamental guidelines for curriculum development and other activities in general.

Instructional objectives are narrow and specific in nature. They are definite, tangible, precise, clear and functional. They are predetermine and formulated in such a way that their attainment becomes quite practicable through the classroom teaching with the stipulated time period. They are the desired learning outcome and are stated in terms of expected pupils' behavioural changes. They are therefore, may be termed as teaching-learning objectives or behavioural objectives. The prime aim of these objectives is to provide statement of skills, concepts, or the behaviour as the learners are expected to acquire through learning. Instructional objectives may be sub categorised as to be submerged in the reservoir of educational objectives which in turn are further submerged in the ocean of educational goals.

2.1 Objectives

After going through the unit you will be able to know about-

- *meaning* of educational and instructional objectives
- *historical* background of taxonomy of educational objectives
- *importance* of taxonomy of instructional objectives
- *the three domains* of educational/instructional objectives
- *blooms* taxonomy of educational objectives
- *analysis* of educational objectives in the cognitive domain
- *analysis* of educational objectives in the affective domain

- *analysis* of educational objectives in the psycho-motor domain
- *writing* objectives in behavioural terms
- Robert Mager's approach
- Miller's approach
- *critical* analysis of Mager's and Miller's approach
- RCEM approach (Regional College Of Education, Mysore)
- *critical* analysis of RCEM approach

2.2 Historical Background of Taxonomy of Educational Objectives:

Instructional objectives specify the specific objectives of teaching act. It may be group or categorised into relatively broader groups or categories known an educational objectives. These objectives are related with all the three aspects of human behaviour-cognitive, affective and psycho-motor/ conative. These three aspects of behaviour are also known as domain of human behaviour. The educational objectives may be analyses in terms of the specific and precise learning or teaching outcome appropriate to the classroom situation.

Different scholars have made attempts to classify the educational objectives in accordance with the three domains of individual's behaviour. Yet the attempt made by Benjamin .S. Blooms and his associates is highly appreciable. In the year 1956, Bloom classified the educational objectives in the book *"Taxonomy of Educational Objectives: The Classification of Educational Goals"* as published by American Committee of College and University Examiners. They have told that the change and development in child's behaviour take place in three areas such as cognitive, affective and psychomotor domain.

'Taxonomy' means a system of classification and in this sense Bloom's Taxonomy presents a system of classification of the objectives in the similar way as Dewey's system of classification of the books in a library.The taxonomy of educational and instructional objectives has been worked out on the assumption that the teaching-learning process may be conceived as an attempt to change the behaviour of thepupils with respect to some subject matter or learning experiences. Behaviour is classified into three domain-cognitive (knowing), affective (feeling), psychomotor(doing)

the taxonomy of educational and instructional objectives have also been considered to be belonging to these three domains.

The taxonomy related to cognitive domain has been presented by Bloom and his associates in 1956, the second related to affective domain by Krath, Wohl, Bloom and Masia in the year 1972 and the third related to psychomotor domain by Harrow and Simpson in the year 1966.

STOP TO CONSIDER

The concept of learning outcome may be studied in a more systematic way in terms of taxonomy. 'Taxonomy' is a term derived from the Greek Word, 'Taxis' which means 'Arrangement' and 'Namos' which means 'law'. Accordingly taxonomy goes to mean lawful or orderly arrangement of anything.

2.3 Difference between Educational Objectives and Instructional Objectives:

An educational objective is a desired change in behaviour in the students through educational venture. It is related to the philosophy of a nation. The main aim of educational objectives is to provide a basic foundation for an educational systemas well as lay the fundamental guidelines for curriculum development and other activities in general.

Instructional objectives are statements which express specially and in measureable terms. They help to develop either cognitive or psycho-motor skill among the pupils through different mode of instruction. Instructional objectives constitutes a 'part' of the 'whole' i.e., educational objectives. Educational objectives include several instructional objectives which can be achieved through behavioural patterns. The differences between educational and instructional objectives are as follows:

EDUCATIONAL OBJECTIVES	INSTRUCTIONAL OBJECTIVES
• Educational objectives are determine by philosophy	• While instructional objectives on psychological principles.
• Educational objectives are broad in nature.	• Instructional objectives are specific in nature. It the part of the educational whole.
• All school subjects may have common educational objectives.	• On the other hand each school subject has specific teaching or instructional objectives.
• Educational objectives include instructional objectives.	• But instructional objectives form a part of educational objectives.
• Examples of educational objectives are- development of character, emotional and national integration, democratic values, secularism etc.	• Examples of instructional objectives are-behavioural patterns of a man of character-characteristics of a man of character-how he conforms to a situation involving honesty etc.

2.4 Importance of Taxonomy of Instructional Objectives:

Taxonomy means a classification of an object or an idea. Thus taxonomy of instructional objectives implies classification of instructional objectives. It means an analysis of instructional objectives in terms of the specific and precise teaching outcome or learning appropriate to classroom action. Taxonomy of objectives has been worked out on the assumption that the teaching-learning process may be conceived as an attempt to change the behaviour of the learners with respect to some learning experience involved in a subject or activity. The importance of taxonomy of objectives is discussed below:

a) Taxonomy of instructional objectives can be helpful in translating into practice the principle of comprehensiveness of evaluation by ensuring proper coverage of various aspects of pupils' growth in cognitive, affective and psychomotor domains.

b) Identification of areas of inter-relationship among the three domains may be particular significance.

c) The logical nature of classification helps in identifying and grading teaching-learning situations

d) Curriculum development and preparation of instructional material can be benefitted from such a scheme of classification in several ways.

e) Preparation and analysis of textbooks based on well defined objectives may prove to be an improvement.

f) The classification through its well defined criteria can provide a bridge for further communication among teachers, between teachers and evaluators, curriculum and research workers, psychologist and other behavioural scientists.

g) The taxonomy has opened new avenues for research in education.

h) The tools of evaluation can become very objective and can be validated through the help of taxonomy.

2.5 The three Domains of Educational/Instructional Objectives:

Educational aims and objectives of teaching learning may be divided into three domains as cognitive, affective and psychomotor. A brief description of them may be presented below:

i. **Cognitive Domain:**It includes the knowing aspects of experience in mind of individual. It covers the area of our mental faculty like knowledge and information, memory, imagination, thinking, reasoning, problems solving, observation, perception and creativity of mind. All forms of mental and intellectual ability are inclusive of it. Training and development of these various mental faculties cover the cognitive domain of our learning behaviour.

ii. **Affective Domain:** This domain of behaviour refers to feeling and emotional aspects of experiences and their maturity attained by individual in mind. It covers feeling aspect of experiences that goes to constitute a man's personality, his nature of behaviour and adjustment. It brings about changes in one's interest, attitude and in the formation of values in mind and behaviour. Subjects like art, music, literature and moral lessons aimed at development of this affective domain of learning.

iii. **Conative or psychomotor domain:** it implies the doing aspects of experience of individual. Conative aspect may go to develop muscular ability, motor skill and dexterity and manipulative ability of control and coordination of the body limbs. It aims at learning of work experiences through effective manual and motor performance. In today's world of work, it is this domain of Conative experiences that makes a man physically well-adjusted and vocationally efficient and productive.

2.6 Blooms Taxonomy of Educational Objectives:

The taxonomy of educational objectives of these three domains may be analysed below:

COGNITIVE DOMAIN	AFFECTIVE DOMAIN	PSYCHOMOTOR DOMAIN
Knowledge	Receiving	Impulsion
↓	↓	↓
Understanding	Responding	Manipulation
↓	↓	↓
Application	Valuing	Control
↓	↓	↓
Analysis	Organising	Co-ordination
↓	↓	↓
Synthesis	Characterisation	Naturalisation
↓		
Evaluation		

2.7 Analysis of Educational Objectives in the Cognitive Domain:

In order to have a true picture of the nature of learning, it is necessary to analyse the taxonomy of its objectives in the cognitive domain. Bloom and his associates have classified the objectives related to cognitive domain into six categories arranged from the lowest to the highest level of functioning. In our present educational system and its evaluation process, more importance is given on the cognitive domain need to be analysed below:

i. **Knowledge:** Here the word "knowledge" is used in a more conscious and restricted sense. It implies keeping certain facts, data, and information in mind by the way of learning retaining and remembering. It emphasises on keeping the names, facts, materials, ideas and information in mind and reproducing them in the form of recall and recognition. It does not imply the creative aspect of mind. The objective type of questions in examination demands the cognitive aspect of learning experiences.

ii. **Understanding:** It goes to mean comprehension of knowledge acquired by individual. Comprehension of knowledge implies understanding of the literal meaning or message of communication. In the absence of understanding, learning and acquisition of knowledge appeared to be quite mechanical. Teacher while

communicating new knowledge to students used to emphasized on their understanding and formation of concept of their own.

iii. **Application:**Application makes us clear whether knowledge acquired has been properly understood or not. Major objectives of acquisition of knowledge are to use or apply it in solving problems. Students in examination hall should be able to apply knowledge of the classroom in answering to the questions. Application is possible only when the knowledge acquired is understood properly. Question sets in examination should be focus on present problems to see how effectively they can apply knowledge acquired in their study of the lessons.

iv. **Analysis:**It means breaking down of the learning materials into its constituent parts with reference to the whole. It involves observation and analysis of the parts of knowledge, data and information that may throw light on the problem as a whole. It is an act of differentiation of the parts constituting the subject matter of learning. It can help to make a detail study of the problem that gives better understanding and insight to one's attainment.

v. **Synthesis:**It is an act of integration of the parts of knowledge in order to get the idea of the whole. Knowledge is to be viewed in both analytic and synthetic way for its effective attainment. Putting together the elements of knowledge and combing and co-relating them may only give the whole view of knowledge workable and transferable to solution of the problems. Organisation of an essay type answer in examination needs this ability of synthesis.

vi. **Evaluation:**It may be defined as the making judgement about the value of knowledge attained. Educational attainment cannot be completed unless the learner is able to judge for himself about value or worth of his knowledge. Solution of problem for him rest on judgement or evaluation made appropriately on all of its aspects. Learner's capacity for evaluation may be said as the best result of his acquisition of knowledge.

Knowledge, understanding, application, analysis, synthesis and evaluation are the six major educational objectives in the cognitive domain of which the teacher and the taught must be clear in mind. It is on the basis

of the taxonomy of them that the learner should make necessary planning of his education attainment. It is on them again the learner is to be evaluated and assessed the attainment.

2.8 Analysis of Educational Objectives in the Affective Domain:

The taxonomy of objectives in affective domain is arranged from lowest to highest level of functioning. They are discussed below-

   i.   **Receiving:** It represents the initial category for the objectives belonging to affective domain. For the inculcation of certain interests, attitudes, values or ideas it is essential that the learner should be made to receive or attend to the desired ideas, events or objectives. This category points out towards the necessity and takes into consideration three types of following sequential activities:

   a) The learner is made aware about the existence of certain stimuli.

   b) The desired intension or willingness for receiving or attending the stimuli is created in the learner.

   c) Efforts are made to control the attention of the learner. He may be trained to pay selective attention and sustain it for a desired period.

   ii. **Responding:** Once a learner receives or attends to a particular idea, event or thing he must be made to respond to it as actively as possible. Here, the responses do not confine it to pay attention or arousal of a simple intention or desire of getting a thing. It includes the active behaviour like obeying, answering, reading, discussing, recording, writing and reacting to a stimulus, etc.

   iii. **Valuing:** After receiving and responding to a particular idea, thing or event one is naturally drifted towards taking value judgement about that idea, thing or event. Here, the learner is expected to imbibe a definite value pattern towards different ideas, events and objects. The objectives belonging to this category are usually concerned with the development of typical value patterns, attitudes, etc.

   iv. **Organising:** This category is concerned with the construction of a relatively enduring value structure in the learner by organising and

synthesising the different value patterns imbibed by him from time to time. Ultimately, this objective leads the learner to form a set value structure or philosophy of life.

v. **Characterising by a value or value complex:** This is the highest level of the objectives belonging to the affective domain. At this stage, the learner is able to imbibe all the essential affective behaviour that includes various interests, attitudes, values, value complex or value patterns, a permanent set value structure and therefore, all the earlier categories are automatically involved in the objectives of this category. At this stage the learner is destined to imbibe typical characteristics of his individual character i.e. lifestyle of his own. In fact, it is the ultimate goal or the end point of the education process.

2.9 Analysis of Educational Objectives in the Psyco-Motor Domain:

The classification of psychomotor objectives was first produced by Simpson and later modified by Harrow in 1972. These given by Harrow are being described under six categories arranged from lowest to the highest level of functioning.

i. **Reflex Movements:** Reflex movements may be considered as the involuntary motor responses to the various stimuli in the environment. Examples of such reflex movements or actions are the jerking of hands, the closing of the eyelid, stretching of the arms etc. These movements represent the lowest level of psychomotor behaviour. They are largely controlled by the autonomous nervous system. However, they are very much essential not for the development of psychomotor abilities but also for the survival of the human being.

ii. **Basic Fundamental Movements:** These fundamental movements are just a step ahead of the simple reflex movements. They are not as inborn and innate as the reflex movements but a child may be seen to demonstrate such movements in his very early days of life. Their movements in the form of kneeling, creeping, stumbling, walking, jumping, moving hands, neck, heads etc may be named as basic fundamental movements. They represent the simple movements of the body almost requiring no serious attempts or skilled practice

for their occurrence. In the later years of our life, these movements are made as a result of obeying certain kinds of orders.

iii. **Perceptual abilities:** the development of motor abilities related with the phenomenon of perception belongs to this category of objectives. When some meaning is attached to sensation, it is termed as perception. As a result, the learner is able to derive useful meaning out of the exposure of their senses to various stimuli in the environment. His bodily movements are then governed and controlled by his perceptual abilities. Whatever is perceived by him through his sense becomes an ignition point for the motor behaviour. Such type of behaviour is learner behaviour. It is always acquired through experience and systematic training.

iv. **Physical abilities:** For an effective motor behaviour, there is an urgent need of the development of desirable physical abilities. If one has adequate physical stamina and abilities, he may go ahead in the task of improving his psychomotor behaviour. Therefore, this category of objective aims to develop the various physical abilities of the learners like tolerance to bear and stand against rough weather, to do hard labour, to carry the large load, to bend an article, to demonstrate one's physical power in starting stopping or running an object or machine etc.

v. **Skilled movements:** Skilled movements are those complex bodily movements which help in performing the skilled tasks. These movements are to be acquired through an organised and systematic learning process. Their acquisition requires an intelligent understanding and sufficient drill on the part of the learner. The art of dancing, driving, diving, playing the musical instruments, skating, typing, swimming, tailoring, etc. represent such skilled movements.

vi. **Non-discussive communication**: This category represents the highest level of the psychomotor behaviour. The bodily movements are hereby integrated with the inner feelings and affective behaviour of the learner. Non-discussive communication may range from a simple behavioural expression through posing or facial expression to a complex behaviour performed through a highly sophisticated classical dance, sketching, painting or acting.

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2.10 Writing Objectives in Behavioural Terms:

The major weakness about Bloom's taxonomy in behavioural objectives lies in the fact that it does not state objectives in terms of terminal behaviour i.e. what the learner should be able to do at the end of teaching. Specification of objectives in a task of teaching and learning may prove more effective and purposeful if they are translated into behavioural language.

The structure of the educational or instructional objectives mainly consists of two parts, namely-

i) The modification part, and

ii) The content part.

The modification part represents the behavioural changes that are designed to occur in the behaviour of the learner through the related instruction or learning experiences. The content part refers to the syllabus in particular and to the curriculum in general to be covered by the related instructions.

The writing of an objective in behavioural terms is always done in relation to the following three things-

I. The nature of the objective i.e. knowledge, application, etc.

II. The area or domain of the behaviour i.e. cognitive, affective, etc.

III. The specific content areas in which behavioural changes are planned to be brought about.

While discussing the methods of writing objectives in behavioural terms we must give importance to the three approaches-Robert Mager's Approach, Robert Miller's approach and RCEM Approach. These approaches detailed the way of writing behavioural objectives in the tree domain areas. They are discuss below-

2.11 Robert Mager's Approach:

According to Robert Mager in 1962, instructional objectives are best described in terms of the terminal behaviours as expected from the learner. He suggests the following things for writing of the objectives.

- Identification of the terminal behaviour or performance and its naming.

- Description of the important conditions under which the behaviour is expected to occur

- Specification of the criteria of acceptable performance by describing how good a learner's performance must be for being acceptable.

Mager, however adopted the blooms taxonomy as the bases for writing of objectives. He has sought the help of the associated action verbs for stating the different objectives. The verbs help in describing the outcome of learning or terminal behaviour of the learner in a well defines way. A list of associated action verbs for cognitive and affective domain has been presented below:-

A list of associated action verbs for the cognitive domain

OBJECTIVES (Based on Bloom's Taxonomy)	ASSOCIATED ACTION VERBS
Knowledge	Define, list, label, measure, name, recall, select, state, write, underline etc
Comprehension	Change, classify, distinguish, Explain, Formulate, identify, illustrate, indicate, interpret, justify, represent, select, Summarise, etc.
Application	Assess, change, choose, conduct, construct, compute, demonstrate, discover, explain, established, find, generate, illustrate, modify, predict, perform, select, solve, use, etc.
Analysis	Analyse, associate, compare, conclude, contrast, criticise, differentiate, identify, Justify, point out, Resolve, Separate, etc.
Synthesis	Argue, Conclude, combine, Derive, discuss, generalised, Integrate, organise, Precise, prove, relate, Summarise, etc.
Evaluation	Associate, Choose, Compare, Criticise, Conclude, Defend, Determine, Evaluate, Judge, Identify, Recognise, verify, support, summarise, relate, etc.

A list of associated action verbs for the cognitive domain

OBJECTIVES (Based on Bloom's Taxonomy)	ASSOCIATED ACTION VERBS
Receiving	Ask, accept, attend, beware, catch, discover, experiment, identify, favour, follow, observe, prefer, perceive, receive, select etc.
Responding	Answer, assist, complete, derive, discuss, develop, help, list, label, Name, obey, present, practice record, select, state, write, etc.
Valuing	Accept, attain, complete, choose, decide, demonstrate, discriminate, develop, increase, indicate, influence, participate, prefer, recognise, etc
Organising	Add, associate, change, Compare, complete, coordinate, correlate, determine, find, form, generalise, integrate, judge, project, prepare, relate, select, synthesis, organise, etc
Characterizing	Accept, change, characterised, decide, discriminate, demonstrate, develop, experiment, identify, judge, prove, revise, serve, solve, verify, etc.

Mager's approach although was popular in developing programmed instruction yet it suffers from certain delimitations. It concentrates only on cognitive and affective domain of behaviour while neglecting the psychomotor domain of the learner. Some of the action verbs overlapped with each other in different categories of the cognitive as well as affective objectives, which create confusion in the use of appropriate use of action verbs.

Some of the examples of writing behavioural objectives are as follows:

EXAMPLE 1:Subject: Physical Science

Topic: Laws of floating bodies

Instructional objectives (cognitive domain)	Writing in behavioural terms
Knowledge	The pupils are able to state the laws of floating bodies
Comprehension	The pupils are able to identify the conditions in which bodies remain floating
Application	The pupils are able to demonstrate why big ships remain floating while a small needle sinks

EXAMPLE 2:Subject: Mathematics

Topic: Area of a circle

EXAMPLE 3:Subject: History

Topic: Duties of a citizen

2.12 Miller's Approach:

In 1962 RobertMiller has put forwarded this approach to meet the requirement of the psychomotor domain of behaviour. Mager's approach only focuses about the affective and the cognitive and neither the psychomotor domain of behaviour. Miller's has tried to enlist the instructional objectives in correlation with associated action verbs. His action verbs are based on the psychomotor objectives as pointed by Harrow in 1972. He has put forward the scheme based on skill analysis by outlining the following steps:

Instructional objectives (affective domain)	Instructional objectives (cognitive domain)	Writing in behavioural terms
Receiving	Knowledge	The pupils are able to reproduce the formula
Responding		The students are able to state curves of the area and weight
Valuing	Comprehension	The students are able to indicate the duties of a citizen. The pupils are able to explain the instructional formula for finding out the area of a circle
	Application	The pupils are able to compute the area of a given circle.

- Description of the indicators, indicating the relevant activity
- Description of the indication or stimulus which call for a response
- Controlling of the object which is to be activated
- Description of the activity to be performed
- The indication of the adequacy of responses or feedback.

Associated action verbs for psychomotor domain

Instructional Objectives (Based on Harrow's Classification)	Associated action verbs
Reflex movement	Bite, harden, jerk, lengthen, loosen, make small, relax, stop, straighten, stretch, etc.
Basic fundamental movement	Befall, catch, creep, drink, hold, jump, kneel, move, reach, run, walk, etc.
Physical abilities	Begin, bear, bend, conduct, increase, lean, reform, smash, start, stop, etc.
Perceptual abilities	Balance, bend, catch, discover, eat, explore, feed, identification of touching, seeing, smelling, or hearing, memory tracting, smell, throw, write, etc.
Skilled movements	Dance, big, dive, drive, knit, play the musical organs, row, skate, shoot, swim, type, etc.
Non discursive communication	Mimic, pose, sit, sketch, smile, stand, tease, etc.

Miller's approach can be understood with the help of an example

Example:

Topic: Physical training and drill

2.13 Critical Analysis of Mager's and Miller's Approach:

The approaches put forwarded by Robert Mager and Robert Miller in the year 1962has remained unsuccessful in the task of writing all instructional objectives belonging to the three domains of behaviour. Mager's approach

has given importance to cognitive and affective domains and Miller's approach serves the purpose of psycho-motor domain.

Mager's approach presented objectives only in cognitive and affective domain. Psycho-motor domain of the learner's behaviour is neglected in this approach. It gives emphasis only on the action verbs and do not refers to the mental abilities. While describing the instructional objectives in behavioural terms in different categories of cognitive as well as affective domain, Mager's has repeated use of some same action verbs. Thus has lead to some confusion.

Miller's approach emphasis only on psychomotor domain while neglecting the other two domains- cognitive and affective. It has laid more emphasis on the associated action verbs neglecting the mental abilities or mental activities in the learning process.

Both of these approaches lay emphasis on associated verbs which has found to be overlapped within and among the objectives of the domains. They have neglected the mental processes and all the three domains of behaviour.

2.14 RCEM APPROACH (Regional College of Education, Mysore):

RCEM APPROACH (Regional College of Education, Mysore) has been developed by the Indian educationists as an improvement over the earlier approaches.RCEM is that approach which makes use of mental processes or mental abilities in place of action verbs in the writing of instructional objectives. It makes use of its own taxonomy of objectives, known as RCEM. Taxonomy of instructional objectives is somewhat a modified form of the Bloom's Taxonomy. Instead of six categories of bloom taxonomy, RCEM approach has four categories. The objectives categories of RCEM approach along with the associated mental processes or abilities are given below:

Objectives and mental processes in RCEM approaches

Objectives	Mental processes or abilities
Knowledge	
Understanding	Seeing relationship Cite example Discriminate Classify Interpret Verify Generalise
Application	Reason out Formulate hypothesis Establish hypothesis Infer Predict
Creativity	Analyse Synthesis Evaluate

The four categories of objectives lay down the necessary outline of the seventeen frames or statement which is given below:

Knowledge objectives:

The learner is able to recognise.......

The learner is able to recall.......

Understanding objectives:

The learner is able to see relationship between......and......

The learner is able to cite example of.....

The learner is able to discriminate between...... and........

The learner is able to classify........

The learner is able to interpret.......

The learner is able to verify........

The learner is able to generalise.........

Application objectives:

The learner is able to reason out..........

The learner is able to formulate hypothesis......

The learner is able to establish hypothesis for..........

The learner is able to infer about.........

The learner is able to predict about..........

Creativity objectives:

The learner is able to analyse........

The learner is able to synthesis.........

The learner is able to evaluate.........

Let us now illustrate the RCEM approach of writing objectives with a few examples:

Example 1:

Subject: history

Topic: Indus valley civilization

1. The learner is able to recall the characteristics of Indus valet civilization (knowledge)
2. The learner is able to generalised about the Aryan civilization and culture (Understanding)
3. The learner is able to infer about social, political and religious life of Indus valley people. (application)
4. The learner is able to evaluate the progress and development of the Indus valley people. (creativity)

2.15 Critical Analysis of RCEM Approach:

The RCEM approach suits to the Indian schools as it was develop according to Indian conditions. It is applicable to the three domain-cognitive, affective and psychomotor. It emphasises on mental process while writing objectives in behavioural terms and thus capable of shifting focus from product to process in the writing of objectives. The objectives of all school teaching subjects can be conveniently written with the help of the seventeen frames proposed in this scheme by placing the elements of the content in blank spaces.

However, this approach suffers from certain shortcoming for which it has been criticised. The approach does not have clear cut distinction made among the objectives in accordance with the three domain of behaviour. It is difficult to explain each and every change in behaviour of the pupils on account of the learning or teaching through the frame work of the seventeen statements provided in this approach. The objectives concerning the development of skill, appreciation, interest, and attitude in some of the subjects and content areas cannot be properly dealt with this approach.

2.16 Summing Up

Instructional objectives are narrow and specific in nature. They are definite, tangible, precise, clear and functional. They are predetermine and formulated in such a way that their attainment becomes quite practicable through the classroom teaching with the stipulated time period. They are the desired learning outcome and are stated in terms of expected pupils' behavioural changes.

Instructional objectives specify the specific objectives of teaching act. It may be group or categorised into relatively broader groups or categories known an educational objectives. These objectives are related with all the three aspects of human behaviour-cognitive, affective and psycho-motor/conative.

'Taxonomy' means a system of classification and in this sense Bloom's Taxonomy presents a system of classification of the objectives in the similar way as Dewey's system of classification of the books in a library.

Educational aims and objectives of teaching learning may be divided into three domains as cognitive, affective and psychomotor. Blooms taxonomy of educational objectives analysis of educational objectives in the cognitive, affective and psycho-motor domain. The taxonomy is written in behavioural terms is explained in three approaches Robert Mager's approach, Miller's approach, RCEM approach (Regional College of Education, Mysore)

CHECK YOUR PROGRESS

Q3: Describe in detail the Mager's approach of writing objectives by presenting suitable examples. Discuss its limitations?

....

....

Q4: Discuss in detail the RCEM approach of writing objectives in behavioural terms?

....

....

SAQ

Q1: Explain the term "writing objective in behavioural terms". What is its need? Elaborate one important approach of such writing?

Q2: Mager's and Miller's both approaches suffer from serious drawbacks and limitations. Point out these limitations and discuss how far RCEM approach had tried to get rid of these drawbacks?

2.17 Discussing a Question

Answer to Q1: Refers to 'Historical background of taxonomy of educational objectives' and 'Importance of taxonomy of instructional objectives' of the study material.

Answer to Q2: Refer to 'Blooms taxonomy of educational objectives', 'Analysis of educational objectives in the cognitive domain'; 'Analysis of educational objectives in the affective domain' and 'Analysis of educational objectives in the psycho-motor domain' of the study material

Answer to Q3: Refer to 'Robert Mager's approach' and 'Critical analysis of Mager's and Miller's approach' of the study material.

Answer to Q4: Refers to 'RCEM APPROACH (Regional College of Education, Mysore)' of the study material.

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Unit 3
Teaching Techniques

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3.0 Introduction

The act of teaching is not a mechanical process but an intricate, exacting and challenging job. With the emphasis turning to the learners' needs and aspirations in the modern teaching learning process, good teaching today demands causing, facilitating and promoting learning. Teacher task of teaching is not just to stand before a classroom and present the information from the textbook. Teacher are not entrusted with a monologue but a dialogue with the learners. The art of teaching calls for a high degree of flexibility, adaptability and nimbleness of mind going far beyond the process of applying step by step procedures. Quite commonly, in your difficult task of teaching, you may find your students not paying interest in the classroom encounter. Teacher may find them busy in other activities like scribbling some figures in their notebooks or doing some pending home assignments. Teacher can scold them, but, does this really help? No. So you are faced with the most difficult task of motivating them. Now, teacher need to apply some techniques in your teaching to make learning joyful, pleasurable, lively, active, interesting, motivating and innovative. Teaching techniques refers to the use of different methods, strategies, procedures and devices in teaching to enhance the whole teaching-learning endeavour.

3.1 Maxims of Teaching

To become a good teacher and make learning more inspiring, teacher have to follow the maxims of teaching. Maxims are those universal principles involved in teaching, that may ensure effective, interesting and meaningful learning. So, the following maxims of teaching can enhance teacher qualities as a teacher.

1. *Proceed from known to unknown*: As a teacher can arouse the interest in teacher pupils by asking them questions on the subject matter already known to them. For instance, to teach the fundamental right and duties in civics, begin by asking them questions on democracy.

2. *Proceed from simple to complex*: In order to keep up the interest of the students, present them the easy and simple material first and then only proceed to the complex problems. For example, teach about environmental degradation after presenting facts on the concept and types of the environment.

3. *Proceed from analysis to synthesis*: Analysis refers to breaking the problems into parts and synthesis refers to the grouping of separated parts into a complete whole.

4. *Proceed from whole to part*: J.P. Guilford in his research concludes that whole learning is generally better than part approach because the material to be learnt makes sense and its parts can be seen by the learner as interrelated. So to teach poetry, read the whole poem first before breaking it into stanzas.

5. *Proceed from particular to general*: Begin your lesson by presenting particular facts first before exposing the learners to the general rules and principles. Thus rules of grammar can be taught by proceeding from particular instances to the general rules.

6. *Proceed from psychological to logical*: This maxim considers the needs, interests, reactions and mental make-up of the learners first and then proceeds to the logical approach of arranging materials sequentially.

7. *Proceed from concrete to abstract*: The child's imagination is boosted by the concrete objects. As the saying goes, 'Things first and works after." Actual visit to the historical site is more enhancing for the learners to learn about the Taj Mahal or Red Fort.

8. *Proceed from empirical to rational*: Empirical knowledge involves observation and first hand experiences while rational knowledge refers to abstraction and argumentation. Teach your child about geometry from day to day life experiences than with argumentation and generalization.

9. *Proceed from actual to representative:* Children learn more quickly from the actual and real objects rather than from their representations. So, teach about a museum by actual visit rather than showing a picture or model of it.

10. *Proceed from inductive to deductive*: Start your lesson with particular examples and establish general rules through the active participation of the learners. This is inductive approach. In the deductive approach, assume a general rule or formula and then apply it to particular examples. For example all man are mortal. Ram is a man. So Ram is mortal.

Space for notes by learner

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CHECK YOUR PROGRESS:

Q.1. What do you mean by maxims of teaching?

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Q.2. Why does a teacher need to follow the maxims of teaching?

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3.2 Teaching Devices

The devices of teaching are the facilitators of the learning process. It implies the external mode or form which teaching may take from time to time. John Mander says that, the teaching devices helps in teaching something more thoroughly, quickly and sustain interest by integrating a number of separate pieces of work.

STOP TO CONSIDER

John Mander classifies teaching devices as follows:
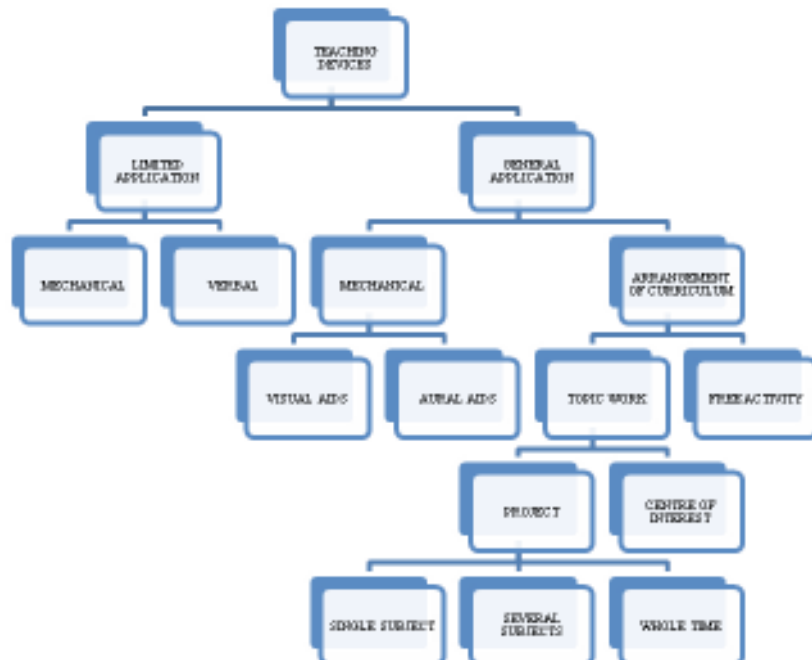
Besides, teaching devices may be broadly classified as:
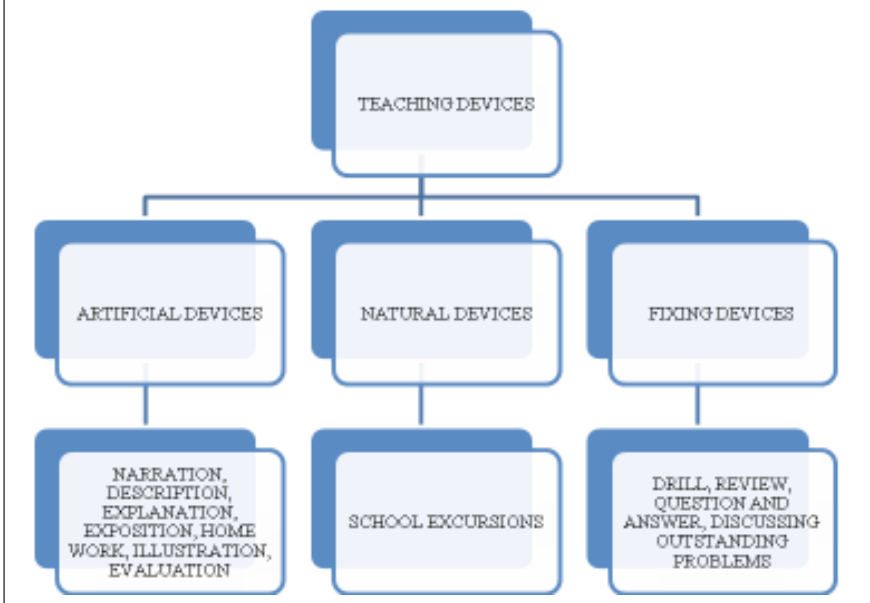
3.3 Explanation

It is one of the most important device of teaching that enables the children "to take an intelligent interest in the proceedings, to grasp the purpose of what is being done, and to develop their understanding of how to do it". Panton opined, " Explanation forms a kind of bridge between telling and revealing knowledge of the lesson, and it involves a number of other techniques as well as narration and description". The effectiveness of skilful use of this device of teaching lies in its continuity, fluency and simplicity. Thus teacher are required to master the subject matter, communicate ideas clearly and coherently and be self- confident in managing your class. Most preferably, make use of simple sentences in explaining subject matter to teacher students in place of the difficult and complex terms. To enhance explanation, teacher may make use of charts, diagrams, tables, models, etc. Keep in mind the following rules while using explanation in your classroom:

1. Set a definite aim for the students.
2. Sequence your explanation logically.
3. Encourage the students to ask questions to clarify doubts.
4. Use simple language.
5. Stress on the important points by writing them on the black-board.

6. Use illustrations and audio-visual aids

7. Ask questions.

8. Summarise the whole discussion at the end.

Advantages of Explanation

1. The language teacher is able to explain the difficult words, the hidden true meaning, emotional expression and feeling in his prose or poetry lesson.

2. It can effectively be used to teach cause and effect relationship in geography, physical and biological sciences and agriculture.

3. A mathematics teacher may use it to explain the use of a formula in solving a particular problem.

Disadvantages of Explanation

1. It makes teaching a one-way traffic.

2. It merely helps in the task of analyzing the subject matter.

3. Its use depends upon a thorough and deep knowledge of the subject matter besides professional competency on the part of the teachers.

3.4 Questioning

No teaching can proceed in its endeavour without the act of asking questions. It is said that the success and efficiency of teaching actually depends upon the skill and judgement with which a teacher questions. "the teacher who never questions, never teaches". Rudyard Kipling said, "I keep six honest serving men; They taught me all I know. Their names are What and why and when and how and where and who". The strategy of questioning is the key to all educative activity. Questions may be classified as:

A. Natural questions- When the questioner wants to elicit some information and makes a query to serve his purpose.

B. Formal questions- When the questioner already knows about the information asked for.

Formal questions gain is classified as- Testing questions or teaching and developing questions.

Testing questions are further classified as:

A. Preliminary or Introductory questions: these are generally asked to begin a lesson by testing the previous knowledge of the learners.

B. Developing or teaching questions: These are asked by the teacher in the course of a lesson to impart new knowledge.

C. Recapitulatory Questions: These are asked at the end of each section in a lesson as well as at the end of the lesson.

Teacher may use questioning effectively with the following precautions:

1. State the questions clearly, definitely and consisely.

2. Encourage the development of thought.

3. Allow sufficient time for replies.

4. Maintain proper discipline.

5. Ask relevant questions within the range of knowledge of the learners.

6. Be conversational and natural during questioning.

7. Be jovial and cheerful.

8. Adequately attend to the back benchers as well.

9. Do not repeat.

10. Avoid questions that may contain the answer.

Advantages of Questioning

1. It helps to test previous knowledge, interest and abilities of the students.

2. It makes both the teachers and students alert, attentive and active participants in the teaching- learning process.

3. It helps in diagnosing the learners' misconceptions, difficulties, strengths and weaknesses.

4. It develops better insight into the task of problem- solving.

5. It ensures originality, inventiveness and initiative among the students.

Disadvantages of questioning

1. The art of questioning involves skilful framing and asking questions. Its absence hampers the effectiveness of questioning.

2. Too much questions blocks the path of real learning.

Space for notes by learner

3.5 Illustration

Illustration refers to the use of verbal and concrete means and materials to help the students in acquiring correct knowledge of the presented material by making it clear, interesting and comprehensible. Here, the teacher elucidates, explains or exemplify represented facts and phenomenon with the help of verbal and concrete materials. Illustrations may be classified into two categories:

1. Non- verbal illustrations: It includes concrete materials, such as, actual objects or specimens, models, pictures or photographs, blackboard sketches, diagrams, paintings, graphs, maps and charts.

2. Verbal illustrations: it includes analogies, comparisons, similies, word-pictures, etc.

    To use illustrations, follow the below given rules:

    1. Use simple and comprehensible illustrations

    2. Use them accurately and clearly

    3. Use them according to the relevance of the topic

    4. Do not use too many illustrations in a single classroom.

    5. Handle them properly and exhibit them clearly.

    6. Do not begin the lesson with illustrations. Rather use them at the proper time during the course of the lesson.

Advantages of Illustrations

1. They make the subject- matter clear and vivid.

2. They simplify explanations and make the instructions concrete.

3. They create curiosity and interest among the students.

4. They develop the power of observation and form good learning habits.

5. They strengthen the retaining and recollecting power of the students.

Demerits of Illustrations

1. Overloading the lessons with illustrations result in inattentiveness.

2. It needs a lot of time, energy and physical as well as human resources.

3.6 Teaching Aids

Good teaching is effective communication and appropriate learning outcomes. To realise this goal, the teacher is required to make use of various aids like charts, maps, models, films, radio, television, etc. in his teaching-learning endeavour. these materials, instruments and resources that aid teaching are known as teaching aids. They are classified as follows:
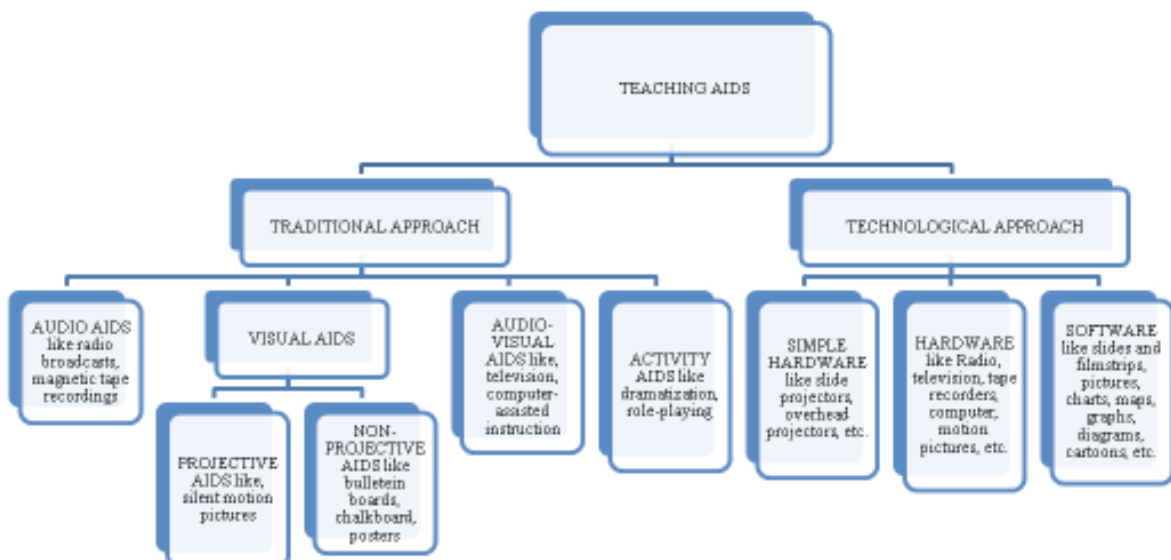
Guiding principles

To use teaching aids effectively, follow the following principles:

1. Principle of preparation: Make pre- parathion and keep the following points in mind:

➢ Be fully aware about the nature and use of the aid

➢ Preview the material and process of the aid to be utilized.

➢ Provide necessary background to the learners.

➢ Be clear about the objectives

➢ Guide the students to perceive significant areas of understanding.

2. Principle of physical control: Arrange the necessary details relating to the physical facilities and conditions for using the aid.

3. Principle of proper presentations: Present the aid appropriately by careful planning and knowledge of techniques of presentation.

4. Principle of action: Encourage the learners to gain active experiences.

5. Principle of appraisal: Continuously evaluate the aids and accompanying techniques in the light of the set objectives.

To select the appropriate teaching aids, as a teacher you are required to follow the following principles:

1. Principle of learner- centredness: Select the teaching aid in accordance with the needs, interest and abilities of the learner.

2. Principle of realisation of objectives: Closely analyze the set objectives.

3. Principle of interest and motivation: Put due consideration to the value of the aid as the generator and promoter of the genuine interest.

4. Principle of suitability: Consider the appropriateness and suitability of the aid for the subject- matter to be taught.

5. Principle of availability of resources: Select the aid in accordance with the financial position of your institution, size of the classroom, training and experience of the teachers.

3.7 Style of Teaching

Effectiveness of a teacher may vary according to their styles depending on the nature of the subject matter, the phase of the course, and other factors. By so doing, they encourage and inspire students to do their best at all times throughout the semester.

It is helpful to think of teaching styles according to the three Ds: Directing, Discussing, and Delegating.

The directing style promotes learning through listening and following directions. As a teacher, impart information to the students through lectures, assigned readings, audio/visual presentations, demonstrations, role playing, and other means.

The discussing style encourages critical thinking and lively discussion by asking students to respond to challenging questions. Facilitate and guide the discussion to a logical conclusion.

The delegating style is that style in which the teacher assigns tasks that students work on independently, either individually or in groups.

3.8 Autocratic Style

An autocratic teaching strategy is traditional method allowing the teacher to choose what material to present and how to present it. For example, giving a lecture on a topic is an autocratic teaching method. Here the teacher is more active and the learners are passive listeners only. Emphasis is not given on the learners' ability, capabilities, interest and personality. The teacher takes all the decisions and directs the students in the whole teaching- learning process. These include lecture method, demonstration strategy, tutorial, explanation, narration, description, etc.

3.9 Lecture Method

The oldest and most traditional method used by the teacher in the classroom encounter is the lecture method. It is widely used for almost all subjects of the curriculum at all levels. It falls in the category of autocratic style of teaching dominated by the teacher as the controller of each and every function of the classroom teaching. According to James Michael Lee, "the lecture is a pedagogical method whereby teacher formally delivers a carefully planned expository address on some particular topic or problem".

Advantages of Lecture Method

1. It helps the teacher to control and monitor the teaching- learning activities of the classroom by remaining the pivot of the whole process.

Space for notes by learner

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2. It helps in the realization of lower cognitive values like information and development of understanding as well as attaining the higher cognitive values of analysis, synthesis, evaluation and reflective thinking.

3. It is the cheapest means of the formal education system.

4. It is a flexible teaching strategy to ensure planning and moulding teaching according to the changing needs of students, subject-matter and environment.

5. It ensures motivation, enthusiasm and interest in the classroom.

6. It follows logical sequence in teaching as facts and information gets pre- organised.

Disadvantages of Lecture method

1. It centres around the content and subject- matter only.

2. It is not concerned with the needs, interests and abilities of the learners.

3. It makes the teaching learning process totally a one- sided affair.

4. It has no place for practical activity, observation, experimentation and demonstration.

5. It cannot be used effectively with the students of the lower classes.

6. It leaves gap in understanding.

7. It cannot enhance reflective thinking in learning.

3.10 Demonstration

Demonstration refers to the visual presentation of the action and activities or practical work related to the facts and principles of a delivered lesson by the teacher in the classroom. You task as a teacher is to demonstrate the objects, instruments, phenomenon, actions and events related to your lesson in a practical form.

Advantages of Demonstration

1. It helps the learners to grasp and understand the meaning of the lesson.

2. It saves time and efforts for realising the desired goals.

3. It develops zeal and enthusiasm among the learners to learn the principles in a proper way.

4. It helps in long remembrance of knowledge attained and facts learnt.

5. The students become active participants in the teaching-learning process.

6. It develops reasoning, deep thinking and creative imagination of the learners.

Disadvantages of Demonstration

1. All the topics related to the various subjects cannot be demonstrated.

2. Its use requires competent and trained teachers.

3. It cannot be successful in a large classroom.

4. It only demonstrates the action and does not provide actual opportunities for learning by doing.

3.11 Tutorial

Sometimes, teacher may encounter a few students who face learning difficulty and lag behind. How would you deal with them? The teaching strategy that is of utmost importance in such a case is tutorial strategy. Here, one or a small group of students, i.e., tutees are provided personalised and individualized education from the tutor. This teaching strategy is useful to teach all the subjects and applicable to the learners of all ages and all levels of ability and potential. It is usually used as an adjunct to traditional classroom instruction for serving the purpose of remedial and supplementary instructions to the slow learners. It provides an increased opportunity to the learners to participate actively in the learning process and thus receive immediate feedback. It is closed personalized and individualized instruction for the students.

How to adopt tutorial strategy?

1. Establish rapport with the learner: to be a good tutor, you are required to understand the students or group of students being tutored by you. Try to win their confidence and trust so that they express themselves properly before you.

Space for notes by learner

2. Know the abilities, interests, potentialities of the students: Use suitable tests and techniques to identify the strengths and weaknesses of your students in a particular learning area.

3. Provide remedial and supplementary instruction: Now plan and provide remedial and supplementary instruction to the students. Do this work on a proper individual and personal basis.

4. Providing individualized and personalized instruction: Take proper care to provide individualized and personalized instruction to the students. Encourage your students to ask questions for solving their difficulties. Take care to provide appropriate responses and solutions and seek help of the monitors and bright students.

Advantages of Tutorial Strategy

1. It paves the way for cordial and intimate student-teacher relationships.

2. It helps in providing individual attention, care and help to the students.

3. It is diagnostic and remedial by nature.

4. It gives freedom to the students for expression of their thoughts and putting up their learning difficulties and expectations before the teacher.

5. It gives opportunities for feedback and thus helps in the process of reinforcement.

6. It is the most appropriate strategy for providing remedial and supplementary instruction.

Disadvantages of tutorial

1. Tutorial strategy cannot work effectively in the absence of an affectionate and democratic teacher.

2. The present classroom system is not feasible for individualization of instructions.

3. The school timetable and administrative machinery is not suitable for tutorial.

4. Peer tutors or the bright students may not be welcomed by the students always.

5. It is expensive method that uses programmed packages and computer- assisted instruction.

6. It may tempt teachers for private tuitions at homes for purely mercenary motives.

3.12 Team Teaching

Team teaching refers to such type of teaching strategy which involves number of teachers and other personnel of the school as a team for providing instruction to a group of students by utilization of the available resources in the teaching-learning process. It aims at seeking cooperation of all the members of a subject faculty and other personnel in the instructional work. Thus it develops the feeling of joint responsibility towards the students by removing the difficulties of teaching a particular subject. It began as an internship plan at the Harvard University and got transferred to the UK in the later years. According to M.Haridwar, " *Team teaching is that organized form of teaching structure in which two or more teachers cooperatively teach a particular subject or topic to a group of students.*"

HOW TO PROCEED IN TEAM TEACHING?

1. Pool and best utilize the available resources and expertise.
2. Share a joint responsibility and work together for achieving the ends.
3. Attend to the needs of the students.
4. Adopt flexibility in terms of grouping of the students and time schedule to suit the learning requirements.
5. Select the members of the team judiciously according to the needs of the instruction.
6. Willingly come forward to share the responsibilities according to abilities, experiences and needs of the situation.
7. Arrange the appropriate teaching- learning environment.
8. Conduct constant supervision and evaluation.

Types of team teaching

1. Single-disciplinary, where members belong to the same institute and discipline.
2. Inter-disciplinary, where members are from the same institute but different disciplines.

3. Inter-institutional, where members are not confined to the same institution.

Steps of team teaching

1. Planning stage: Decide about the topic to be taught, formulate objectives and identify initial behaviour of the learner, identify available men and materials, select team, prepare tentative time schedule, distribute responsibilities and decide about the means of evaluation.

2. Execution: You may carry out the actual teaching- learning activities in a large group session(general assembly); small group session and individual study session.

3. Evaluation: Evaluate the students' performance through oral, written and practical tests. To provide a comprehensive picture of their learning outcomes, evaluate their sessional and homework from time to time.

Advantages of team teaching

1. It ensures the best utilization of talents and expertise of the experienced and devoted teachers in their respective fields.

2. It helps in the best utilization of the available material resources.

3. It provides the teachers with opportunities of professional growth.

4. It ensures better learning opportunities for the teachers.

5. It provides opportunities for interaction with the experts.

6. It helps in the development of cooperative attitudes.

7. It is economical in terms of time and energy.

8. It provides opportunities for proper supervision.

Disadvantages of team teaching

1. It is difficult to distribute responsibilities among team members.

2. It faces difficulty in maintenance of harmony and understanding.

3. The method expects too much from the teachers.

4. It gives undue importance to the teachers at the cost of the learners.

5. It is not suitable for the present educational set-up.

6. It lacks accountability on the part of the team members.

STOP TO CONSIDER

Q.6. What are the benefits of lecture method?

Q.7. Mention the steps of tutorial method?

Q.8. What is team teaching?

3.13 Permissive Style

Do you want your students to be excited about your class so that effective learning takes place. If yes, how would you proceed in your endeavour? You may adopt permissive teaching strategies or democratic strategies.

But in a permissive classroom, the teacher approach the topic to be taught differently. For example, he might make several different articles about Population Explosion available to his students. Then the students are allowed to form their own list of questions about Population Explosion that they seek to know. The teacher allows them to choose articles to read that are likely to answer their questions. Thus, permissive teaching strategies are a type of student-centered teaching, focused on letting the students run the show. The students choose what and how to learn, and are supported in their learning by the teacher. However the ultimate decisions about learning are made by the students. These styles include group discussion, question-answer, project strategy, drill, excursion, brain-storming, etc.

3.14 Brain Storming

This method refers to storming the brain in order to evolve or generate a number of ideas and thoughts as quickly as possible without paying consideration to their validity and appropriateness. This strategy was popularised by A.F.Osborn in 1963 through his writing " Applied Imagination". He opined that the brain storming technique can be used with a group to explore a number of ideas in relation to a situation or solution of a problem without passing any judgement or censure. The strategy enhances higher cognitive abilities like reflective thinking, creative imagination and problem solving. It also helps in attaining the learning objectives in affective domain.

HOW CAN TEACHER USE BRAINSTORMING AS A TEACHING STRATEGY

Are teacher students getting bored with the traditional lecture method of teaching? As a teacher you may introduce innovation in your teaching task by incorporating the Brain storming strategy. For this purpose, you are required to follow the following guidelines:

1. Start teacher task with a small group of students, say 5-10 students. Ask them to sit in a group and provide them with a focus or problem, like, women empowerment or privation in higher education, or need of life skills, etc.

2. As a teacher, act as the leader of the group. Then, ask the group members to think divergently about the problem and find out its solutions. Motivate each member to put forward as many ideas as may crop up in their minds rapidly. Advice them to attach the faced problem without any sort of inhibition from many angles. So to storm with all possible ideas and solutions, you may give the following instructions to the students:

    a. The problem has occurred now, so dear students, think about the possible solutions that may be proper according to you.

    b. Students, you may come out with as many solutions as possible, without caring about criticism. Provide your suggestions without hesitation even if they appear to be quite noble, unusual or unorthodox to you.

    c. Students, you are not allowed to criticise the ideas of others. However you can freely bring about any alterations, synthesis or extension in the solution provided by others.

    d. Dear students, freely improve your own ideas given by you earlier in this session.

3. After instructing the students, encourage and inspire them to give as many ideas or solutions as possible. The group members as well as the leader must receive responses with the following precautions:

    a. Ideas are to be encouraged and appreciated; not criticised during the brain storming session.

    b. Ideas must be listened and accepted patiently, without commenting until the session is over.

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c. Members must not be restricted to new ideas only. Rather they may be encouraged to enlarge the ideas of others.

d. Proper recording of all the ideas and alterations is a must. For this purpose, blackboard or screen may be used.

4. At the end of the Brain storming session, discuss freely about all the solutions in a democratic environment. Finally guide the discussion to come up with the most appropriate solution of the problem.

STOP TO CONSIDER

Advantages of Brain Storming

1. This method discourages spoon-feeding and information giving tendency on the part of the teachers. It thus makes the students active and independent enquirer and discoverer of knowledge, rather than becoming passive listeners.

2. It provides with the opportunities of thinking, reasoning, analyzing and synthesizing ideas and thereby enhance their cognitive development.

3. It develops the creative and constructive problem-solving potentialities of the students. It is a method of encouraging the learners towards divergent, original and novel thinking by removing fear of being ridiculed or criticised by others.

4. The method encourages group activities and cooperative learning in a democratic environment.

Disadvantages of Brain Storming

1. It may not create equal interest among all the members of the group to think about the solution of the problem.

2. The formed group may lack homogeneity in general mental level, knowledge or skills required for problem solving.

3. The group members may hesitate to put forward their ideas.

4. Convincing solutions may not be attained at the end of the session due to conflicting ideas among the members.

3.15 Group Discussion

One of the most widely used style of teaching in the modern classroom is group discussion, or the discussion held within a group. It refers to the interchanging of ideas between the students and teachers, or among a group of students, thus resulting in active participation to obtain the pre-determined objectives of the teaching- learning endeavour. It does not occur occasionally or incidentally, but deliberately in a planned and organized manner to achieve the set goals. As a subject teacher, in order to make your subject more interesting for your learners and to enhance their active participant in the teaching- learning process, form a group with the students of your class. Remember, you are the leader of this group with respect to your status, functions and responsibilities. You may use group discussion as a teaching strategy by following the below mentioned steps:

1. At first, plan and set the proper stage for discussion.

2. Then, ensure active, democratic and useful participation of your group members. Encourage full and free exchange of ideas within the group. Also, control and monitor the progress of the discussion with the least involvement in the discussion.

3. Finally, evaluate the outcomes of the discussion in the light of the set objectives.

   Advantages of Group Discussion

   1. It makes the learners active participants in the whole teaching- learning process.

   2. It is a platform for learning group-work and cooperation. Thus by adopting this strategy, the teacher ensures a democratic learning environment.

   3. It helps in imbibing leadership qualities of the learners and enhances their listening capacity.

   4. It enhances critical thinking, analyzing, synthesizing, evaluating, inferring, problem-solving, respect for opinion of others, initiating and supporting the shy members of the group, patience, cooperation, desirable interests, attitudes, ideas, social and moral traits and thereby realization of cognitive potentialities.

5. It discourages blind acceptance of ideas and ensures looking into the pros and cons of a problem before bringing it into practice.

6. It develops verbal communication, expression of ideas, and creative thinking.

Disadvantages of Group Discussion

1. Sometimes, the teacher as a group leader may unduly interfere in the thought process of the learners by taking all the initiatives in the group discussion.

2. The discussion is viable to go out of track of the set objectives in view.

3. It may incur clash among group members if negative personal remarks are passed to cut loose each others' opinions.

4. It may not be interesting for the shy and inactive member of the group, who lacks the ability to initiate or express himself.

5. The group discussion may lead to formation of cliques with non- compromising postures.

3.16 Panel Discussion

A panel discussion usually consists of question and answers. If teacher are asked to sit on a panel, first find out if teacher are expected to give a short speech or to answer questions only. When teacher know what you are supposed to do, follow the guidelines. If teacher are asked to chair a panel, before the session begins, you must see to it that the participants agree on, the purpose of the panel, the roles each participant will take and the length of the session. You should also make it clear to each panel member that you might introduce each person right before he or she speaks. Or teacher might introduce everyone on the panel at once at the beginning of the discussion. During the session your task is to monitor time and manage questions. If each participant is making a speech for a set period of time, teacher should signal the speaker at the one minute to go mark and at the stop mark. If a speaker goes more than a minute or two overtime, teacher can interrupt as gracefully as possible along the line. If the participants are answering questions from the door the chair must

make sure that one speaker does not dominate. Teacher may call the panellists to answer in different orders and direct certain questions to certain panels or see to it that other panellists get a chance to answer the same question of they wish to.

3.17 Project

Project strategy was developed out of the pragmatic approach of Sir John Dewey. The central idea behind this approach is that, "What is to be taught should have a direct relationship with the actual happenings in life?" It tries to impart education of all subjects in an integrated way by correlating them with real life activities. According to Kilpatrick, " A project is a whole-hearted purposeful activity proceeding in a social environment". It is a spontaneous, interesting, self absorbing, problem oriented and purposeful act accomplished either in a natural setting or a social environment. The core and heart of the project strategy is a project. Let teacher students solve a day-to-day problem by picking up a project to be completed and proceeded in a cooperative way as naturally as possible.

STOP TO CONSIDER :

Steps involved in a project strategy

1. Providing a situation: Let the students identify a problem during classroom discussion, working in the laboratory, engaging in extra-curricular activities, excursions and visits.

2. Choosing and purposing of the project: Persuade the students to think about the possible selection by selecting some appropriate project. They must clearly state the objectives of choosing the particular project.

3. Planning of the project: Let the students hold lively discussions, consultation with experts and utilize library and other resources to plan out their project.

4. Execution of the project: The successful execution of the project strategy depends on the joint responsibility and combined efforts of the students related to the project. The plan is executed in this stage.

5. Evaluation of the project: Evaluation is a continuous process. Thus efforts are made to review and assess individual and group work of the students from time to time.

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6. Recording of the project: At each and every step of the project, details should be recorded for further reference.

Advantages of project

1. It is psychologically sound as it is child- centred and provides reasonable freedom to the students.

2. It is a practical and applied method of learning.

3. It helps in integrating the physical and mental activities.

4. It enhances the democratic way of teaching.

5. It helps in the development of social virtues of cooperation and understanding.

6. It is a method of teaching through correlation.

7. It develops positive attitude towards manual work.

Disadvantages of Project

1. It suffers from financial constraints.

2. It is a time consuming method of teaching.

3. It expects too much from the teacher.

4. It is not helpful in providing systematic and adequate learning.

3.18 Seminar

A Seminar refers to an academic instruction, either at a university or offered by a commercial or professional organization. It brings together small groups for recurring meetings, focusing each time on some particular subject, in which everyone present is requested to actively participate. The instructor prepares the concepts and techniques they will present and discuss through a combination of visual materials, interactive tools or equipment, and demonstrations. It includes some take home material for the participants that relates to the lecture. A full laboratory phase is not a requirement of Seminar..

3.19 Symposia

A Symposium refers to a formal gathering in an academic setting where participants are experts in their fields. These experts present or deliver their opinions or viewpoints on a chosen topic of discussion. A symposium may be referred to as a small scale conference as the number of delegates is

smaller. There are the usual discussions on the chosen topic after presentation of speeches by the experts. The chief characteristic of a symposium is that it covers a single topic or subject and all the lectures delivered by the experts are completed in a single day. A Symposium is a prestigious conference, generally leading venues in its respective field.

3.20 Workshop

A workshop includes all the elements of the Seminar, but with the largest portion being emphasized on "hand-on-practice" or laboratory work. The Lab work is designed to reinforce, imprint and bring forward an immediate functioning dimension to the participant's eye and hands by implementing and practicing the actual concept or technique that was taught through the lecture and demonstration process.

CHECK YOUR PROGRESS

Q.9. What is the difference between a seminar and symposia?

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Q.10. What is the basic principle of Panel discussion?

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Q.11. Mention one characteristic of workshop.

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3.21 Virtual Classroom

The modern classroom of today demands the use of e-learning or web based learning. Do you think, such learning has the power of replacing the traditional classroom? The obvious answer is '*No*' because they cannot truly reflect the lively environment of the real activities within a real classroom. So, how can you reorganize your classroom to meet the demands of technological advancements? Here comes the solution in the form of a Virtual Classroom. As the name suggests, it is the classroom functioning in a virtual

reality. In fact it refers to a cyber classroom where the teachers and the students can converse in real time. According to Professor Murray Turoff of New Jersey Institute of Technology, USA(2007); *"Virtual classroom is a web-based environment that allows you to participate in live training events without the need to travel. You listen to the lectures, participate in lab exercises, ask questions, and receive feedback just as you would do in a conventional classroom- except you do it from the convenience of your desktop, or anywhere you have an internet and phone connection. It saves the hassle, expense, and travel time to a training site."*

How does a virtual Classroom work?

1. In the basic operation of a virtual classroom, you, as a subject expert may deliver instructions on one or other topics of the school curriculum. The lectures may be live telecast with the help of satellite based teleconferencing. For example, the EDUSAT programme of NCERT.

2. You as the subject expect may prepare the study materials and upload them on the website of the virtual classroom. Allow the students to download the text by issuing a confidential password to the students registered in the campus.

3. Your institution may provide CD-ROMS or DVDs containing the course contents and instructional guidance to be accessed by the students through their computers or laptops. Send some support materials in the form of Frequently Asked Questions, reference materials and supplements, etc.

4. Ensure number of options to the students for interaction in the form of on-line chatting, e-mail, audio or video- conferencing. As a teacher, you may also use these interaction opportunities by asking questions to the students to test their comprehension and evaluate their progress.

5. Upload needed materials on the website at regular intervals, ask the students to complete the desired assignment and send it back for evaluation and feedback. Thus a virtual classroom may evolve its own system of assigning practice work, projects and questions for reinforcing, fixing and evaluating the progress of the students.

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6. Virtual Classroom also involves essential administration and management aid for the students enrolled in this system. This includes their on-line admission, information on the web about the instructional programmes and the type of course available, on-line provision for tutorial, the needed feedback, guidance and evaluation of academic progress of the students, grading and scoring the students' achievements and providing certificates and degrees through on-line convocation.

Advantages of Virtual Classroom:

1. It is a flexible learning method that allows the students to move forward in their learning endeavour at their own pace, place and time.

2. It ensures learning simultaneously with engagement in various job sectors.

3. It opens the doors for the desired learning to the learners during 24 hours of all the week days.

4. It provides services of the most experienced and capable faculty belonging to any discipline or stream of the school curriculum.

5. It reduces the fear of criticism, snubbing and ridiculing by the teachers and fellow-mates.

6. It provides joy of learning as well as real-time learning experience to the learners.

7. It saves the learners from difficult encounters related to the administrative and evaluative work.

8. It proves to be a valuable asset in the management of the school's administrative and instructional programmes in an efficient and cost-effective manner.

Disadvantages of Virtual Classroom

1. Freedom and flexibility provided to the learners by this system may be misutilised and misdirected.

2. The organization and working of a virtual classroom is possibly hopeless in terms of its quality of study material and its delivery to the students.

3. It is deficient and limited in providing real time face-to-face interactive experiences to the students.

4. It is unable to develop the wholesome personality of the students since co-curricular and community activities cannot be provided by this technique.

3.22 Summing Up

Teaching is not everybody's cup of tea. It requires quite a zeal and zest. The modern teaching learning process has become learner- centred. Thus to cater to the needs of the learner the teacher adopts various strategies, methods, devices and styles of teaching. Lecture method is the oldest and most widely used autocratic style of teaching that is dominated by the teacher. Demonstration is most effective method of teaching science and nature study. To cater to the needs of a slow learner, the teacher may adopt tutorial strategy. Further in order to meet the demands of effective teaching, team of experts may teach a group of students. To explore the ideas of the learners, the modern teacher adopts brain-storming. Group discussion is used to enhance the cooperative skills among the students. Panel discussion proceeds with the maximum responsibility lying in the hands of a Chairperson. The project method is used to develop problem- solving abilities of the students. Seminars, symposia, and workshops are held from time to time to enhance reflective thinking and skills among students. A real classroom experience is provided with the help of internet and communication technology in a virtual classroom, extending for 24 hours and 7 days in a week.

Check Your Progress

1. What is meant by teaching device? Discus about the use a limitations of illustration .

2. What is a project? What are the basic steps followed in a project?

3. Enumerate the utility and limitations of tutorial method.

4. What are the guiding principles of using brain-storming as a method of teaching?

5. Distinguish between autocratic and permissive styles of teaching?

6. Do you think virtual classroom can aid the demands of the modern teaching-learning process.

7. Write a short note on Seminar.

8. Is demonstration an effective method of teaching?

9. How do you proceed successfully in a group discussion?

10. What is team teaching? What are its advantages and limitations?

3.23 References & Suggested Readings

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Unit 4
Micro Teaching: Skill Developmen and Simulation

Contents:

4.1 Objectives

After going through the unit you will be able to know about-

- *meaning* of micro teaching
- *definitions* of micro teaching
- *nature* and characteristics of micro teaching
- *organizational* procedure in micro teaching
- *merits* or utility of micro teaching

- *demerits* or limitations of micro teaching

- *development* of teaching skills

- *meaning* of simulation

- *use* of simulation

- *simulated* social skill training (SSST) or simulated teaching

- *importance* and use of simulation in training of teachers

- *mechanism* of SSST or simulated teaching

4.2 Meaning of Micro Teaching

Before going into detail regarding skills of micro teaching we need to understand the meaning of micro-teaching.

Micro teaching implies a small form of teaching practice meant for teacher-trainees.It is a scaled down, clinically controlled teaching programme in a simplified environment, and is aimed atdeveloping specific teaching skills. Micro teaching aims at bringing about desired changes in behaviourthrough the acquisition of new skills in teaching. These skills includeusing the blackboard, asking questions, illustration and presentation of the lesson, use of reinforcement, development of student participation in class room communication, etc.

Micro teaching classes are scaled down by reducing the class size to 5 – 10 students and classtime to 5 – 10 minutes. The content of teaching is reduced to a small unit, in keeping with the short duration of the class. Observation is done by expert teacher-educators and sophisticated electronic equipment are used to record the teaching presentation to make necessary corrections if needed.

4.3 Definitions of Micro Teaching:

- D.W. Allen:"Micro teaching is a scaled down teaching encounter in class size and time."

- B.K. Passi:"Micro teaching is a training technique which requires pupil-teachers to teach a single concept using specific teaching skills to a small number of pupils in a short duration of time."

- Cliff and others:"Micro teaching is a teacher-training procedure which reduces the teaching situation to simpler and more controlled

encounter achieved by limiting the practice to specific skill and reducing teaching time and class size."

- Robert Bush:"A teacher education technique which allows to apply well defined teaching skills to a carefully prepared lesson in a planned series of 5 – 10 minutes encounter with a small group of real class-room students."

- L.C. Singh:"Micro teaching is a 'scaled down teaching encounter' in which a teacher teaches a small unit to a group of 5 pupils for a small period of 5 to 20 minutes. Such a situation offers a helpful setting for an experienced or inexperienced teacher to acquire new teaching skills and refine old ones."

4.4 Nature and characteristics of Micro Teaching:

1. It is a relatively new experience or innovation in the field of teacher education.

2. Micro teaching is a training technique, not a teaching technique.

3. It is a scaled down teaching encounter involving-

    a. Practising one skill at a time

    b. Reducing the class size to 5 – 10 students

    c. Reducing the duration of the lesson to 5 – 10 minutes

    d. Limiting the content to a single concept.

4. It is a highly individualised training device with a high degree of control inpractising a particular skill.

5. It is a new device of training the specific skills to the teacher trainees.

6. Expert and trained teacher-educatorsare appointed to observe the teacher trainee while acquiring the required skill in teaching.

7. In micro teaching there is the provision of providing adequate feedback.

STOP TO CONSIDER :

The term was originally used by Dwight. W. Allen and Robert Bush of Stanford University, California in 1963. It is a comparatively recent innovative method of teaching meant for the secondary school teachers.

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4.5 Organizational Procedure in Micro Teaching:

Micro teaching involves a series of teaching procedures for acquisition of required teaching skillsThey are-

i) **Explaining the skill:**Prior to the actual teaching encounter in the class-room, the teacher trainees receive a clear concept of the nature of the skill.

ii) **Demonstration:**For the purpose of demonstrating a particular teaching skill, necessary physical demonstration is presented to the trainees with the helpofrelevant video recordings.

iii) **Preparation of the lesson-plan:** Prior to facing the class-room, the teacher-trainee prepares the lesson plan that serves as guide to his/her teaching considering the scheduled time limit of 5 – 10 minutes.

iv) **Teaching encounter:** After the preparation of the planned lesson, the teacher-trainee encounters the classroom to present the content as per the lesson plan.

v) **Feedback:** After completion of the classroom teaching, the feedback session begins. The teacher-trainee receives necessary suggestions on how to make the presentation more effective. Feedback is considered as an important step in micro teaching.

vi) **Re-planning:** Feedback may include suggestions fornecessary modifications or corrections to the lesson plan presented. Accordingly, the teacher-trainee re-plans or re-arranges the lesson plan.

vii) **Re-teaching:** The re-planned lesson is re-presented to the students for the same duration of time. Re-teaching should ideally involve improved presentation over the earlier presentation.

viii) **Re-feedback:** Re-teaching is again followed by re-feedback. It is believed that repetition helps in elimination of the errors, leading to perfection in learning the skill.
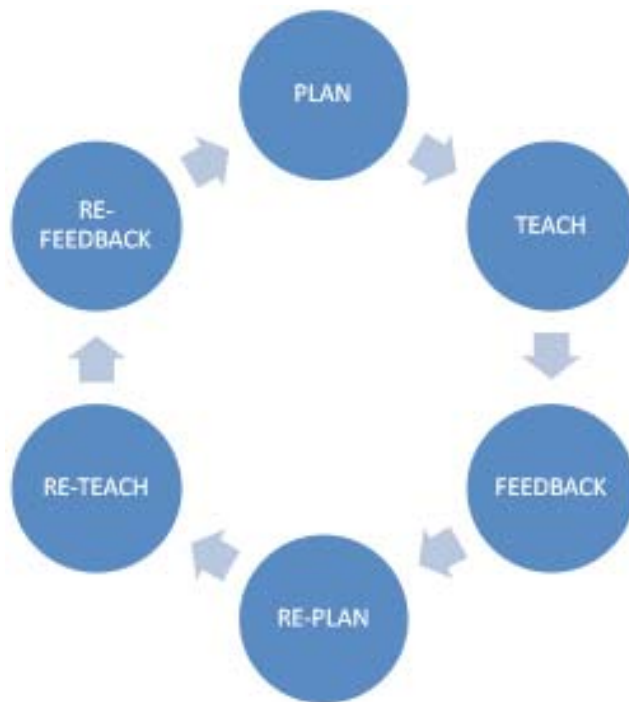
Schematic diagram of micro teaching

4.6 Merits or Utility of Micro Teaching:

Following are the points highlighting the merits or utilities of micro teaching-

i) **Minimizes complexity in teaching:** A teacher trainee may find it difficult at the beginning to encounter a big classroom with 40-50 students for a period of 40-45 minutes. Micro teaching simplifies this complexity by reducing the class size and class time.

ii) **Develops self confidence:** The scaled down teaching encounter may help the introvert or newly appointed teachers to overcome the difficulty ofmakingpsychological adjustments in the classroom which in turn helps in developing self confidence.

iii) **Understanding the skills required in teaching:** Micro teaching helps the teacher trainee in understanding the skills to be acquired through training such as verbal deliberation, use of the blackboard, asking questions, giving illustration, use of teaching aids, etc. in the classroom.

iv) **Feedback mechanism:** In this method feedback is very effectively used. The observers and the teacher educators provide necessary suggestions.

v) **Behaviourmodification: The** immediate feedback mechanism leads to correction or modification of behaviour.Re-planning, re-teaching and re-feedback may lead to improvement in the trainees'behaviour.

vi) **Improving quality of teaching:** Quality improvement in teaching is given high importance at present. In this regard, micro teaching is said to be the real teaching method leading to desiredmodification of teacher behaviour.

vii) **Research tool:** To study the teacher behaviour of the trainees this method may be used as a very effective research tool. Class-room demonstration may provide the objective data onthe teacher'sbehavior.

4.7 Demerits or Limitations of Micro Teaching:

The demerits or limitations of micro teaching are:

i) In the absence of well-trained, experienced teacher educators, micro teaching method can be a big problem.

ii) The method itself is very time consuming with the participation of a large number of teacher-trainees.

iii) The teacher's own creativity in teaching is not given any scope in this method.

iv) Teaching, when broken into small parts, may lose meaning and significance.

v) Teaching ability cannot be viewed as the sum total of a number of skills to be trained one by one.

vi) Teaching only 5 – 10 students for 5 – 10 minutes duration cannot representusual class-room teaching.

vii) In a micro teaching session, students donot get enough scope for interaction and communication because ofthe limited duration.

viii) The method itself is costly and time consuming. Use of video recording, re-teaching, re-feedback, etc. make the method rathercomplicated.

4.8 Development of Teaching Skills:

Primarily, micro teaching aims at the development of teaching skills involved in the task of teaching. The different skills involved in the task of teaching includespecific component behaviours and thus need special training.The processes of developing different teaching skills is discussed below:

A. Skill of introducing the lesson:

This skill may be defined as, "proficiency in the use of verbal and non-verbal behaviour, teaching aids and appropriate device for making the pupils realise the need of studying the lesson by establishing cognition and affective rapport with them". The following component behaviours are involved in this skill-

i) Teacher-trainee is able to utilize the previous knowledge and experience of the students.

ii) To maintain continuity of information and ideas in the introduction of the lesson.

Let us discuss the above two components in detail-

i) Utilisation of previous knowledge: Knowledge or experience acquired through formal or informal education, direct or indirect experiences or previous knowledge is the basis of new learning. One cannot teach in a vacuum. Thus, a teacher has to acquire the art of utilising the previous knowledge of the students.

ii) Use of appropriate devices or techniques:A teacher must acquire the ability to use appropriate devices or techniques while introducing a lesson. Questioning, narration, story telling, audio-visual aids, demonstration or experimentation, dramatization or role playing, excursions, etc. can be used by the teacher while introducing a new lesson.

iii) Maintenance of continuity: The continuity of ideas or information is essential for a proper introduction of a new idea.The main parts of the introduction should be logically sequenced.

iv) Relevancy of verbal or non-verbal behaviour: A teacher should try to observe relevancy in his/her verbal or non-verbal behaviour. What is to be stated, asked, demonstrated, dramatised or illustrated should contribute towards the introduction of the lesson in some of the following ways-

- Testing of previous knowledge

- Utilization of past experiences
- Establishing cognitive and affective rapport with the pupils
- Making the pupil feel the need of studying the lesson
- Highlighting the aims of the lesson

B. Skill of probing questions:

The success of questioning lies in evoking the desired response from the students. However, questioning is considered to be a major device in teaching-learning. The skill of probing questions may be defined as, "an art of response management comprising a set of behaviours or techniques for going deep into pupils' responses with a view to elicit the desired responses".

The skill of probing questions consists of the following component behaviours or techniques**:**

a) Prompting

b) Seeking further information

c) Refocusing

d) Redirection and

e) Increasing critical awareness

These components are discussed in detail below:

a) Prompting: In teaching-learning situation prompting refers to the cues or hints provided by the teacher through well framed question to a pupil for arriving at the desired response (and avoid undesirable situations like no response, or incorrect, partially correct or incomplete responses.) Here, the teacher himself does not provide the answer to the question asked in the class-room but tries to manage the situation by offeringhints.

b) Seeking further information: In case of incomplete responses, this technique is applied. This is a technique of getting additional information from the responding pupil to reach the level of desired responses from the incomplete or partially correct responses.

c) Refocusing: This technique is usedto strengthen the correct response given by the pupil, Here, the teacher asks the responding pupils to relate their responses to something already studied by them or to consider the implications of their responses in a more complex context.

d) Redirection: In case of 'incomplete' or 'no response' situations, the technique of redirection is used. This technique helps the teacher in the task of probing by prompting or seeking further information from several pupils.

e) Increasing critical awareness: This technique is used in case of 'correct response' to increase the critical awareness in the pupil. The teacher asks the pupil to make proper assumptions or provide justification for the correct responses to increase the critical awareness in the pupil.

C. Skill of illustrating with examples:

Many a time, the teacher finds it difficult to make the students understand abstract ideas, concept, principles, theories, etc. In such situations the teacher may resort to some other processes in addition to lecture or description. Some of the processes are-

1. The teacher tries to illustrate the abstract ideas, concept, principle, theories, etc. by citing suitable example at the beginning.

2. The teacher repeats the process of illustration by putting forward various other related examples.

3. The teacher asks the students to give examples related to the concept to verify whether the students have understood the concept or not.

The technique of illustrating with examples may be done by providing analogy, telling a story or an incident, showing objects, models, pictures, diagrams, maps, charts, demonstrating experiments based on the pupils' experiences, etc.

Thus, the skill of illustrating with examples is the art of judicious selection and proper presentation of suitable examples in order to clarify a concept, idea, principle or theory. The main components of these skills may be outlined below-

1. Formulating relevant examples

2. Formulating simple examples

3. Formulating interesting examples

4. Using appropriate media for examples, and

5. Making use of inductive-deductive approach

D. The skill of narration:

Narration is an artistic skill that needs to be cultivated by a teacher for professional efficiency. It involves storytelling or giving accounts of events

verbally. Its purpose is to present a clear, vivid and lively visual picture in the mind of the listener about an event that needs to be retained. Narration should help to re-construct the details of an event through the use of auditory images in mind. To serve this purpose the teacher should have the skill of using the art of spoken language in a naturally lively and spontaneous way. The specific art of speaking is very much needed here. It involves the use of visual image transformed into spoken language in the form of pictorial word image with artistic skill of delivery.

The skill of narration requires the following specific abilities-

1. Ability of forming and keeping clear mental images in mind.

2. Ability of reviving the image without any distortion.

3. Ability of using appropriate language in giving expression to visual images in mind.

4. Simplicity and spontaneity of verbal expression.

5. Artistic and somewhat dramatic style of expression.

E. Skill of using the blackboard:

Although the modern education system is influenced by technological advancements, the benefits of using the blackboard and chalk need to be kept in mind. Teaching skills even today essentially include the skill of the teacher in using the blackboard. A school must have blackboards even if other sophisticated teaching aids are not available. The blackboard can yield maximum output of teaching. The use of blackboard makes the teacher and the students equally alive and active in their respective roles.

In order to make effective educative use of the blackboard, the teacher should take the following points into consideration:

1. It should be used by the teacher to arouse the students' attention.

2. The teacher should pinpoint the major points and summary in the blackboard.

3. Training in good handwriting and correction of spelling mistakes should be attempted through the use of the blackboard.

4. To serve the purpose of stimulus variation in teaching, the teacher may make use of the blackboard.

5. Students with hearing impairment may be helped partially by using the blackboard.

6. The teacher may avoidthe monotony of verbal instruction and make teaching more flexible through the use of the blackboard.

7. While using the blackboard it should be taken into consideration that it should be placed in a place which is easily visible from different corners of the room.

8. The teacher should not turn his back after writing on the blackboard but should stand on the side and use a pointer.

9. There should not be any reflection of light coming from outside on the blackboard.

10. Students should be allowed to use the blackboard for their learning and recapitulation in the appropriate situation.

F. Skill of class-room management:

Environmental conditions play a major role in increasing efficiency in teaching-learning activities. The class-room situation is under the complete control and management of the teacher. He may select, organise, manage and control the class-room environment as per necessity. Thus, the organization and utilization of the class-room condition or situation is an important skill that needs to be cultivated by the teacher. The skill of class-room management includes the techniques of effective and improved management of the psychophysical situation that may yield favourable outcome in teaching-learning. The success orfailure of the modern teaching-learning activity is largely dependent on the acquisition of this skill by the teacher. This skill of class-room management is characterized by the following points-

1. Proper management of time and resources by the teacher.

2. To make teaching and learning purposeful.

3. Impartiality of attitude and behaviour on the part of the teacher towards his students.

4. Use of reinforcement forthe attentive students.

5. Importance should be given on creating democratic environment in the class-room.

6. The teacher should remain alert at all times.

7. The teacher should pay attention even to the back-benchers.

8. The teacher must keep patience while dealing with the students.

9. When needed the teacher should issue verbal reminders to all the students as a whole in order to deal with the problem students.

10. As a final step, the teacher should tell the problem students directly either to comply with the teacher's suggestions or to suffer the consequences.

G. The skill of reinforcement

Learning depends on the art of reinforcement by using reward and punishment. Reward acts as a positive reinforcement and punishment as a negative reinforcement in the learning situation. Therefore, the teacher should acquire the skill of using reinforcement both positively and negatively in order to modify students' behaviour.

Positive and negative reinforcement may again be sub-divided into verbal and non-verbal. Positive verbal reinforcement may be used by giving favourable comments like 'good', 'excellent', 'correct', etc. Positive non-verbal reactions may be made by 'nodding' or 'smiling'.

Similarly, negative verbal reinforcement may be used by making comments like *'no'; 'not good'; 'poor'*, etc. Negative non-verbal reactions may include frowning or expressing annoyance or dissatisfaction by the teacher.

H. Integration of teaching skills:

Integration of teaching skills means bringing about a synthesis or harmony among various specific skills being dealt with by micro teaching. Teaching cannot be perceived in terms of separate skills taken into consideration in isolation. It is an organized and integrated activity involving a variety of skills.

In order to integrate different teaching skills, the following steps may be taken-

1. The theory and practice of teaching should be combined.

2. The teacher-educator should give demonstration of the lesson as a whole in the class-room.

3. After the micro teaching session, the teacher-trainee should be asked to conduct the class as a whole.

4. The concept of integrated teaching skills should be clearly explained and its need should be emphasized.

4.9 Meamingof Simulation :

In the dictionary meaning, simulation stands for 'act or process of pretending or role playing'. It is a kind of assumption or imitation of a particular appearanceor form. When a child puts abeard or moustaches on his face, it is said to simulate. Simulation as a task involves both role playing and problem solving, and may be defined as, "a process of learning and training technique that aimsto increase the potential of one's own problem solving behaviour through role playing".

4.10 Use of Simulation in Teaching–Learning Process:

Use of simulation as a learning or training technique is as primitive as the creation of life on earth. Not only human beings but all animals and birds have been using this technique to train themselves as well as their youngsters to face the real life problems. Its use is only gathering momentum day by day, and it is now recommended for every type of training in all walks of life such as-

a) Soldiers may be engaged in simulating war strategies or mock fighting for acquiring essential knowledge, experience, skills and attitude needed in an actual fighting situation.

b) Pilots, navigators and drivers may be given all types of necessary experiences needed for flying or driving through simulation on models under controlled conditions.

c) An operator, an actor, a salesman and a lawyer may be trained through techniques involvingsimulation.

d) Engineering students and other technical persons may also be trained with the help of such techniques

e) Doctors and other medical personnel may be trained with the help ofthis technique.

f) Teachers of all categories may be trained through simulation by making use of a mechanism known as simulated teaching before allowing them to teach their students in real teaching-learning situations.

g) Simulation may be used in the teaching or training of children at all levels through role playing in a particular project, mock play, drama,

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etc. Children may learn many things connected with their formal or informal education.

Thus, we can say that simulation technique is applicable and useful for alltypes of learners and trainees at all levels of training and learning.

4.11 Simulated Social Skill Training (SSST) or Simulated Teaching:

Literally, SSST or simulated teaching means the teaching performed or training received through simulation. Here, simulation technique is used in the field of education. Thus, it is a learning or training technique for helping the learner to bring desirable changes in his behaviour through some systematic and organised learning experiences in artificial learning conditions.

4.12 Importance and use of Simulation in Training of Teachers:

The belief that teachers are born and one who has good knowledge of his subject can teach well without going through any prescribed course of teachers' training does not hold much ground. Teaching is considered as a serious activity and a highly specialised and technical job that needs proper preparation, training and sufficient practice in the form of acquiring necessary knowledge, skills, interests and attitudes. Teacher training courses at all levels cater to this need. Apart from imparting theoretical knowledge, there is a provision for practical experiences forthe student teacher in the form of demonstration lessons, discussion lessons and practice teaching.

In demonstration lessons, the teacher educators demonstrate the art of teaching before the trainees.This involves exhibition of models of teaching before the trainees.In discussion lessons, the teacher trainees try to teach on the lines demonstrated by their teachers. These sessions help to improve the performance of individual student teachers who actually engage in role playing before their teachers and fellow teacher trainees. Demonstration and discussion lessons constitute the basic preparation of the trainees before they are sentto various schools for practisingtheir teaching skills.

Generally, demonstration lessons, discussion lessons and practice teaching related to teacher training programmes suffer from the following limitations or drawbacks-

1. Dependence on school

2. Injustice to the school children in the name of training

3. Insufficient provision of training

As a remedy to the above mentioned drawbacks, some appropriate alternative arrangement to train the student teacher under laboratory like or controlled condition is needed. In this regard simulated teaching may be used as most suitable technique for training of teachers. This arrangement can be compared with the provision made for the professional preparation of the compounders, nurses and doctors. No doctor is allowed to operate a living human being before experimenting upon some non-living or animal objects. In the same way, student teachers must not be directly allowed to use the school children for practising their teaching skills and modify their teaching behaviour. The student teacher must first acquire the necessary teaching experiences through simulated teaching.

4.13 Mechanism of SSST or Simulated Teaching:

The mechanism of SSST or simulated teaching revolves round the role playing and problem solving behaviour of the teacher, pupil and observer under the supervision of a trainer within the environment of the training institute and the student teachers are required to play the role of teacher, pupils and supervisors one by one within their limited groups for a limited time on a specific topic in order to learn or practise particular teaching behaviours or teaching skills. Everybody needs to understandhis or herduties and performthemsincerely and in a cooperative manner. The role playing activities are performed in a desirable social environment. That is why the simulated training received in such a cooperative and social environment is referred to as Simulated Social Skill Training or SSST. The specific steps or procedures involved in such training may be summarized as below:

1. Orientation: Inthe beginning, the student teachers should be given necessary theoretical background for the adoption of simulated teaching by bringing into light the following important aspects-

a) Concept of simulation

b) Use of simulation as a training technique

c) Concept of simulated teaching

d) Significance and rational of using simulated teaching for their training

e) The mechanism and procedures followed in its use

f) The role of student teacher in simulated teaching

g) Requirements and setting for adopting simulated teaching technique.

2. Selection of the theme for teaching: What is to be practised through simulated teaching should be decided well in time. The topic and the method or technique used should be planned in advance.

3. Demonstration: The teacher educator should try to give demonstration of good teaching for the practice of the skill selected, topic to be dealt with and the methodology to be employed by the student teacher.

4. Formation of groups: The student teachers are divided into specific groups based on their teaching subjects, teaching skills practised, methods and techniques used, their total number and their ability and interest, etc.

5. Assignment of roles: Role playing is required in simulated teaching. There are three different roles- teacher, pupil and observer that are to be played by every pupil teacher in his group. It is always remembered that irrespective of the order, everyone has to play all the three roles at one time or the other in the overall process of simulation.

6. Planning: Teaching in every aspect is planned now. At present, the teacher trainee is helped in selection of a suitable topic of his interest in view of the skill to be practised. He is further helped in preparing mini or micro lesson plans. The trainees who play the role of the pupils are also helped in deciding and planning for the role of pupils. The anticipated class room interaction is also planned with respect to the role of the trainees as observers. The procedure and technique of observation is also decided and planned in advance.

7. Execution of the first practice session: The student teachers who are to play the role of the teachers are asked to deliver their lessons one by one to their peers who play the role of pupils. Those who are playing the role of observers or supervisors engage themselves in noting down all the good and weak points of teaching concerning class room interaction, teacher behaviour, contents taught, skills practised and methodology used, etc. To provide feed-back for modification and improvement after delivering the lesson, free and frank discussions are held.

8. Follow-up during subsequent practice sessions: All student teachers in the group are given full opportunity to practise their teaching skills, to modify their teacher behaviours and acquire an overall art of teaching with the help of their fellow student teachers under the guidance of the teacher educator. Gradually, the roles of the student teachers are also altered to provide opportunity for playing different roles.

The steps mentioned above need not be followed rigidly in carrying out the task of simulated teaching. One is free to adopt his own system and procedure as found most workable in one's circumstances.

4.14 Summing Up

Micro teaching is a small form of teaching practice meant for teacher-trainees. It is a scaled down, clinically controlled teaching programme in a simplified environment to develop specific teaching skills.The steps followed in micro teaching are explaining the skill, demonstration, preparation of the lesson-plan, teaching encounter, feedback, re-planning, re-teaching, re-feedback.Micro teaching helps in developingself confidence, understanding skills in teaching,feedback mechanism etc.It suffers from some demerits like absence of trained teachers, being expensive etc. some of the skills of micro teaching are the skill of introducing lesson, skill of probing questions, skill of narration, illustration, use of black board etc.

In the dictionary meaning, simulation stands for 'act or process of pretending or role playing'.simulation as a task involves both role playing and problem solving and thus may be defined as "a process of learning and training technique that is aimed to increase the potential of one's own problem solving behaviour through role playing".Literally, SSST or simulated teaching means the teaching performed or training received through simulation. Here, simulation technique is used in the field of education. Thus, it is learning or training technique for helping the learner to bring desirable changes in his behaviour through some systematic and organised learning experiences in artificial learning conditions.

The mechanism of SSST or simulated teaching revolves round the role playing and problem solving behaviour of the teacher, pupil and observer under the supervision of a trainer within the environment of the training institute and the student teachers are required to play the role of teacher, pupils and supervisors one by one within their limited groups for a limited

time on a specific topic in order to learn or practise particular teaching behaviours or teaching skills.The steps involved are orientation, selection of the theme for teaching, demonstration, formation of groups, assignment of roles, planning, execution of the first practice session, and follow-up during subsequent practice sessions.

4.15 Check Your Progress

Q1. Define Micro teaching. Discuss the teaching procedure of Micro-teaching.

Q2. What is simulation? Explain the mechanism of simulating teaching.

4.16 Discussing the Answers:

Answer1. Refer to Definition of micro teaching and organizational procedure in micro teaching of the study material

Answer 2. Refer to meaning of simulation andmechanism of SSST or simulated teaching the study material

4.17 Self Assessing Questions(SAQ)

Q1 "In spite of the fact that micro-teaching is a powerful training technique; it is not widely used in India." Explain this statement and discuss the validity of the merits and limitations of micro-teaching over traditional student teaching programmes.

Q2. What is simulated social skill training or simulated teaching? Describe how this technique can be used in the field of education.

4.18 References & Suggested Readings

Aggarwal J.C : Essentials of Educational Technology; Teaching,Learning, Innovation in Education; Vikas Publishing House PvtLtd;2006(second edition)

Aggarwal J.C: Principles, Methods and Techniques of Teaching; Vikas Publishing House PvtLtd;2013(second revised edition)

Mangal, Dr. S. K: Foundation of Educational Technology, Tandon Publication,Ludhiana, 2001

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Unit V
Lesson Plan

Contents:

5.0 Introduction

Planning is the essential feature of all forms of human activity. A lesson plan is the plan of action for a teacher's work in the classroom. It represents practical philosophy of his thought and action to be accomplished in his act of teaching. It points out to students what has already been done, what they should learn in the next, and what results are to be obtained. The lesson plan is the simple statement of the aims and objectives of learning, the means and methods to be adopted for that and the outcome or attainment of learning to be derived. It provides a clear line of action to the teacher for use of his specific skill, intelligence and ability inherent in his personality. There are different types of lesson planning according to the types of lessons -

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knowledge lesson, skill lesson and appreciation lesson. In fact for teaching different subjects, the teacher can make use of different methods of teaching.

In this chapter you will know about the concept of lesson plan and its importance in teaching learning process. You will also understand about the essentials of a good lesson plan and different methods of teaching different subjects.

5.1 Objectives

After going through the unit you will be able to know about-

- *lesson* plan and its meaning
- *definition* of the lesson plan
- *importance* of a good lesson plan
- *essentials* of a good lesson plan
- *skill* lesson plan
- *knowledge* lesson plan
- *appreciation* lesson plan
- *methods* of teaching different subjects - Language, Mathematics, General Science and Social Studies
- *format* of a lesson plan

5.2 Lesson Plan-it's Meaning:

A lesson plan is based on the operational philosophy of the teacher and reflects a teacher's understanding of his students. It also illustrates a teacher's knowledge of the material to be taught and the teaching methods. A lesson plan may be considered as the blue print and a guide map for action of the teacher. It is a comprehensive chart of classroom teaching-learning activities. It is the systematic approach for the teaching of concepts, skills and attitudes etc. It is an emotional and intellectual visualization of the teacher regarding classroom experiences.

Lesson planning means the planning of a daily lesson related with a particular unit of a subject to be covered by the teacher in a specific school period for the realization of some stipulated instructional objectives. It is sort of theoretical chalking out of the details of the journey which a teacher is going to perform practically in the classroom along with his students.

Such preparation is done either at an intellectual level or written form. A lesson plan gives importance to broader objectives of the subject, defining specific objectives, organization of the relevant subject matter to be covered, method of presentation, teaching strategies, classroom management and evaluation. In a nutshell, it is the blue print of the entire teaching process.

Since teaching is an act of spontaneous self-expression of the teacher in the classroom, he should therefore use the plan as a guide to teaching and not as a mechanical and blind follower of it. In this connection, R. L. Stevenson aptly remarked, "To every teacher, I would say, always plan out your lesson before-hand but do not be slave to it." The plan should be used to make a teacher's work more organised, systematic, lively and disciplined.

5.3 Definition of a lesson plan:

➢ N.L Bossing has given a comprehensive definition of a lesson plan, "Lesson plan is the title given to a statement of the achievement to be realized and have the specific meaning by which these are to be attained as a result of the activities engaged during the period of teaching."

➢ Bining and Bining said, "Daily lesson planning involves defining the objectives, selecting and arranging the subject-matter and determining the method and procedure."

➢ Lester B. Sands remarked, "A lesson plan is actually a plan of action. It therefore, includes the working philosophy of the teacher."

STOP TO CONSIDER :

The origin of lesson plan is from Gestalt psychology. In this psychology of learning, the whole is perceived by a part. The unit plays a significant role in learning because the learners take help of the part to learn the whole concept or idea. This theory thus give birth to the concept of '*Unit Plan'*

5.4 Importance of a Good Lesson Plan:

So far we have discussed the meaning of a lesson plan, now it is necessary to understand the importance of lesson plan.

The success of a teacher lies in a well prepared lesson plan. It helps the teacher in accomplishing the teaching goals and getting desired result. The task of lesson planning helps him immensely in the whole process of teaching. The importance of a good lesson plan is discussed below:

i. **Delimit the field of work**: A lesson plan delimits a teacher's field of work by specifying the objectives of his classroom teaching for a particular unit related to the subject taught by him on a particular day and period.

ii. **Well defined objectives:** The objectives of the lesson is pre-determined and well defined which helps the teacher to make wise and appropriate selection in respect of the contents, its organization, method of presentation and evaluation. Thus the whole teaching task becomes well planned and systematic with the help of lesson planning.

iii. **Realization of well defined objectives:** Lesson plan proves to be of great help to the teacher to use and practice essential components of behaviour and skills of teaching in realization of educational objectives.

iv. **Prevent wastage of time and energy:** Lesson planning prevents wastage of time and energy. It brings economy in teaching-learning through proper organization and systematization. It helps the teachers and the students to be in the right track and prevent in going the wrong way.

v. **Based on the principle of integration and correlation:** Lesson planning is based on the principle of integration and correlation. The teacher with the help of lesson planning tries to link new knowledge of the subject with the previous knowledge acquired by the students. The lesson plan links the lesson with the knowledge of other related subjects or socio-physical environment of the students. It also tries to establish the link between theory and practical application.

vi. **Suitable strategies for teaching:** Lesson planning helps to select the suitable strategies for the presentation of the selected contents and accordingly plan before-hand for the proper use of audio-visual aid.

vii. **Solution to classroom problems:** Lesson planning helps in looking for appropriate cooperation from the students for the successful realization of the teaching objectives. It further suggests solutions for various classroom problems.

viii. **Make lesson interesting:** Lesson planning gives opportunities to the teacher to think out new ways and means of making the lesson interesting and to introduce thought-provoking questions.

ix. **Adequate provision for drill and practice:** Lesson planning proves to be of great importance for the teachers and the students by making new learning possible. New learning takes places with the help of drill work, practice and revision.

x. **Classroom learning according to abilities and competence:** Lesson planning assists the teacher in classroom learning according to their abilities and competence of his students according to their varying individual differences.

xi. **Develop teacher's competency and effectiveness:** Lesson plan helps a teacher in developing decision making power, teaching competency and teacher effectiveness. It builds up his confidence in his teaching abilities and makes him a successful teacher.

xii. **Effective evaluation:** Lesson planning helps in providing sufficient help to both the teachers as well as the students in evaluating the teaching-learning process

5.5 Essentials of a Good Lessson Plan:

As we have understood the importance of lesson plan for a teacher, now we will discuss the essential points the teacher must keep in mind for preparing a good lesson plan.

Lesson planning is considered a part and parcel of teaching for a teacher. It helps him/her at each and every stage of his teaching task and serves him as a reliable, friend, guide and servant. The essential of a good lesson plan are as follows:

i. **Written:** A lesson plan preferably should be written and should not remain only oral in nature. The written lesson plan helps in

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clarifying thoughts and concentration. It is however advisable to not rely upon the written notes excessively as it may lead to undermining the teacher's confidence.

ii. **Clear aims:** A good lesson plan must have its aims and objectives clearly written. The objectives should be clearly stated in general as well as in specific forms.

iii. **Linked with the previous knowledge:** The lesson plan should not be an isolated one. It should have its basis on the background of the class. A lesson plan should be associated with previous knowledge which will help the teacher to introduce a new body of knowledge.

iv. **Show techniques of teaching:** A good lesson plan should show the teaching techniques that will be used while teaching. It should clearly state the various steps of teaching that the teacher is going to take. They include how the lesson is to be presented, what method to be used and what question is to be asked to students.

v. **Illustrative aids:** A lesson plan must show the illustrative aids used in the teaching-learning process. The teacher should state in the lesson plan the justification of using particular illustrative aids. The teachings aids should be in accordance with the class and the age of the students. This helps in making the presentation more objective.

vi. **Adequate provision of interaction between teacher and pupils:** A good lesson plan must have adequate provision for the interaction between teachers and pupils. It should ensure the active cooperation and involvement of the students in the teaching-learning process.

vii. **Divided into units:** The lesson plan should be divided into small units. The units should be systematically organised so that they may be more convenient for teaching. However these units should work as part of the integrated whole of the lesson plan.

viii. **Provision for activity:** The plan should provide enough scope for students to be active. They should not remain as mere passive listeners but be active participators in the proceedings of the lesson.

ix. **Outline of the summary:** The lesson plan has to outline the summary of the whole lesson presented. The summary should be built up on the blackboard with active co-operation of the students.

x. **Students' assignment:** There should be provision for evaluation of teaching in the plan. For this purpose, some exercise in the form of recapitulatory questions or problems may be presented to students.

xi. **Teacher's self evaluation:** A good lesson plan should provide scope for self-criticism, self-evaluation and self correction with an open mind without complacency. He should put certain questions to himself about the plan in order to judge its effectiveness.

xii. **A means and not an end:** A lesson plan should be treated as a means or an aid to teaching and not an end to it. Teachers should not follow it slavishly and mechanically. The plan should act only as a guide to spontaneous teaching.

CHECK YOUR PROGRESS:

Q.1: What is a lesson plan? Explain the essentials of a good lesson plan?

....
....

Q.2: Elucidate the importance of a good lesson plan?

....
....

5.6 Skill Lesson Plan:

The skill lessons are designed to achieve the psychomotor learning objectives. It aims at forming and developing some kind of manual or other skill. The language is considered a skill subject because it includes three skills- reading, writing and speaking. This type of lesson plan is usually prepared in teaching language. The skill lessons are designed for teaching drawing, music, home science, agriculture, technical subjects and craft etc.

The importance of skill subjects in the scheme of education is gradually being recognized. In t Gandhiji's Basic Education System, learning of skills of different types is considered to be essential.

Steps in skill lesson:

a. **Preparation**: The students should be prepared to learn the new skill. They must be motivated as well as made to feel the necessity of the skill in their life. The preparation may take different forms. The students may be taken to art galleries and museums where craft work of some students may be exhibited. A model of some good work may be shown to the students. It would be helpful to show the room, the tools etc., to create a proper attitude for the work in the students.

b. **Statement of the Aim**: The students must be well aware of what they are going to learn, otherwise they will be groping in the dark and their co-operation will be half-hearted.

c. **Presentation and statement of rules**: The teacher should give a few instructions to the students so that they may properly watch and observe the demonstration given by him. Sometimes the students may handle the model for close observation. This stage consists largely of observing and listening on the part of the students. The teacher displays the skill in front of the pupil and explains it step by step.

d. **Practice:** The students will imitate what the teacher has demonstrated before them. This is the most important step and will also take a longer period. The teacher will not remain passive at this stage. He will supervise and guide the practice of each individual student.

e. **Correction:** It is a sort of re-presentation. The teacher will point out the defects and show the correct ways of performing the activity.

f. **Consolidation and refinement**: After the step of correction and re-presentation, the students will again practice the skill. This will help in improving the skill and acquire expertise knowledge of the skill.

5.7 Knowledge Lesson Plan:

Knowledge lesson plan is to provide the factual information regarding the content or subject matter. The knowledge, comprehension, application, analysis, and synthesis objectives may be achieved by using this type of lesson. The main emphasis is given on presentation of content.

The performances of the students are evaluated by their recall and recognition abilities of the content.

J. F Herbart and his followers developed a five steps approach to lesson planning. These steps are still used with some modification. The steps of knowledge lesson plan as put forwarded by Herbert and his followers are discussed below-

a. **Preparation**: This step is related to the preparation of the mind of the students so that they may receive new knowledge. Preparation includes the preparation of both the teacher and students. In this step, the will to learn is aroused to some extent and gradually through motivation it is reinforced to a high degree. The lesson may be started by asking question related to previous knowledge and showing picture or charts according to the situations. It is in this step that the statement of the lesson should be clearly and concisely announced to the students.

b. **Presentation:** The actual lesson is commenced in this step of teaching. The teacher should present the material wisely and judiciously. It should be divided into different units/sections if necessary. These materials should be well connected and should maintain a proper sequence. The teacher will take the help of teaching aids and teaching methods like explanation, illustration, exposition and demonstration etc.

c. **Association and comparison:** This step helps the learner to strengthen the acquisition of new knowledge. New knowledge presented to the learners is associated with previous knowledge. The students in this step try to associate the knowledge and compare it with the previously known/learned knowledge or facts. This helps them to associate the old knowledgs with the newly learned one which results in the students learning something new.

d. **Generalization**: This step is concerned with the systematization of knowledge. After knowing a new fact, comparing it with the previous knowledge , the students generalize the facts and information. The teacher's role in this step is to see the students generalize the facts and draw out the conclusion. The conclusion should be the result of the students' own thinking, reflection and experience.

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e. **Application:** The knowledge acquired is of no importance if it is not put to use. Knowledge when it is put to use and verified becomes clear and a part and parcel of the mental make-up. This application also helps in revision as well as recapitulation. The application can be done in various forms: solving problems, drawing charts, making models, writing essay, doing some practical work etc.

STOP TO CONSIDER :

J.F Herbart initially propounded four steps of knowledge lesson plan–

   a. Clearness

   b. Association

   c. System

   d. Method

This steps were further changed into-

   a. Clearness to Preparation

   b. Association to Presentation

   c. System to Abstract(comparison and generalization)

   d. Method to Application

5.8 Appreciation Lesson Plan

Appreciation lesson is not concerned with the acquisition of knowledge or skill. It is concerned with the emotional aspects of the children. Appreciation lesson aims at enabling the children to appreciate and enjoy beauty through form, colour or sound. The appreciation lessons are prepared for developing attitudes, feelings and values among students. The teachers are full of enthusiasm in their determination to awaken and develop their students' love of the beauty in literature, music, pictorial art and craftsmanship. In the words of Ryburn, "Appreciation lesson should be a lesson conducted in the spirit of play, and therefore such lessons lend themselves to division into formal steps less than any other kind"

Steps in appreciation skill:

a. **Preparation:** Physical environment should be used to help a suitable atmosphere. It should be free of any disturbance and commotion.

The teacher should properly attend to the physical conditions of the room: proper temperature, ventilation and interior decoration. The difficult words, phrases etc should be dealt with in a previous lesson. Explanation should not be mixed up with appreciation. For example, a poem on nature will be greatly appreciated if the lesson is taken up outside the class-room and among the trees and woods. Pictures may also be used as an introduction.

b. **Presentation:** In the presentation stage, the teacher should make use of every sort of device which will help in the development of the imagination of the students. The poem may be recited, the pictures may be shown and a piece of music may be presented to the students. In appreciation lesson, the whole lesson should be presented as a single unit. The teacher has to guide the students on how to appreciate the poem. He may give his own comments for appreciation and encourage them to give their own opinions.

c. **Practice and creation:** The students may re-read the poem, play the music or sing the song or chorus. The students are also encouraged to write their own play, poem, dialogue, and draw or paint scenery. This will help to develop their sense of appreciation in a more effective manner.

5.9 Methods of Teaching Different Subjects

The best curriculum and the most effective syllabus remain useless until the right method is used. Method is the means of reaching pre-determined ends. It is the most important link in the total teaching-learning process. It is the method that determines the quality of result. The teacher should be able to use any permutation and combination of methods, devices and techniques to make the subject interesting. It will also help the teacher to teach the subject effectively and to make learning easy.

The methods employed in teaching different subjects differ from each other. Each subject can be taught successfully with the use of proper method. The different methods used in different subjects are discussed below.

LANGUAGES: The methods employed to teach Languages are discussed below:

a) **The direct method:** The direct method is also known as the Oral or Natural Method. It is based on the active involvement of the students in both speaking and listening to new languages in realistic daily situation. The process consists of gradual acquisition of grammatical structure and vocabulary. The focus of this method is on good pronunciation and phonetic symbols before they see standard writing examples.

b) **Heuristic method:** The heuristic method is the method in which children discover and finds things for themselves. The word "Heuristic" is derived from a Greek word, Heuriskein" which means, "I discover" or "I find". The method aims at developing a scientific and critical attitude and spirit in the students. This method encourages the growth of the spirit of enquiry and research. In this method, the teacher tells minimal things and encourages the students to acquire knowledge through their own efforts. While teaching students about grammar, the students may collect a number of examples of a rule in grammar and then state the rule for themselves. Pictures may be shown wherever possible to develop the matter/content through questions.

c) **Grammar Translation Method:** This method focuses on the translation of the texts, grammar etc. In grammar-translation classes, students learn grammatical rules and then apply those rules by translating sentences between the foreign language and native language. More importance is laid on sentence formation than to their content.

MATHEMATICS: The methods employed to teach Mathematics are discussed below:

a) **Deduction method:** Deduction method is that where the pupils arrive at particular facts by applying previously established laws, conclusions, propositions or generalization. In other words, reasoning proceeds from the general to the particular. The teacher should teach and refer to the broad theory and principles about the content that has already been learnt. The new knowledge is linked to the old concept and the teacher provides new examples to analyse and generalize the concept. The students are provided with additional illustration and asked to identify the instances in which the

generalizations have been applied. A lower level deduction strategy of teaching is much more useful because the teacher presents the students with the entire content of what is to be learned in the final form.

b) **Induction method:** In induction teaching process, the thinking proceeds from specific to general. Inductive reasoning is a method of seeking relationships among phenomena which points towards the development of a principle or generalization to explain the observed relationships and is always hopeful for the establishment of a theory. Students use measurements, manipulators or constructive activities and patterns etc to discover relationship. They later formulate a law or rule about that relationship based on their observations, experiences, inferences and conclusion. For example, the students may be asked to draw a number of triangles. They are told to measure the three angles of the triangle and to find out their sum. They will find that the sum of the three angles will be 180°.

c) **Problem solving method:** The problem solving method is usually used in mathematics to train the students in the technique of discovery. It is used in developing effectiveness in intuitive thinking. In this instructional method the teacher and students attempt in a conscious, planned and purposeful manner to arrive at some explanation or solution to some mathematical problems. It is a difficulty that is clearly present and recognized by the thinker. In this method, the students are to form and appreciate the problem. Then they must collect relevant data, organise them and draw the conclusion. After drawing the conclusion, they need to test the conclusion. As for example, to find the height of surrounding hills and trees, trigonometry can be used by the students and later the findings can be tested.

d) **Project method:** The project method is one of the modern methods of teaching in which the school, curriculum and the contents of the studies are considered from the child's point of view. This method aims to bring practical experience into the classroom. The project gives the students an opportunity to work in a team environment and apply theory learned in the classroom. There are some parts of the curriculum in which children can work more independently. For

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example, building a physical model to prove the Pythagorean Theorem, constructing a kaleidoscope, investigating its history and the mathematics of symmetry etc

GENERAL SCIENCE: The methods employed to teach General Science are discussed below:

a) **Project method:** Project method is the most concrete of all types of activity methods. It provides learning experiences suited to individual differences. It is a form of concrete activity directed towards the learning of a significant skill or project. It is a wonderful approach to the learning of both theoretical and practical problems. The steps involved in a project method are: a) to provide a situation by the teachers b) the students then choose the project and plan it accordingly c) when the plan of the project is ready, the students evaluate the project against their own objectives. For example, germination of different beans at home.

b) **Lecture method:** Lecture method lays emphasis on the penetration of contents. The teacher is more active and students are passive, but he/she also uses question-answers to keep them attentive in the class. This method can be used to motivate the students by indicating the problems and thus arouse the curiosity of the students. It also clarifies the doubts and confusion of the pupils when used in an effective way. Through the lecture method, the teacher can very well guide the pupils by summarizing the main points of a unit or topic and indicate some of the significant details. It also helps the students to know the additional things related to the topic and content.

c) **Demonstration method:** Demonstration implies the presentation of a pre-arranged series of events or equipments to a group of students for their observation. This is most commonly used in science subjects. It can be used in giving information, knowledge and training. The teacher needs to plan all the activities relating to demonstration in great detail. This method needs to be arranged and broken down into small steps for effective and easy understanding of the students. The teacher should demonstrate the steps slowly and give verbal explanation for arousing interest in the students. If necessary, the teacher may repeat the steps. The demonstration method enables the students

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to acquire the knowledge in the first hand form. It helps in forming a close relationship between theory and practice and fosters creative thinking.

d) **Heuristic method**: The word "Heuristic" is derived from the Greek word, Heuriskein" which means, "I discover" or "I find". It is the method in which children discover and finds things for themselves. The method aims at developing a scientific and critical attitude and spirit in the students. This method encourages the growth of the spirit of enquiry and research. In this method, the teacher tells minimal things and encourages the students to acquire knowledge through their own efforts.

SOCIAL STUDIES: The methods employed to teach social studies are discussed below:

a) **Story telling method**: Story telling is one of the most important methods of teaching social science. Stories of great men and women, of early man, stories of rulers, kings, reformers, discoveries, saints, invention etc all need to be told in the form of stories. The teacher should make use of narration for telling stories. Narration should be made interesting with the use of catchy words and illustration such as metaphors and correlation with the verbal expression with which the children is similar. The teacher should tell the story in an orderly manner and highlight the important points. The stories should be full of actions and details. It should have clear description of places, persons and things. While narrating the stories, the teacher should keep in mind that the facts should never be distorted.

b) **Lecture method**: The lecture is the oldest procedure of teaching social studies for imparting authentic, systematic and effective information about some events and trends. The method is particularly used in secondary classes and above. This method can be used to motivate the students by indicting the significant persons, events and problems and thus arouse the curiosity of the students. It also clarifies the doubts and confusion of the pupils when used in an effective way. Through the lecture method the teacher can very well guide the pupils by summarizing the main point of a unit or topic and indicate some of the important and significant details. It also helps the students to know the additional things related to the

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topic and content. This method can be used to teach topics like world war, United Nations, International Peace and Cooperation, New Economic Order etc.

c) **Source method**: The source method is a widely used and accepted method of teaching social studies. According to this method, pupils are expected to build up historical, political, social and economic account with the help of available sources, documents, historical accounts, biographies, inscriptions, coins, religious and secular literature etc. The use of Source methods can provide immense help in teaching secondary students. The students should be encouraged to collect, examine and correlated the facts and even to compare and rationalize different conflicting account of characters. The interesting and useful extracts from the secondary source may be given to the students and they may be asked to write answers to some question on their basis. This method is particularly used for the gifted students which encourage critical thinking of the students.

d) **Question-Answer method:** This is another popular method of teaching social studies. The teacher puts the questions to the pupils and the answers given by the pupils are supplemented and elaborated by the teacher. By asking relevant questions, experiences in the memory of the students come to the surface and the familiar and known associations help in learning. The teacher also uses questions to motivate them and create a need for learning something new. This method is useful in teaching social studies as it ensures active participation of the pupils. This method can be supplemented by the teaching aids to sustain learning of the students.

CHECK YOUR PROGRESS:

Q.4: Describe the knowledge lesson plan and appreciation lesson plan?

....

....

Q.5: Discuss with illustrations, the methods of teaching social studies and mathematics?

....

....

5.10 Format of a Lesson Plan

A. Identification of Data

Name of the school: XYZ	Subject: Social Science
Class: V	Lesson: "The Earth in the Solar System"
Average age: 11+	Textbook: Samaj Bigyan
No of students:	Teacher: PQR
Duration: 45 minutes	

B. General objectives

i.   To build good democratic citizens

ii. To foster appreciation of the cultural heritage

iii. To develop social adjustment among the students

C. Teaching aids

General aids	Specific aids
i. Chalk	Chart showing the planets
ii. Blackboard	
iii. Duster	
iv. Pointer	

D. Introduction:

STEP	ASSUMED PREVIOUS KNOWLEDGE	TEACHER'S ACTIVITIES	PUPIL'S ACTIVITIES
I N T R O D U C T I O N	The teacher will try to test the previous knowledge of the pupils and create a conducive environment by motivating the pupils.	The teacher will enter the classroom with a smile. At first the teacher will arrange the class and will wish the students. Then the teacher will acquire their previous knowledge and create motivation by asking them questions- i. How many planets are there in the solar system? ii. In which planet we live? After acquiring the previous knowledge the teacher will announce the day's topic, **"The Earth in the Solar System"** and write it into the blackboard.	The pupils will wish the teacher and cooperate with him/her. They will listen and give answers asked by the teacher Ans (i): Eight Ans (ii): Earth The pupils will write the name of the topic in their notebooks and listen very carefully.

E. Presentation:

STEP	TEACHING POINT	SPECFIC OBJECTIVES	TEACHER'S ACTIVITIES	PUPILS' ACTIVITIES	EXPECTED LEARINING OUTCOME
P R E S E N T A T I O N	i. Solar system	To enable the pupils to know about the solar system	The teacher gives a detailed description about the solar system. The solar system is the sun and all objects that orbit around it For example, planets. Then the teacher asks- a. Name two planets?	The pupils will listen attentively and co-operate with the teacher. Ans: Earth and Jupiter	The pupils get the knowledge about the solar system.
	ii. Position of the Earth	To enable the pupils to know about the position of the earth in the solar system.	The teacher explains the position of the earth in the solar system with the help of charts. Then the teacher asks- b. What is the position number of the earth from the sun?	The pupils will listen attentively and cooperate with the teacher Ans: Third position	The pupils get the knowledge about the position of the earth in the solar system.

F. Closure:

5.11 Summing Up:

A lesson plan is the plan of action for the teachers' work in the classroom. It represents practical philosophy of his thoughts and actions which is to be accomplished in his act of teaching. It points out to students what has already been done, what they should learn in the next, and what result was to be obtained. The lesson plan is the simple statement of the aims and objectives of learning, the means and methods to be adopted for that and the outcome or attainment of learning to be derived.

In this connection, R. L. Stevenson aptly remark, "To every teacher, I would say, always plan out your lesson before-hand but do not be slave to it."

IMPORTANCE OF A GOOD LESSON PLAN:

The success of a teacher lies in a well prepared lesson plan. It helps the teacher in accomplishing the teaching goals and getting desired results. The task of lesson planning helps him immensely in the whole process of teaching.

ESSENTIALS OF A GOOD LESSON PLAN:

Lesson planning is considered a part and parcel of teaching for a teacher. It helps him at each and every stage of his teaching task and serves him as a reliable friend and guide.

SKILL LESSON PLAN:

The skill lessons are designed to achieve the psychomotor learning objectives. It aims at forming and developing some kind of manual or other skill. The skill lessons are designed in teaching drawing, music, home science, agriculture, technical subjects and craft etc.

The importance of skill subjects in the scheme of education is gradually being recognized. In Gandhiji's Basic Education system, learning of skills of different types is considered to be essential.

KNOWLEDGE LESSON PLAN:

Knowledge lesson plan is to provide the factual information regarding the content or subject matter. The knowledge, comprehension, application, analysis and synthesis objectives may be achieved by using this type of lesson. The main emphasis is given on presentation of content.

APPRECIATION LESSON PLAN

Appreciation lesson is not concerned with the acquisition of knowledge or skill. It is concerned with the emotional aspects of the children. Appreciation lesson aims at enabling the children to appreciate and enjoy beauty through form, colour or sound.

METHODS OF TEACHING DIFFERENT SUBJECTS

The teacher should be able to use any permutation and combination of methods, devices and techniques to make the subject interesting. It will also help the teacher to teach the subject effectively and to make learning easy.

The methods employed in teaching different subjects differ from each other. Each subject can be taught successfully with the use of proper method.

5.12 Discussing the Questions Related to Check Your Progress:

Answer 1: Refer to 'lesson plan and its meaning' and 'essentials of a good lesson plan' of the study material

Answer 2: Refer to 'Importance of a good lesson plan' of the study material

Answer 3: Refer to 'Knowledge lesson plan' and 'Appreciation lesson plan' of the study material

Answer 4: Refer to 'Methods of teaching different subjects' of the study material

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5.13 Self Assessment Questions (SAQ):

Q.1: Discuss the methods of teaching Science and language in secondary level stage?

Q.2: Define 'lesson planning' and discuss the prerequisites of a good lesson planning?

5.14 References & Suggested Readings:

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