

UNIT – III

APPROACHES OF TEACHING

Approaches of lesson planning – Steps - Organizing teaching: Memory Level (Herbartian model), Understanding model(Morrison teaching model),Reflective level(Bigge and Hunt teaching model)-Unit plan-Lesson plan writing

Introduction

Every work requires a plan of action for its perfect completion. In the same way teaching process also requires a systematic plan. A lesson plan represents a single teaching unit for a class period. The teacher should know the objectives of teaching. Designing test is very important part of assessing students understanding of course content and their level of competency in applying what they are learning.

1. Identification of definite objectives
2. Selection of appropriate content and activities
3. Selection of procedures and methods for presentation of the content
4. Selection of evaluation exercises and
5. Selection of follow up activities etc.

Approaches of Lesson Planning

A Lesson Plan as a teaching outline of the important points of a lesson arranged in the order in which they are to be presented; it may include objectives, questions to be asked, references to materials, evaluation, assignments, etc. Lesson planning is a product of short term or micro level planning involving:

Generally various approaches are used to make a lesson plan.

A brief description is provided:

1. Herbartian approach:

John Fredrik Herbart, a German philosopher and educationist (1776 -1841) advocated be asked, references to materials, evaluation, assignments, etc. Lesson planning is a product of short term or micro level planning involving:

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1. Herbartian approach:

John Fredrik Herbart, a German philosopher and educationist (1776 -1841)

Advocated pedagogy – based lesson planning. It is based on a perceptive mass theory of learning. All the knowledge and information is to be given from outside by the teacher because the student is considered similar to a clean slate. For the students, if an old knowledge makes a base for new knowledge (his previous knowledge or experiences), it may be acquired easily and retained for a longer

period. Herbart has given five steps: Introduction, Presentation, Organization, Comparison and evaluation. The main focus is on content presentation.

2. Unit Approach of Morrison:

It is based on unit transaction and planning. The Morrison's lesson plan of teaching is cyclic; Morrison has given five steps for his 'cycle phase' of teaching: Exploration, Presentation, Assimilation, Organization, and Recitation.

Exploration:

The teacher explores various methods and possibilities to motivate the students, to arouse the curiosity and to maintain the interest of the students. This is the preparation step where the teacher could plan for the success of the lesson.

Presentation:

This step is basically common to all the approaches of lesson planning which involves the selection and use of different methods to present the subject matter to the students.

Assimilation:

The third step involves intensive learning, and deep understanding of the subject matter that facilitate effective communication of the concepts.

Organization:

This is important step in unit approach to lesson planning as it determines the extent to which students are able to reproduce the material of the unit in writing without

May external help. The ability of the teacher to enable his students to reproduce the knowledge reflects the efficiency of the teacher.

Recitation:

Recitation in unit lesson planning means that an individual student is able to reproduce the same text orally on the completion of the lesson by a teacher.

LESSON PLAN

A lesson plan is **the teacher's guide for running a particular lesson**, and it includes the goal (what the students are supposed to learn), how the goal will be reached (the method, procedure) and a way of measuring how well the goal was reached (test, worksheet, homework etc.).

Levels of teaching

We all know that teaching is a purposeful activity. Through teaching the teacher brings a desirable change in the learner. Both the concepts teaching and learning are interrelated to each other. Development of all-round personality of the learner is the final goal of teaching and learning. During teaching an interaction takes place between an experienced person (teacher) and an inexperienced person (student). Here the main aim is to bring change in the behavior of the student.

Teachers teach students at three levels. They have to keep in mind about the developmental stage of the learners so that desired educational objectives can be achieved. These three levels are

1. Memory level: Thoughtless teaching
2. Understanding level: Thoughtful teaching
3. Reflective level: Upper thoughtful level

Memory level of teaching

It is the first and thoughtless level of teaching. The objective of teaching at this level is just to impart information to students. The learner is required to memorize the subject matter and get the information stored in long term memory .It is concerned with memory or mental ability that exists in all living beings. Teaching at memory level is considered to be the lowest level of teaching. At this level,

- • the thinking ability does not play any role.
- • students only cram the facts, information, formulas and laws that are taught to them.
- • the teaching is nothing but learning the subject matter by rote. [Bigge, Morris L (1967)]
- • The role of the teacher is prominent and that of the student is secondary.
- • The study material is organized and pre-planned. The teacher presents the study material in a sequential order.

Memory level teaching lacks insight. Psychologically, it is cognitive level teaching

Methods used

Teacher dominated methods are used like drill, review and revision and asking questions

Drill means repetition or practice for the purpose of attaining proficiency in memorizing the material

A review and revision is revising the elements to related them with new experience and to form a new association for the development of new skills or learning to solve new problems

Asking the question is to examine whether or not the knowledge level objectives of teaching have been achieved.

Role of teacher

- Dominating, active and authoritarian role
- He is the authority to instruct deliver direct control and evaluate the performances
- Take initiatives, present the subject matter, directs the learner to do the activity in desired manner, plan exercises
- Right from the selection of subject matter to its evaluation, the key process of teaching learning remains with the teacher

Role of Learner

- There is a passive role of the learner in the memory level.
- Passive learner or listener is desired to do as directed by the teacher.
 - Instructional material delivered by the teacher has to be memorized in a mechanical manner.

Model of MLT

This model was presented by Herbart. Like other two models this model is also based on the following four points:

I. Focus (Objectives)

II. Syntax (Methods and Strategies)

III. Social System (learning environment)

IV. Support system (Evaluation)

1. Focus: This level of teaching focuses on the following points

I. Cramming facts and principles by students and their proper retention.

II. Presenting the crammed materials when needed in written or oral form.

III. Presenting subject-matter to students like an autocrat.

2. Syntax: Herbart has divided the memory level of teaching into five categories. A teacher adopts these five steps one by one in order to create proper learning environment.

I. Preparation and statement of objectives: In the preparation stage, the teacher asks few questions in the class in order to check previous knowledge of students and arouse their curiosity. The teacher brings the students to the main topic gradually and when topic is clear to students, teacher repeats the topic orally and writes it on the blackboard.

II. Presentation: At this stage, the teacher presents new knowledge before his students on the basis of their previous knowledge in such a manner that a bond is established between new and old knowledge. The teacher keeps the following four points into his mind:

(a) The teacher does not deviate from the subject matter slightly.

(b) The type of knowledge which is to be given to students, is prepared by the teacher in advance, i.e., advance lesson planning is made

(c) The teacher gives such knowledge to his students that can be evaluated.

(d) At this stage the teacher tries to gather maximum information from his students.

III. Comparison and Association: At this stage the teacher associates different facts, events and subjects in such a manner that they can be easily compared with each other, e.g. giving the knowledge of antonyms and synonyms, comparing the similarities and dissimilarities of the life incidents and

characters of gentlemen-real or created ones. This makes the knowledge fixed into the minds of learners.

IV. Generalization: At this stage the teacher teaches how to develop new rules and principles on the basis of given facts and information, i.e., obtained knowledge is generalized in similar situations.

V. Application: In the last stage the learnt knowledge is applied in real life situations, i.e., use of words in sentences or making stories with the help of sentences etc.

The above stages given in the syntax show that memory level of teaching also needs abundant use of intellect and creativity. Mere cramming of facts or principles without understanding is not enough.

3. Social system: The social system of MLT is that teacher's behavior dominates over students' one. He enjoys full commands over his students. Almost no freedom is given to students to express themselves. Teacher gives them chance to take part in the lesson through the use of motivation techniques only, i.e., the freedom of student's lies of the teacher.

4. Support system: In MLT, whatever students have gained is tested using written or oral tests. Tests may be objective and essay type both. Exactness of the response from the side of students is important. Full marks are given to students only when he reproduces exactly what he is taught by his teacher.

Understanding level Understanding implies knowing the meanings of things and concepts, grasping ideas, interpreting some relationship comprehending the facts and inferring one thing from some other Understanding something is to perceive the meaning, grasp the idea and comprehend the meaning. In the field of Education and Psychology, the meaning of 'understanding' can be classified as • seeing the total use of facts • seeing relationship • a generalized insight the teaching at the understanding level is of a higher quality than the one at the memory level. It is more useful and thoughtful from the point of view of mental capabilities. At this level of teaching, the teacher explains the student about the relationship between principles and facts and teach them how these principles can be applied. Memory level teaching barrier is essential to be crossed for this level of teaching.

As compared to memory level teaching, the understanding level teaching has greater merit. This enables students to have complete command over subject material. In the understanding level role of the teacher is more active. The students at this level are second any. At this level, no cramming is encouraged. The new knowledge acquired at this level is related to the earlier knowledge gained. A generalization is made on the basis of facts and the facts are used in the new situations. At this level the learners are required to comprehend factual information to know the meaning of different concepts and their relationships and to apply facts concepts and principles. • It is

supported by the herbartian theory of appreciation which states that this is level of teaching which seeks the learner to acquaint himself with the relationship between the facts and principles • Here the mental development of the learner is at a higher level than memory level • His cognitive abilities are well developed • He can think ,reason out, imagine ,can present things logically ,can analyze and synthesize and can evaluate the relationship between the principles and the facts John Piaget stated that, learner at this stage needs to • Comprehend a large number of concepts, elements, facts principles, to know the relationship between the facts and principles and to make a generalization . Methods used • Lecture method • Lecture demonstration method

- Discussion method
- Inductive and deductive method
- Exemplification and explanation

Evaluation the teacher has to evaluate the ability to

- Comprehend
- Grasp
- Synthesize
- Generalize
- The insight to apply the generalized principles further so

• Besides asking questions for oral testing, written testing should be conducted

Role of teacher the teacher is a prominent figure not so authoritarian and dominating. Role of the learner the role of learner in understanding the level of teaching is not so passive, he may put questions to clarify his doubts.

Merits of the understanding level of teaching

1. At this level of teaching students to make use of their thinking abilities.
2. Knowledge acquired at this level forms the basis of the reflective level of teaching.
3. Here the teacher presents subject matter before the students in an organized and sequential form. The new knowledge acquired is related to the previously acquired knowledge.
4. Here the students do not learn by rote. Here they learn by understanding the facts and information and their use and purpose.

Demerits of the understanding level of teaching

1. It ignores higher cognitive abilities
2. Less emphasize on intrinsic motivation
3. No individualized learning
4. Teacher centered

Model of ULT

ULT model prepared by Morrison is given below. This model is basically based on unit approach of lesson planning.

1. Focus: Getting complete mastery over the subject-matter by the students is the focus of teaching here. The learning of students should be so perfect that students are not less than the teacher at least for the subject matter taught to them. Students clearly understand what they are being taught in the class.

2. Syntax: Syntax of the model is divided into five sub stages of teaching:

Exploration: Three activities are performed by the teacher here:

- He finds out the entering behavior of students by asking questions from them. The teacher especially sees whether memory level of teaching is complete or not.
- He analyses the content and divides it into different units. Then he arranges all these

Units in a logical sequence so that lesson can be understood easily.

- He selects different teaching strategies suitable to the presentation of each unit so that different units of the content may be presented by different strategies and techniques.

Presentation:

The teacher does the following three activities here:

- He presents the subject matter unit by unit and maintains the logical sequence in between these units.
- While presenting the units of the subject matter, he receives the feedback from his students whether each unit has been clearly understood or not.
- He recapitulates the subject matter till it is clearly understood by almost all the students of the class.

Assimilation:

This is the third stage of teaching. After presenting the subject-matter to students the teacher provides them opportunities for the assimilation of the acquired knowledge.

It requires the following activities on the part of the teacher

- The teacher provides the opportunities of generalization to his students through the process of assimilation. For example, after teaching a model problem to the students, he gives another problem of the same difficulty level to his students and asks questions from it.
- He takes the students to the depth of the subject matter by the process of assimilation, e.g., different methods of an extract are given for the purpose.
- He provides opportunities to each of his students to understand the content according to their respective leaning capacities.
- When students do self-study during the activity of assimilation, the teacher supervises them.
- After self-study, the teacher tests the students whether they have got mastery over the subject matter or not. If students have acquired the capacity of generalization, the assimilation process is said to be completed.

Organization: After assimilation, the students either enter organization stage or recitation as the nature of the subject-matter demands. In the organization stage, the students are expected to reproduce the subject-matter in his own language in written

form without taking help from anybody. If students are able to do so, the understanding level of teaching is said to be accomplished.

Recitation: If after assimilation subject-matter is to reproduce orally by the students instead of written form, it is called recitation. The teacher must be very careful in organizing the activities of recitation or organization; otherwise the students will reproduce the learnt material by cramming. The material reproduced in organization or recitation should be in the learner's own language not in the language of the text - book.

3. Social System: The teacher is more active in the class than the students at the time of exploration and presentation. This is necessary to control the behavior of students. During the process of assimilation both of them are equally active. After that learners are required to be more active than the teacher. Teacher motivates his students also during all these five stages of teaching. Thus, we see a fully democratic environment in the class.

4. Support System: Examination system constantly changes at this level of teaching. Sometimes written and sometimes oral tests are conducted and the tests may be objective and essay type

Both. Organizational ability of students and their expression is much emphasized here as compared to mere recognition or recall, hence, objective type tests are least applied.

Suggestions for improving ULT

- Following suggestions are given for the benefit of the teacher to improve understanding level of teaching:
- Students should not be brought to the understanding level without passing the memory level of teaching. If they do not know the fundamentals of a concept, teaching at this level will only be a waste of time.
- Children should be brought to different stages of teaching from exploration to recitation in a sequential order. It means that once the teacher has not accomplished the presentation stage, he should not take his students to the assimilation stage.
- Teacher should motivate his students the stages of teaching. Reinforcement techniques should be regularly applied to motivate the students.
- The teacher should take initiative himself to solve the individual problems of his students. It is because all learners cannot learn at equal speed. It requires that teacher should test his students at short intervals and change his accordingly.
- The teacher should have full command over the subject only then he can enable his students to comprehend the subject-matter to the desired extent.
- The teacher should raise the aspiration level of his students to develop as high as possible.
- The teacher should be able comprehensive questions from the textual matter. These questions will open new avenues learning.

- While evaluating the understanding power of his students, the teacher must be very careful so that answers are not supplied on the basis of memory.

Reflective level of teaching this level is also known as introspective level. This level of teaching is the highest level of teaching learning activity. Reflecting on something means giving careful thought to something over a period of time. It also means thinking deeply about something. Reflective level of teaching is considered to be the highest level at which teaching is carried out. • It is highly thoughtful and useful. • A student can attain this level only after going through memory level and understanding level. • Teaching at the reflective level enables the students to solve the real problems of life. • At this level, the student is made to face a real problematic situation. The student by understanding the situation and using his critical abilities succeeds in solving the problem. • At this level emphasis is laid on identifying the problem, defining it and finding a solution to it. The student's original thinking and creative-abilities develop at this level. • The role of the teacher in this level of teaching is democratic. He does not force knowledge on the students but develops in their talents and capabilities. • The role of the students is quite active. • Reflective level of teaching is that which is problem-centered and the student is busy in original imagination.

Morris L. Bigge defines reflection as, " careful, critical examination of an idea or supposed article of knowledge in the light of testing evidence which supports it and

the further conclusions towards which it points. Reflective level teaching does not depend upon the memorization, understanding of concepts and their application only; it demands the use of higher mental processes such as • Reasoning • Thinking • Analyzing concepts • Imagination • Ideas and thoughts • Other bodies of knowledge critically, finding out the facts. • Solve problems

Role of teacher

Role of teacher is not so dominating and authoritarian. He is responsible for the creation and maintenance of the democratic, dynamic atmosphere where the teaching learning activities can be carried out smoothly.

Methods used

- Problem solving method
- Investigating projects
- heuristic method
- Experimental method
- Inquiry oriented method

- Analytic method

Evaluation system

the evaluation system at the reflective level of teaching should test the higher order cognitive abilities like • reasoning • creativity • original thinking • problem solving • critical thinking etc.,

Merits of reflective level teaching

1. The teaching at this level is not teacher-centered or subject-centered, it is learner-centered.
2. There is an interaction between the teacher and the taught at the reflective level teaching.
3. At this level, teaching is appropriate for the higher class.
4. At this level, teaching is highly thoughtful and useful than the teaching at the memory or understanding level.
5. Provides maximum flexibility and self-motivation.

Demerits of reflective level teaching

1. Not suitable for small children at the lower level of teaching. It is suitable only for mentally matured children
2. At

this level, the study material is neither organized nor pre-planned. Therefore students cannot acquire systematic and organized knowledge of their study courses.

3. There is excess burden to the teacher.

Model of RLT

This model was prepared by Hunt. The summary of the model is given below.

1. Focus: The focus of the reflective level of teaching is to develop following abilities among learners.

I. To develop the ability of problem solving among students.

II. To develop creative and critical abilities among students.

III. To develop original and free thinking power of students.

2. Syntax: Syntax of the model is comprised of four stages of teaching.

(a) In the first step the teacher presents the problematic situation before his students.

(b) Students formulate the hypothesis after pondering over the problem seriously. In the example given above, they formulate one or two hypothesis on the basis of the consequences

(c) In the third step students apply reflective thinking and collect relevant data for testing the hypothesis.

(d) Hypothesis is tested in the last stage of teaching and conclusions are drawn. If reflective data do not support the hypotheses, they are rejected.

In medieval period greatly emphasized in the madrassa of Arabia, Turkey and Central Asia and Logic and philosophy were especially taught to students to develop reflective power.

RLT is different from problem solving method in the sense that in reflective level of teaching only imaginary problems are taken while problem solving method takes real problems of life to solve. The second difference is that former is a mental approach while later is a practical approach of teaching.

3. Social system: The learning environment is fully laissez faire at this level of teaching. The atmosphere of the class is so open and free that students can express themselves fully in the manner they like. Seminars and group discussions are also organized in the class for reaching the solution of the problem. Thus, we see that students are always more active in the class than the teacher. The task of the teacher is only to guide them.

4. Support System: Objective type questions are not asked at all for evaluating the achievement of learners at reflective level of teaching. Evaluation is done either through essay type tests or through discussion, seminars and speech competitions. The more the views of a student are logical and convincing, the more he is given marks.

Suggestions for improving RLT

A teacher should keep the following suggestive points in view in order to make this level of teaching a success:

1. After creating the problem to be solved, the teacher should not interfere the thinking process of students at all. Students should reach the results themselves.
2. A teacher should raise the aspiration level of students as high as possible. High aspiration level can only lead to high level of reflection.
3. The teacher himself should be creative and highly intelligent.
4. The teacher should extract only such problems for reflective thinking which have direct relevance to the career of students. It means that problems must be useful for students.
5. Hypothesis which is the tentative solution of the problem should be formulated by students with the help of the teacher. Such hypothesis should never be formulated whose testing is not possible by the collected data.
6. In the evaluation process, if the teacher involves the students also, it is far better. It will help the teacher to critically examine the views. It means that the achievement of a student is evaluated not by his teacher only but his class fellows also evaluate him and criticize his views. Then final marks are allotted by the teacher on the basis of the total assessment.

Lesson plan: It is a plan for particular period.

Steps in planning a lesson

1. Motivation

This is the first step. This step helps the teacher to find out the previous knowledge present in children. The psychological principle of going from known to unknown is the principle of this step. The motivation can be done by some demonstration or through the use of charts, pictures, and excursion or through effective conversation (5 minutes only).

2. Presentation

In this step the lesson is slowly introduced. Both the teacher and the students participate in this teaching learning process. Almost the whole lesson will be completed in this step. At each step teacher should test their knowledge by simple methods.

3. Comparison

After teaching particular concept the teacher has to compare this knowledge with set of other examples.

4. Generalisation

This step needs reflective thinking. The knowledge learnt in presentation is compared and associated. A general idea and conclusion is formed.

5. Application

This step involves transfer of learning. The students make use of acquired knowledge in the other situations. By applying it to new situation they get their knowledge widened in new dimension.

6. Recapitulation

This is the last step. The student's ability to understand and reproduce the subject matter is tested in this step.

7. Home assignment

The teacher has to give them homework at the end of this lesson.

Unit plan

It is a plan for the entire unit. According to presto “A unit is a large block of related subject matter as can be over viewed by the teacher”.

Steps in designing a unit plan

1. Preparation

The motivation should be natural and self-directed. Motivation is required not only in the beginning but throughout the lesson.

2. Knowing the previous experiences

Asking question related to the present content. It is essential to know about the background of the students.

3. Presentation

In this step some experiences are given to the students. These experiences may be direct.

4. Organisation and summarization

It is usually done at the closure of teaching unit to bring together all learning. This may also be done at intervals during the progress of the unit. Organization and summarization go together.

5. Review and drill

Some learning experiences require repetition which is called drill. Review and drill may be required at a number of places during the lesson.

6. Evaluation

It should be mainly self-evaluation. This may be in the form of oral or written.

Model Lesson Plan – Physical Science

Name of the School:

Student Teacher Name:

Standard: IX

Guide Teacher Name:

Unit: Measurement of Length

Date:

Topic: Measurements and measuring instruments

Duration: 45 minutes

Instructional Objectives: The Student

1. Defines the fundamental quantities and S.I. units.
2. Describes about meter scale.
3. Gives explanation of vernier caliper.
4. Draws a diagram of a vernier caliper.
5. Find out the Least Count of a vernier caliper.
6. Calculates accurately the length of an object for the given values.
7. Finds out error of a vernier caliper.

Instructional Resources Required

1. Vernier calipers.
2. Charts containing of the diagram of a vernier caliper and the diagram of the types of zero error.

Previous Knowledge of Learners

1. Identify and name of the objects shown to you.

Meter Scale and Measuring tape

2. What is the use of meter scale?

To measure the length

Content	Specification of behavioural outcomes	Learning Experiences	Evaluation

<p>Fundamental Quantities and SI units.</p>	<p>Defines</p> <p>Writes</p>	<p>The teacher defines some fundamental quantities and SI units.</p> <p>Students write SI units and fundamental quantities in their notebook.</p>	<p>Define S.I Units.</p>
<p>Uses of meter Scale.</p>	<p>Describes</p> <p>Measures</p>	<p>The teacher describes about the uses of meter scale.</p> <p>Students measure the length of a cloth by using meter scale.</p>	<p>Describe the uses of meter scale</p>
<p>Vernier caliper</p>	<p>Draws</p>	<p>The teacher draws a diagram of vernier Calliper</p> <div data-bbox="701 1129 1016 1264" data-label="Image"> </div> <p>Students draw a diagram of vernier caliper in their notebook</p>	<p>Draw a diagram of a vernier caliper</p>
<p>Parts of a vernier caliper. M-main scale, Vernier Scale, Pratchet.</p>	<p>Explains</p> <p>Discuss</p>	<p>The teacher explains about the parts of a vernier caliper.</p> <p>Students discuss among themselves about the parts of the vernier caliper.</p>	<p>Explain the parts of a vernier caliper</p>
<p>Least Count = 1 M.S.D- 1 V.S.D.</p>	<p>Explains</p>	<p>The teacher explains the least count of a vernier caliper by giving an example.</p>	<p>Define Least Count.</p>

<p>= 1mm-0.9mm = 0.1mm = 0.01cm</p>	<p>Calculates</p>	<p>Students calculate the least count in their notebook.</p>	
<p>Function of a vernier caliper</p>	<p>Demonstrates</p>	<p>The teacher demonstrates the experiment to find out the length of a cylinder by using vernier caliper.</p> <p>Students observe the experiment and they do it themselves.</p>	<p>Give the formula used for calculating the length of an object</p>
<p>Zero error and Its two types.</p>	<p>Explains Measures</p>	<p>The teacher explains about zero error and its two types i.e., positive error and negative error.</p> <p>By using vernier caliper, the students measure zero error, positive error and negative error for a cylinder</p>	<p>Define Zero error</p>

Home assignment

1. Draw a diagram of vernier caliper.
2. Find out diameter of a cylinder by using vernier caliper.

Signature of the Guide

Signature of the Student Teacher