UNIT – II
TEACHING SKILLS

2.1 Introduction

A teacher makes use of a number of methods of teaching to bring about effective learning. The techniques include. Motivating the students, explaining, questioning, writing on the blackboard, non-verbal cues and so on. These groups of activities are called skills.

The concept underlying micro- teaching, assumes that teaching consists of various skills. Practice-teaching becomes effective only on acquisition of specific skills. All these teaching skills which go to make good teaching can be defined, observed, measured and controlled by means of practice. Micro- teaching is now accepted as an efficient instrument of teacher training. It provides a controlled setting for making various experiments in teaching methods. It has the advantage of providing self-evaluation of one's performance. It allows the teacher trainee to practice any one skill on his/her own, and then combine it with others when it has been mastered.

2.2 Concept of Microteaching

Micro teaching is a teacher training and faculty development technique whereby the teacher reviews a recording of a teaching session, in order to get constructive feedback from peers and / or students about what has worked and what improvements can be made their teaching technique. Teaching a small unit of content to the small group of students (5 – 10 number) in a small amount of time (5 – 10 min.) is called micro teaching. It can be applied at the pre – service and in – service stages in the professional development of teachers. It provides teacher with a practice setting for instruction in which the normal complexities of class – room are reduced and in which the teacher receives a great deal of feedback on his performance. Thus, it helps a teacher trainee to master the teaching skill.

2.3 Definition of Microteaching

Microteaching has been defined in several ways **Allen, D.W (1966)** defined microteaching as "a scaled down teaching encounter in class size and class time".

Allen D.W and Eve, A.N. (1968) defined microteaching as "a system of controlled practice that makes it possible to concentrate on specific teaching behaviour and to practice teaching under controlled conditions"

Buch, M.B (1968) has given a comprehensive definition of microteaching as a "teacher education technique which allows teachers to apply clearly defined teaching skills to carefully prepared lessons in planned series of 5 to 10 minutes. It encounters with a small group of real students, often with an opportunity to observe the results on videotape".
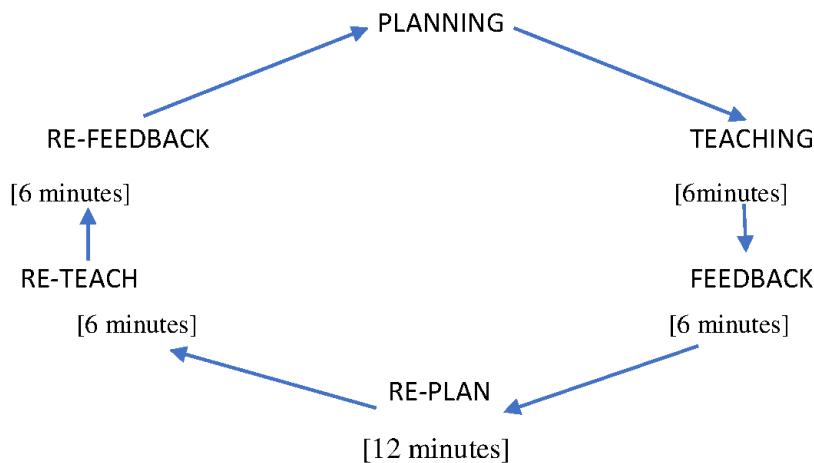
Passi,B.K(1976) writes that "the most important point in microteaching is that teaching is practiced in terms of definable, observable, measurable and controllable teaching skills".

Flanders, Ned .A.(1960) Micro teaching programme is organized to expose the trainee to an organized curriculum of miniature teaching encounters, moving from the less complex to the more complex.

Young (1969) "Micro-teaching is a safe practice ground for student-teachers; class room management problem can be minimized and focused upon separately as a component skill.

2.4 Microteaching Cycle

The process involved in microteaching can be represented in terms of cycle.

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                        PLANNING
         RE-FEEDBACK                    TEACHING
         [6 minutes]                    [6minutes]

         RE-TEACH                       FEEDBACK
         [6 minutes]                    [6 minutes]

                        RE-PLAN
                       [12 minutes]
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Plan:

This involves the selection of the topic and related content of such a nature in which the use of components of the skill under practice may be made easily and conveniently. The topic is analyzed into different activities of the teacher and the pupils. The activities are planned in such a logical sequence where maximum application of the components of a skill is possible.

Teach:

This involves the attempts of the student teachers to use the components of the skill in suitable situations coming up in the process of teaching – learning as per his / her planning of activities. If the situation is different and not as visualized in the planning of the activities, the teacher should modify his / her behavior as per the demand of the situation in the class. He should have the courage and confidence to handle the situation arising in the class effectively.

Feed Back:

The observers analyze the performance and discuss it with the teacher trainee on the basis of their ratings using the appraisal guide. The feedback should focus on specific behavior related to the model of the teaching skill. The supervisor can reinforce effective behavior and draw attention to other behavior modifications necessary for mastering the skill.

Re – Plan:

The student teacher replans his / her lesson incorporating the points of strength and removing the points not skilfully handled during teaching in the previous attempt either on the same topic or another topic suiting to the student teacher for improvement.

Re – Teach:

This involves teaching to the same group of pupils if the topic is changed or to a different group of pupils if the topic is the same. This is done to remove boredom or monotony of the pupil. The student teacher teaches the class with renewed courage and confidence to perform better than the previous attempt.

Re feedback:

The supervisor assesses the lesson once again and provides the feedback to the trainee. This process repeats till the teacher trainee acquires the required level of competency.

2.5 Steps in Microteaching

Orientation of the student teachers:

It involves providing necessary information and theoretical background about micro teaching on the following aspects:

- concept of micro teaching.
- significance of using micro teaching.
- procedures of micro teaching.
- requirements and setting for adopting micro teaching technique.

Discussion of teaching skills:

In this step the concept of teaching skill is clarified to the teacher trainee. He develops knowledge and understanding about:

- Analysis of teaching into different component in teaching skills.
- Significance of these skills in classroom teaching.
- Component teaching behaviours of different teaching skills.

Selection of a particular teaching skill:

The teacher trainee selects a particular teaching skill for practice.

Presentation of a model demonstration lesson:

A demonstration lesson in that particular teaching skill is presented before the teacher trainee. This stage is known as modelling. Demonstration can be given in a number of ways.

- By exhibiting a film or a video tape.
- By making them to listen to an audiotape.
- By arranging a demonstration lesson from a live model i.e., by the teacher educator or some expert.
- By providing written material such as hand book, guide etc.

Observation of the model lesson and criticism:

An observation schedule is designed for the observation of the lesson and is distributed to the teacher trainee. A critical appraisal of the model lesson is made by the student teachers on the basis of the observation and analysis.

Preparation of micro lesson plan:

For practicing the demonstrated teaching skill the student teacher prepares a micro lesson plan. For this he may take guidance and help from the teacher educator, books etc.

Creation of micro-teaching setting:

The Indian model of micro-teaching developed by NCERT gives the following setting. –

1. No. of pupils - 5-10
- Type of pupils - real pupils or preferably peers
- Type of supervisors - teacher educators or peers.
- Time duration for micro-teaching lesson –6 minutes
- Time duration for micro-teaching cycle – 36 minutes

This duration is divided as

- Teaching – 6 minutes
- Feedback – 6 minutes
- Re-plan – 12 minutes
- Re-teach – 6 minutes
- Re-feedback – 6 minutes

Practice of the Skill:

Under this step the student teacher teaches a micro-lesson to a micro- class. This lesson is observed by the teacher educator and the peer group with the help of the appropriate observation schedule. The lesson can be recorded using an audiotape or video tape.

Feedback: Immediate feedback is given by the teacher educator and the peer group.

Re-planning:

On the basis of the feedback the student teacher re-plans the lesson. About 12 minutes is given for this purpose.

Re-teaching:

The session lasts 6 minutes and the student teacher reteaches his micro lesson on the basis of his replanned lesson.

2. **Re-feedback:**

The student teacher is provided re-feedback on the re-taught micro lesson.

3. **Integration of the skills:**

This is the last step and is concerned with the task of integrating several skills individually mastered by the student teacher. It is helpful in bridging a gap between training in isolated teaching skills and the real teaching situation faced by a teacher.

2.5.1 Advantages of Micro Teaching

- Micro teaching is useful for developing teaching efficiency in pre service and in service teacher education programmes.

- Micro teaching can be either in real class room conditions or in simulated conditions.

- The knowledge and practice of teaching skills can be given by the use of micro teaching.

- Microteaching is a training device for improving teaching practice and prepares effective teachers.

- It focuses attention on teaching behavior to modify and improve in the desired direction.

- Micro teaching is an effective feedback device for the modification of teacher behavior.

- Microteaching minimizes the complexities of the normal classroom teaching by scaled down teaching.

- Micro teaching permits increased control and regulates teaching practice.

2.5.2 Limitation of Micro Teaching

- It is skill oriented, content not emphasized
- A number of student teachers cannot be given the opportunity for re – teaching and re – planning.
- It is very time-consuming technique.
- It requires special classroom setting.
- It covers only a few specific skills.
- It divides from normal classroom teaching.
- It may raise administrative problem while arranging micro lessons.
- It emphasizes specific skills; but neglects integrated skills.

- After mastering each specific skills through micro teaching sessions, the teacher educator can arrange a number of 'macro' session in the line of actual classroom situations. This will help in integration the specific skills into complex major skills.

2.6 Micro - Teaching Vs Macro – Teaching

S.NO.	MICRO TEACHING	MACRO TEACHING
1.	Class consists of a small group of 6 to 10 students.	Class consists of 40 to 60 students.
2.	The teacher takes up one skill at a time.	The teacher practices several skills at a time.
3.	Duration of time for teaching is 5 to 7 minutes.	The duration is 40 to 45 minutes.
4.	There is Immediate feedback.	Immediate feedback is not available.
5.	Teaching is carried on under controlled situation.	There is no control over situation.
6.	The role of the supervisor is specific and well defined to improve the teaching skills.	The role of the supervisor is vague (not clear).
7.	Pattern of class room interaction can be studied objectively.	Pattern of classroom interaction cannot be studied.
8.	There is re-teaching process	There is no re-teaching concept in this method

2.7 Micro Teaching Skills

Microteaching techniques rests upon the analytical approach to teaching. Analytical approach assumes that the complex task of teaching can be analyzed into limited, but well – defined components called 'teaching skills. Each of these teaching skills can be taught, practiced, evaluated, predicted, controlled and understood.

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

Attempts have been made to list teaching skills that could be developed among the student – teachers. A large number of skills have been identified. However, there is no uniformity in the number and categories of teaching skills. Fourteen teaching skills have

been listed in Stanford University (Allen and Rayan, 1969) whereas Singh L.C. (1979) identified twenty-two general teaching skills. Later on, Menon et al (1983) have suggested a list of seventy-four skills.

A few important skills are listed below:

i. Skill of Induction
ii. Skill of Explaining
iii. Skill of Blackboard Usage
iv. Skill of Questioning
v. Skill of Probing Question
vi. Skill of Stimulus Variation
vii. Skill of Reinforcement
viii. Skill of Non-verbal cues
ix. Skill of Closure
x. Link Lesson

2.7.1.1 Skill of Induction

Success of teaching a lesson depends on its introduction. The attention of the students towards learning the matter starts with the introduction of the lesson. In this the new knowledge may be properly linked with the existing knowledge of pupils. The introductory questions should be based on the previous knowledge related to the present content and the teacher has to proceed from known to unknown. The skill of introducing a lesson establishes rapport with the learners and facilitates concentration on his teaching. Effectiveness of introducing a lesson depends on the maximum use of previous knowledge and attention gaining of the learners, adopting appropriate devices, continuity, and relevant questions or statements pertaining to the content.

The objectives of the skill are to:

- Get students attention & their readiness for learning

- Arouse student's motivation

- Clearly indicate the learning experience to be provided

- Suggest ways & means of the approaching activity to be done

- Review previous experiences/knowledge & makes its link to the present content/task
  Introducing a lesson significantly influences the learning of a new lesson. The various components of the skill involved in introduction of a lesson are:

- Use of previous knowledge
- Preliminary attention gaining
- Use of appropriate device
- Arousing motivation
- Relevance and Continuity or Sequencing of questions and Statements
- Topic Declaration

1. Use of Previous Knowledge

Previous knowledge of students refers to the level of achievements from previous experiences. Testing the previous knowledge of students helps the teacher to establish integration between the pre-existing knowledge of the student and the new knowledge that the teacher wants to impart. Through this skill, the teacher knows the status of motivation, intellectual abilities and socio-cultural background of the student.

2.Preliminary Attention Gaining

In the beginning of a lesson, the students may not be in an attentive mood being mentally unprepared for learning. The teacher's duty is to create desire for learning among the students. The teacher attracts the students towards his teaching by doing some attractive activity and creating curiosity. To gain attention at the preliminary stage interest or curiosity should be aroused among the students. The teacher can employ different attention attracting activities such as telling a story, recalling the previous experiences etc.

3. Use of Appropriate Device

The teacher should make use of appropriate devices or techniques while introducing a lesson to motivate the students. The teacher creates such a situation by use of different types of devices such as

- Questioning
- Use of examples, analogies, similarities
- Storytelling, describing related instances
- Lecturing, describing, narrating
- Use of A.V aids
- Role-playing, dramatization
- Demonstration, experimentation etc.

In order to motivate the learners, the use of such devices should be suitable to the age, experience, maturity, etc. of the learner. The devices could be relevant only if they are related to the aims of the lesson/content. Unrelated devices confuse the learners and do not contribute towards establishing a healthy rapport with them.

4. Arousing Motivation

The teacher should link the required previous knowledge of the present knowledge with motivation of the present knowledge with motivation in introducing a lesson. The teacher should use the questions or activities to motivate the students towards the current topic or concept before declaring the topic or lesson.

5. Relevance and Continuity or Sequencing of questions and Statements

The teacher should use relevant and sequence questions to recall previous knowledge, to generate motivation towards the lesson and attract attention of the students.

6. Topic Declaration

The teacher should declare the topic or lesson after introducing the lesson. It indicates the beginning of presentation of the lesson. By this topic declaration, the students understand what they are going to be learning in that period.

2.7.1.2. Skill of Explaining

For an effective learning, explanation in teaching should be done effectively. Explaning bridges the gap in understanding the new knowledge by relating it to the past knowledge. Thus explaining depends upon the past knowledge, the type of new knowledge and the relationship among them. Explanation can be more effective by using simple and clear language for clarity. The following are components of the skill of explanation.

- o Beginning statement
- o Explaining links
- o Concluding statement
- o Questions to test pupil's understanding
- o Correct response

1. Beginning Statement

The purpose of this statement is to create readiness among the pupils to pay attention to the point being explained. It is the introductory statement to begin explanation.

2. Explaining links

While explaining the subject matter use suitable link words between the concepts .

Examples: Therefore, that is, why, since, because, hence, in order to etc.

3. Concluding Statement

Concluding statement should summaries what the teacher explained. Students can summaries what they learn if concluding statements are meaningful.

4. Questions to test pupils understanding

These are short questions put to the pupils to test their understanding of the concept after the explanation. The main purpose is simply to judge whether the pupils have understood or not.

5. Correct response

If the students give the correct answer for all the stimulating questions, we conclude that explanation takes place in better manner and purpose of teaching achieved.

2.7.1.3 Skill of Blackboard Usage

Blackboard is said to be the right hand of a teacher. It is the most simple, suitable, convenient and widely used teaching aid that is employed in the teaching and learning of almost all the subject and topics.

The skill of using blackboard may be defined as a skill or technique that helps a teacher to use blackboard in the teaching learning process as effectively as possible for the proper realization of the stipulated teaching learning objectives.

Important points in using the blackboard:

- Keep the blackboard clean. A clean board eliminates needless distractions and makes your own writing on it easily read from all parts of the room.
- Do not crowd the blackboard with too much matter. A few important points make a vivid impression. Constant practice and imagination are necessary for effective use of black board.
- Write in straight rows starting at the top left corner. Make your letters and drawings large enough to be seen from all parts of the room.
- Make the material simple, brief, precise statements are more effective than long sentences. Letters to be seen at thirty feet ought to be about two and half inches in height.
- Do not cover up the material on the blackboard by standing in front of it. Pupils' cannot see through you- use a pointer.
- Write only a few important points bearing in mind that the blackboard is not suitable for elaborate work.
- Talk to the class. Talking to the blackboard with your back to the class will lose your audience.
- Plan your work on the blackboard in advance. Keep the layouts in your preparation sheet for guidance.
- Gather everything you need for the blackboard before the group meets. (Chalk various colours, ruler, eraser, any necessary templates etc)

- Make sure that the blackboard is not high above the eye level of the children. The lower half should be skipped over. We should also make sure whether it is well lighted by natural or artificial means, and that the front row of desks is at least eight feet away from it.
- Check lighting conditions. Blackboard glare should be avoided.
- Put complex matters on the blackboard before the class meets. Don't waste class time by drawing figures after the open bell.
- Erase all unrelated material and other work on the blackboard. It distracts attention.
- Any writing on the board should be large enough to be visible at a distance and neat in order to be easily legible. Any diagram drawn should be large, colour chalks should be used only to emphasize or differentiate.
- Hold the chalk between the thumb and the fingers with the non-working end of the chalk pointing to the palm of the hand.
- Stand back so that the elbow is lightly bent, yet the reach to the board is easy.
- Start with vertical lines. Try an exercise of lines of varied integrity.
- Place the chalk piece flat wise and draw some 'mass' strokes, which are sometimes required.
- To draw two parallel lines close together, two pieces of chalk may be held when making the stroke.
- Small circles are formed by wrist work and larger ones by a combination of elbow and should ermovement. Do not try to mould these curves strokes bit by bit.
- The qualities required in blackboard writing are legibility speed and beauty, in this order. In developing legibility consider the following aspects. a) Style b) letter shape c) size d) spacing.
- Speed is essential for good co-ordination of blackboard work and oral exposition but not at the price of legibility.

Components of the skill:

The skill of using blackboard involves the following main components.

1) Legibility of the handwriting 2) Neatness of the blackboard work 3)Adequacy of the blackboard work with reference to content covered. 4) Adequate space. 5) Readable 6) Visible 7) Underlining of important points 8) usage of colour chalk

2.7.1.4 Skill of Questioning

Questioning is one of the most important skills in teaching. It has to be developed by any teacher. While teacher teaches a lesson, he has to ask several questions related to the content. These types of questions are called teaching questions. After completing a lesson, questions will be asked to know whether the students understood the content of teaching. These should be expert in asking questions. Good questions serve many purposes. Questions stimulate thinking. Questions help recalling facts, concepts and principles. Questions make active involvement in learning. Questions arose the curiosity of the students.

Generally, these are three levels of question. They are

- Low order questions
- Middle level questions
- Higher order questions

Low order questions

These questions require the students to recall knowledge that theyhave learnt. The questions of this level do not ensure understanding of the content or analysing information, but requires memorization.

Examples:

4. What is the area of the circle?

5. State Pythagoras theorem.

Middle level questions

Explaining the meaning of a concept or statement, compare or differentiate among two things etc. are middle level questions

6. Find any two rational number between$\frac{4}{5}$,$\frac{6}{7}$

7. Surface area of a hemisphere is 1232 cu.cm. Find its diameter.

Higher Level questions

These types of questions require the students to use higher levels of intellectual abilities such as comprehension, application, analysis, synthesis and evaluation. Example:

1. What are the conditions that triangle ΔABC and Δ PQR are congruent.

2.7.1.5 Skill of Probing Question

Questioning is one of the most important teaching skills. It is indispensable for good teaching. He who never questions never teaches. Questioning plays a very important part in learning, teaching and testing. It is said that the success and efficiency of our teaching depends more on the skill and judgment with which we put questions than on any single circumstance.

The minds of the learners and the teacher can be brought into close touch through this device. Teaching is not just like that of filling an empty pot. The students through their mental process must attain the knowledge. For that they ask questions. We can very easily answer a question, but it is difficult to construct a question involving higher order mental abilities. Asking question is an art. A teacher must learn to ask suitable, appropriate and meaningful questions.

Questions, which fit in with the following, are called meaningful questions

- Structure

- Process and

- Product

Structure includes grammatical part and content part of the question which when taken together converge the intent of the teacher.

- Process refers to the way of asking the questions.

- Product refers to the pupil's response.

Many a time it happens that nothing is wrong with the structure or the process of the questioning. But even then, the pupils do not give any response and completely correct responses. How to handle such responses of the pupils? In case of all such situation except completely correct response if you want to be an effective teacher. That is, you will have to go deep or probe into the pupil's responses by asking a number of questions about what they already know and to lead them to the correct responses. Even if her response is correct, you will have to help the pupils to view it from a broader perspective.

A set of related teaching acts that tend to help the teacher to go deep into a pupil's response by asking a series of subsequent questions is called the "Skill of Probing Questioning".

Components of the skill

1. Prompting 2. Seeking further information 3. Refocusing 4. Redirection 5. Increasing critical awareness

1.Prompting: This involves the teacher to give clues or hints to the pupils and ask leading questions. Here the teacher neither supplies the answer nor does he redirect the question to some other pupils, but helps the pupils to answer the question himself. This technique is used when the student says "I do not know" and give incorrect response. Keep two things in mind that the

teacher does not discourage the pupil for his no or wrong response. Secondly the teacher helps the pupil to arrive at the criterion response by means of systematic and step by step questioning process.

2.Seeking further information: This technique involves leading a pupil from partially correct or incomplete response to the correct response through questioning.

3.Refocusing: This technique is employed when the student gives completely correct response. Refocusing through questioning helps the pupils to view the correct response from a different view point.

4.Redirection: Redirection can be employed when a question has more than one correct answer or when there is no response, wrong response or partially right response. Redirection is posing the same question to many pupils to respond.

5.Increasing critical awareness: This technique involves putting questions such as ' how' and 'why' to increase the critical awareness of the pupils about the correct response. Thus this technique is followed when the students give correct response.

2.7.1.6 Skill of Stimulus Variation

Continuous use of the same stimulus for a long period reduces the attention in that activity. The teacher behaviours influence pupil's attention. Variation in stimulus secures more attention among the students. This process of bringing variation in the overall interactive environment of the class with the help of stimuli change is called stimulus variation. It is important because it helps to:

- Break monotony of the class
- Bring variation in presentation
- Bring & maintain attention of pupils
- Make teaching attractive & interesting
- Make teaching effective by using various senses
- Involve students in the teaching-learning process

The following components of the skill, stimulus variation, influence the teaching – learning process effectively.

- Movement
- Gesture
- Change in Speech pattern

- Change in Interaction Style
- Attention gaining
- Pausing and
- Oral - Visual Switching

1. Movements

Teacher should not stand in one place while teaching. He has to move from one place to another to write on the black board, to go near and appreciate a student, to move towards a model etc. Hence, in order to gain students attention a teacher has to move purposeful movements.

2. Gesture

Use of appropriate gestures according to the content to emphasis importance, to explain emotions, makes students to understand the message. Hand movement to describe shape, size, Body movements and facial expression enhance the value of message.

3. Change in speech pattern

If a teacher explains the content in the same modulation, then it is boring. Hence, in teaching there should be voice modulation to pay attention to a particular point. Modulaitng the voice on situations, change in pitch, speed of voice will force his student to pay attention.

4. Change in interaction style

Teacher has to plan, how students also involve in teaching. Asking questions from the students, asking student to do a sum on the black board, students are encouraged to put few questions and teacher will answer it, to participate students in a seminar or discussion and teacher will tell its result etc. are all called change in interaction. This can be mention in a simple form as

Teacher – Class

Teacher – Student

Student – Student

5. Attention Gaining

While teaching the teacher may use certain statements like, this is important, look at this diagram, listen carefully etc. to draw attention. While writing on the blackboard teacher draw attention by using color chalk for important message or underlined the important points.

6. Pausing

Pausing means introducing silence during teaching. From this act, we can draw attention of the students. While teaching continuously or at the time of asking questions teacher has to plan pausing and create attention. The message given at this point is easily received by the pupils.

1. A short pause before saying something important is an effective way of attracting pupil attention.

2. A pause of 3 seconds duration is considered appropriate for this purpose.

3. If the pause is unduly long, it loses its effectiveness in serving pupil attention.

4. Appropriate pausing time: Response of the student to the teacher's question or change from one concept to another is: 3 seconds.

7. Oral – visual Switching

While the teacher explains, student's hearing. When the teacher exhibits aid or writes on blackboard his/her visual sense is used. Such frequent changes from aural to visual or from visual to aural help to secure pupil's attention.

2.7.1.7 Skill of Reinforcement

All pupils generally need social approval of their behaviour. When they answer a question, they are eager to know whether their answers are correct or not. When they are appreciated for the correct answers, they are eager to continue their responses in future also. This increases their participation. The appreciation for correct responses is positive reinforcement. The positive reinforcement is use for strengthening the responses or behaviours of individuals. On the other hand, if the pupils are scolded of not encouraged for their responses, they never participate in future. This kind of discouraging activity of the teacher's called negative reinforcement. The negative reinforcements are used for weakening of eliminating the undesirable responses or behaviors. These reinforcements are in the form of verbal and non-verbal.

Objectives

- Attract & retain attention of the class
- Encourage pupils for positive behavior
- Discourage pupils for negative behavior
- Increase students' confidence level

Components of reinforcement skill:
Positive verbal reinforcements
Positive non-verbal reinforcements
Negative verbal reinforcements
Negative non-verbal reinforcements

1.Positive Verbal Reinforcement: The verbal behavior (statement) of teacher accepts student feelings, repeats, rephrases student responses, surroundings student ideas etc., Using responses words such as – excellent, fantastic, splendid, right, yes, correct, fine, continue, go-ahead, carryon, well done, etc., and extra verbal expressions such as 'uh-uh', 'hm-hm' etc., are positive verbal reinforcements.

2.Positive Non – Verbal Reinforcement: Using extra verbal cues like 'um-um', aha to encourage pupils while answering, writing the responses in the board, teacher's gestures, conveying pleasant feelings, approval of student responses such as smiling, nodding of head, delighted laugh, clapping, keeping eyes on the responding student and giving ear to the student indicate positive non-verbal reinforcements.

3.Negative Verbal Reinforcements: Teacher's statements such as the use of discouraging words like, 'no' wrong, incorrect, stop it, non – sense, try something else, remark in a sarcastic way, I don't like what you are doing, do not do like this, that is not good, etc., correspond to negative verbal reinforcements.

4.Negative Non- Verbal Reinforcements: The teacher demonstrates his disapproval to indicate non-verbal expression of a students in appropriate behavior or incorrect response to his questions. Frowning, raising the eye brows, staring, disapproval by hands, negative reinforcements.

The first two Positive Verbal Reinforcement and Positive Non-Verbal Reinforcement indicate the skill of desirable reinforcements whereas NVR and NNVR indicate the skill of undesirable reinforcements.

Trainee should be encouraged to participate reinforces to increase pupil's participation.

2.7.1.8 Skill of Non – Verbal Cues

A non-verbal cue has been defined as communication without words. Although verbaloutput can be turned off, non-verbal can't. Teachers use non-verbal cues because

- Words have limitations. There are numerous areas where non-verbal communication is more effective than verbal.

- Non-verbal signs are powerful. Non-verbal cues primarily express inner feelings.
- Non-verbal messages are likely to be more genuine.
- Non-verbal signals can express feelings, thoughts etc.
- Complexity of the verbal message can be given through simple non-verbal signals.

Components of the skill

- Body language
- Proximity
- Touch
- Eye-contact
- Chronemics
- Smell
- Vocalics

1.Body Language: Body movement (kinesics) has specific verbal transactions. To explain the subject matter or to appreciate the students we use body language. To describe shape, size body movements are helpful.

2.Proximity: When a teacher wants to convey message to a student or to control a problematic beehavior student he has to go near him and convey non verbal.

3.Touch: Physical contact with others is the most basic form of communication and certain situations often communicates that there is a problem.

4.Eye contact: It is a signal for lack of interest in a person. Too much eye contact shows that it is a threatening attitude.

5.Chronemics: With the help of chronemics, we can draw attention of the students by means of waiting and pausing. While teaching teacher has to plan waiting and pausing. By increasing the waiting time, you buy for yourself an opportunity to hear and to think. Increase your waiting time upto 5 seconds or longer for slow and shy students and increase in waiting time help students to respondent higher cognitive skills.

6.Smell: We can make identify things using smells. This can be used largely in lower standards.

7Vocalics:

- **Postures:** Postures can be used to determine participants degree of attention or involvement. Posture is understand through such indicators as direction of learn body orientation, arm position and body openness.

- **Adornment:** Teacher should wear decent dress. If the school introduce uniform to teachers, teachers should strictly follow them. Lady teachers should not come with more jewels and shining dresses. Clothing should reflect our culture. Hair style should not be funny or attractive.

- **Locomotion:** Teacher should not stand or sit in one place during teaching. He has to move one place or go near to a student to convey non-verbal messages.

2.7.1.9 Skill of Closure

In closure or recapitulation, the teacher can consolidate the main points by putting a few questions based on the topic taught. The questions should be logically liked to cover the whole lesson as summary of the lesson. He may use charts, models, diagrams etc. for consolidation of the lesson. The questions may be oral or / and written by using nonverbal media including experimentation. The students can use this situation of what they have learnt during the lesson in solving the problems in a new situation or in different situations. The teacher can review the past knowledge of the students, both provide for future learning in the form of homework or assignment.

The various components of the skill closure / Recapitulation are:
- Consolidation of Major points
- Application of the Present knowledge in new or different situation
- Linking the past knowledge with the present knowledge
- Linking the present knowledge with the future knowledge

1. **Consolidation of Major Points**

The teacher should consolidate the major points of his presented content matter at the closure or recapitulation process. It helps in remembering important points of the lesson.

2. **Application of the Present knowledge in new or different situation**

It refers to creating situations where the pupils can make use of what they have learnt during the lesson in different or new situation. For this purpose the teacher may use some medical approaches in the form of oral, written, non – verbal or experimentation.

3. Linking the past knowledge with the present knowledge

Past knowledge and the present knowledge involve helping the pupils to see the relationship between them. It enables them to get a clear view about the present knowledge.

4. Linking the present knowledge with the future knowledge

It refers to relating the present knowledge to the home task or assignments given to the pupils. It may also require them to learn on their own.

2.7.10 Link Lesson

According to Gestalt psychology, complex learning like concept formation and problem solving can be brought about only when various bits of information are structured and received as a whole. This whole is something more than the simple summation of the analyzed elements.

Micro – teaching is definitely a helpful technique for the teacher trainees not only in knowing the teaching skills but also enable them to gain confidence in teaching. It helps them acquire proficiency only in one skill at a time. But a macro lesson involves the combination of several skills. Hence to give practice in integrating the various skills required for teaching a macro lesson, a link lesson for 20 minutes is also attempted in the college. This provides an opportunity to the trainee for smooth transition from 5 minutes micro lesson to 45 minutes macro lesson. A link practice lesson is for 20 minutes duration integrating the different skills required for teaching a sizeable chunk of subject matter.

Micro teaching   Link Lesson   Class Teaching

Comparison of Macro, Link and Macro Lessons

Characteristics	Micro Lesson	Link Lesson	Macro Lesson
Time limit for practice	5 – 10 minutes	10–20 minutes	40-45 minutes
Number of Skills	One	Skills required for teaching the subject matter are integrated.	All the relevant skills for the topic.
Size of content	One single concept	A part of a lesson	Probably a complete lesson.

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Link Lesson

Name of the student Teacher   : xxxx

Name of the Observer   : xxxx

Class   : IX

Subject   : Mathematics

Topic   : Number System

Sub- Topic   : Surds

Time Limit   : 20 minutes

Teacher	:	Good morning Students
Student	:	Good morning Mam
Teacher	:	You are already familiar with rational and irrational numbers. Is n't it?

(Skill of Induction)

Student	:	Yes Mam.
Teacher	:	Can you give me example for rational numbers?

(Skill of Induction)

Student	:	3, -5, 0, 2/3 and -2/3 are rational numbers.
Teacher	:	Can you identity the rational number? (Shows the Chart)
Student	:	$\sqrt{2}$, $\sqrt{3}$, $-\sqrt[3]{7}$, $\sqrt{6}$, $\sqrt{2}+\sqrt{3}$, $2+\sqrt{5}\sqrt{2}/3$ are irrational number.
Teacher	:	In all these irrational numbers, symbol '$\sqrt{}$'has been used. Do you know the name of this symbol?

(Skill of Induction)

Student	:	Yes Madam, it is called a 'radical'.
Teacher	:	Good. You may see that out of these numbers, in the numbers $\sqrt{2}$ $\sqrt{3}$
Student	:	Madam, Is there any special name for such numbers?
Teacher	:	Yes. That is called as 'Surds'.
Teacher	:	Today we learn about 'Surds'.

(Skill of Explaining)

Teacher	:	Can you tell me what is Surds?

(Questions to test pupils understanding)

Student	:	Rational number under the radical sign '$\sqrt{}$' Such numbers are called 'Surds'. (Write the content in Board)

(Skill of Explaining, Skill of Black Board)

Teacher under	:	Good. Now we defined the surds. Some numbers are rational number the radical sign '$\sqrt{}$' Such numbers are called 'Surds'.

Thus $\sqrt{a}$ is called a Surd if (i)$\sqrt[n]{a}$ is an irrational number and (ii) a is a rational number.

(Skill of Reinforcement, Skill of Explaining)

Student	:	Ok Mam.

Teacher	:	Can you give some more examples of surds?

(Skill of Explaining)

Student	:	$\sqrt{5}, \sqrt{6}, \sqrt[3]{5}$ and $\sqrt[6]{2}$
Teacher	:	Very Good. Now give some examples of numbers having radical sign which are not surds. (Teacher watches each and every student)

(Skill Of Reinforcement, Skill of Stimulus Variation)

Student	:	No Response

Teacher	:	(Shows the Chart) Look at the definition of a Surd. If any of the above two conditions are not fulfilled, then the number will not be a surd. First condition is that $\sqrt{a}$ which not an irrational number.

(Skill of Stimulus Variation)

Teacher	:	So, now think of a number of types$\sqrt[n]{a}$ which is not an irrational number that is a rational number.

(Skill of Explaining)

Student	:	$\sqrt{4}, \sqrt{9}$

Teacher	:	Is $\sqrt{10}$ a surd?	**(Skill of Questioning)**

Student	:	Yes Mam.

Teacher	:	(Writes Question on the black board) Is $\sqrt[3]{8}$ a surd?

Student	:	No Response.
Teacher	:	(Again, shows the chart) Now look at the second condition that says that a

in $\sqrt{a}$ is a rational number, so numbers such as $\sqrt{\ }$, $\sqrt{2} - \sqrt{2}$ etc., are also not surds. Are you Understand?

(Skill of Explaining)

Student : Ok Mam.

Teacher : Now you try to say the answer. (Teacher point out the particular student)

Student : $\sqrt[3]{8}$ is not a surd Mam.

Teacher : Good. Now find out the following numbers $\sqrt{\sqrt{\ }}$, and $\sqrt{\sqrt{16}}$? Are these Surds? (Teacher writes the Question on the black board)

(Skill of Reinforcement, Skill of Stimulus Variation)

Student : Solve the Problem on their notebook.

Teacher : Any one of you come and writes the answer on the black board? (Teacher raises her voice and wait some time)

(Skill of Stimulus Variation)

Student : (Solve the Problem on the black board)

$\sqrt{\sqrt{\ }}$ 4 Can be written as $\sqrt{2}$ and $\sqrt{2}$ is an irrational number. So $\sqrt{\sqrt{4}}$ is a surd.

Teacher : Good. What about another question? (Raises her Voice)

(Skill of Reinforcement)

Student : (Again, solves the problem on the black board)

$\sqrt{\sqrt{16}} = \sqrt{4} = 2$ which is a rational number and so $\sqrt{\sqrt{16}}$ is not a surd.

Teacher : Very Good. (Clapping)

Teacher : Teacher shows the flash card one by one and asks the students to identify the surds.

Teacher : Some numbers are rational number under the radical sign '$\sqrt{\ }$' such numbers are called 'Surds'.

Thus $\sqrt{\ }$ is called a Surd if (i) $\sqrt{\ }$ is an irrational number and (ii) a is an rational number.

Can you any one of you give an example for 'surd' and 'not surd'?

(Skill of Closure)

Student : $\sqrt{12}$ is a surd and $\sqrt{64}$ is not a surd.

Teacher : Is $\sqrt{125}$ a surd? **(Skill of Closure)**

Teacher : $\sqrt{125} = \sqrt{5*5*5} = 5\sqrt{5}$

Therefore $5\sqrt{5}$ is an irrational number. So it is a surd.

(Skill of Closure)

Teacher	:	We have learned identify the surds and solve the Problem.
		In continuation to this we are going to solve the following problems
		in the next class.

(Skill of Closure)

Teacher	:	Thank You Students.
Student	:	Thank You Madam.

2.9 Conclusion

Teaching, as such, is an organic whole, which cannot be broken to parts. If it is done, there is no meaning. The aim of teaching is not simply to acquire skills. There is no such thing as"Better skills". Every skill is significant in the relevant place in teaching. Even more than these, the decision making of what skill to use, how to use and how long to use, is of importance in teaching. That kind of training is not provided in micro teaching. For a long time teaching was considered as an art involving certain personality and attitudinal factors. Teaching is also a Science in so far as the identification of skills and practicing them are concerned. However, micro teaching is an innovative teacher training program, which reduces the complexities of macro teaching and equips the student teacher with the knowledge and practice of teaching skills.