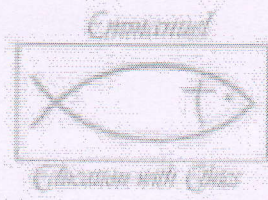


EMMANUEL COLLEGE OF EDUCATION-245

Tamaram, Makavarapalem (Mdl), Visakhapatnam (Dt)-531113.



B.Ed. Programme (Academic Year -2017-2019)

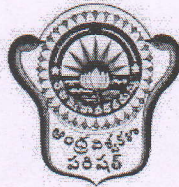
Semester – I / II / III / IV

Course :

Name : _____

Roll No : _____ Regd. No : _____

Pedagogy : Mathematics Micro Teaching



ANDHRA UNIVERSITY

VISAKHAPATNAM

INDEX

S.NO	CONTENT	P. NO	Remarks
1)	Micro teaching		
2)	micro teaching - 1 (Introducing Skill)		
3)	micro teaching - 2 (Explaining skill)		
4)	micro teaching - 3 (Questioning Skill)		
5)	micro teaching - 4 (Blackboard Skill)		
6)	micro teaching - 5 (Demonstration Skill)		

MICRO TEACHING RECORD

Micro teaching - Introduction:

- * A teacher makes use of a number of methods and techniques to bring about effective learning
- * The techniques include motivating the students, explaining questions, writing on the blackboard using teaching aids and so on
- * The teacher could also make use of non verbal behaviours such as smiling, nodding and gesturing
- * These groups of activities are called skills
- * Teaching skill is group of teaching acts/behaviour intended to facilitate pupils learning directly or indirectly
- * If the teacher trainees are conscious and aware of teaching skill, they will be able to concentrate on each of these skills and gain mastery over them
- * microteaching introduces the teacher trainee to a wide range of teaching skill and allows the teacher trainee to practise each skill one at a time until she becomes proficient in the skill

Micro teaching - Definitions and meaning:

- Micro teaching has been defined in different ways
- * Allen D.W (1966) defined micro teaching "as a scaled down teaching encounter in class size and class time"
 - * Allen Eve (1968) defined micro teaching "as a system of controlled practice, that makes it possible to concentrate on specific teaching behaviour and to practise teaching under controlled conditions."
 - * Clift and others (1976) described microteaching "as a teacher training procedure which reduce teaching situation to a simpler and more controlled encounter achieved by limiting the practice of teaching to a specific skill and reducing teaching time and class size"
 - * Buch. B.E (1968) defined micro teaching "as a teacher education technique, which allows teacher to apply clearly defined teaching skills to carefully prepared lessons in planned series of 5 to 10 min. it encounter with a small group of real students, often with an opportunity to observe the results on videotape"

* Passi B. K. "Stresses that the most important point in microteaching is that teaching is practised in terms of definable, observable, measurable and controllable teaching skills.

* Allen and Ryan (1969) while micro teaching specifies the

→ There is emphasis on training for the accomplishment of specific tasks

→ There is increased control of practice

Micro teaching is a teacher training technique where the complexities of the normal classroom teaching are reduced by

- practising one teaching skill at a time
- limiting the content to a single concept
- Reducing the class size to 5 to 7
- Reducing the duration of the lesson to 5 to 7 min.

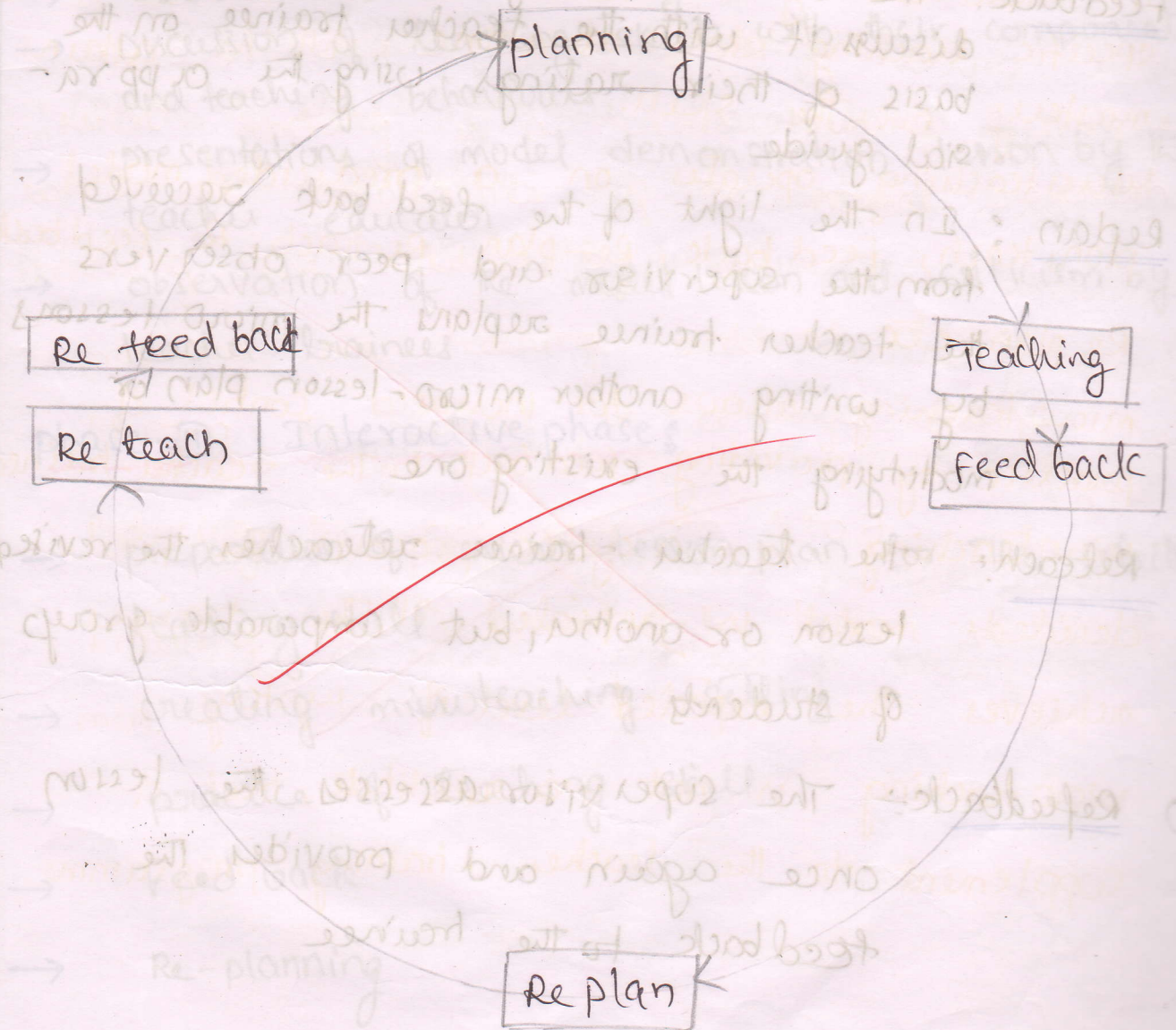
characteristics of micro teaching:

The characteristics of micro teaching can be summarised as follows.

- * micro teaching is a teacher training technique and not a teaching method
- * micro teaching is real teaching, - through the Teaching situation is simulated
In micro teaching the teacher trainee practises specific teaching skill at a time, till she attains mastery over the skill.
- * Micro teaching operates on a predecided model plan, teach, Feed back, Re-plan, Re-teach, Re-feed back, Re plan etc.
- * micro teaching allows for increased control of practice by providing feed back to the teacher-trainee. microteaching is a cyclic process. The pre-decided model is repeated till the trainee achieves the expected level of mastery.
- * micro teaching is not a substitute, but a supplement to the teacher - training programme.

micro teaching cycle:-

- The practice phase is the most important phase of the micro teaching programme
- In this phase the Teacher trainee chooses a specific skill, prepares a micro-lesson plan and teaches a small group of students for a duration of 5-7 min



micro teaching cycle

- ① Planning: This involves selection of the skill to be practised, awareness of the components of the skill, selection of a suitable context and the writing of a micro lesson plan.
- ② Teaching: The trainee teaches the lesson in the micro teaching setting. NCERT has suggested the following setting for micro teaching.
- ③ Feedback: The observers analyse the performance and discuss it with the teacher trainee on the basis of their ratings using the appraisal guide.
- ④ Replan: In the light of the feedback received from the supervisor and peer observers the teacher trainee replans the micro lesson by writing another micro-lesson plan or modifying the existing one.
- ⑤ Re-teach: The teacher-trainee re-teaches the revised lesson or another, but comparable group of students.
- ⑥ Re-feedback: The supervisor assesses the lesson once again and provides the feedback to the trainee.

Phases of microteaching: cliff (1976) described the following as the phases

- & microteaching
- knowledge acquisition phase or pre-active phase
- skill acquisition phase or interactive phase
- transfer phase or post-active phase

Phase-I: pre-active phase:

- orientation to microteaching
- discussion of teaching skills with their components
- and teaching behaviour
- presentations of model demonstration lesson by the teacher educator
- observation of the model lesson and criticism by the teacher trainees

Phase-III - Interactive phase:

- preparation of micro-lesson plan for the selected teaching skills
- creating microteaching setting
- practice of teaching skill
- feedback
- Re-planning

- Re-teaching
- Repetition of the microteaching cycle

Phase - III : post-active phase :-

The main objective of this phase is to enable the teacher-trainee to integrate the teaching skill in real or normal class room situation.

Integration of teaching skills may be defined as the process of selection, organisation and

utilisation of different teaching skills to form an effective pattern for realising the

specified instructional objectives in a teaching learning situation.

Integration is done in two stages

- Integration of teaching skills in parts
- Integration of teaching skills as a whole

Uses of micro teaching:

- * Microteaching technique enhances the effectiveness of the teacher training programmes in the following ways
- * Microteaching helps in reducing the complexities of the normal classroom teaching.
- * This helps the teacher trainees gain more confidence in real teaching
- * Microteaching creates among the teacher-trainees an awareness of the various skills of which teaching is composed for
- * Microteaching helps in systematic and objective analysis of the pattern of classroom communication
- * Microteaching simulates the classroom scene and gives the teacher trainees experience of real teaching
- * Feedback enables the teacher-trainee to consciously concentrate on specific behaviour modification
- * As microteaching focuses on the modification of behaviour and improvement of interaction process

- * Microteaching provides an effective technique for learning the art of teaching as the teacher here concentrates on practising a specific well defined teaching skill consisting of a set of teacher behaviours that are observable, controllable and measurable.
- * In microteaching the complex task of teaching is looked upon as a set of simpler skills comprising specific classroom behaviour.
- * This helps the teacher-trainees in better understanding of the meaning and concept of the term teaching.
- * Microteaching enables a student teacher to incorporate more easily a behaviourally defined teaching skill into his teaching than the vague non-behaviourally statements, like drawing pupils attention, developing rapport with pupils etc.

Microteaching skills:

- Microteaching technique rests upon the analytical approach to teaching
- Analytical approach assumes that the complex task of teaching can be analysed into limited but well defined components 'teaching skills', each of these teaching skills can be taught, practised, evaluated, predicted, controlled and understood.
- Teaching skills have defined differently by different authors
- Gage (1963) defined the teaching skills "as specific instructional activities and procedures that a teacher may use in his classroom". According to McInyre and White "technical skill in asset of related teaching behaviours which is specified types of classroom interaction situations tend to facilitate the achievement of specified type of objectives
- All these definitions specify that a teaching skill is group of teaching acts / behaviours intended to facilitate pupils learning

activity directly or indirectly.

characteristics of teaching skills

* Teaching skills have three basic components: perception, cognition and action.

* Teaching skills have three basic dimensions.

(i) non-verbal behaviour

(ii) openness and

(iii) Nature of moves in teaching to which the skill belongs.

Types of teaching skill:

→ Attempts have been made to list teaching skills that would be developed among the student teachers.

→ A large no. of skills have been identified.

→ However, there is no uniformity in the no. and categories of teaching skills.

Fourteen teaching skills have been listed in Stanford University where as Singh L.C (1979) identified twenty two general teaching skill. Later on Menon et-al (1983) have suggested a list of seventy four skills.

The important skills are:

1. Writing Instructional objectives
2. Introducing (motivations)
3. Explanation
4. Structuring classroom questioning
5. Probing questioning
6. Stimulus variation
7. Illustrating with examples
8. Reinforcement
9. Using black board
10. Lecturing
11. Closure

MICRO TEACHING SKILLS

Preliminary Information :

Name of the children/Teacher : M. Sivaprasad

class : 8th class

subject : Physical Science

Unit :

Sub unit :

Topic : Sound

Duration : 5-10 min

Date :

Name of the skill :

No. of students :

Name of supervisor :

Teacher/Teacher :

INTRODUCING

SKILL

Preliminary Informative :-

Name of the student Teacher :-

Class :- 7th class

Subject :- Mathematics

Unit :- Rational Number

Subunit :- ~~Rational Number~~ Rational Number

Topic :- ~~Rational Number~~ What are Rational Number

Duration :- 5-10 min

Date :-

Name of the skill :-

No of students :- Introducing Skill

Name of supervisor :- 5-10 members

Teach/Reteach :- Teach

S.No	Teacher Activity	Pupils Activity	Black Board
1.	Good Morning Student	Good Morning Teacher	
2.	What is your name ?	Ajay	
3.	Which class do you study ?	Class 7th	
4.	Where are you coming from ?	I am from Mahave rapalem	
5.	How are you coming to school ?	By Bus	Bus
6.	How many students are coming by Bus ?	60	60
7.	How many seats are available for seating ?	30	30
8.	So, one seat can carry two students -		
9.	Number writing is the form $\frac{1}{2}$ is called	Rational Number	$\frac{1}{2}$

26/10

Teacher Activity

10 Number written in the form Ratio is called Rational Number

11 Give example of Rational Number

Pupil's Activity

$\frac{1}{2}$, $\frac{1}{4}$, $\frac{2}{5}$, $\frac{3}{7}$, $\frac{4}{9}$

Black Board work
Teaching Learning material

Rational Number
 $\frac{1}{2}$

$\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{5}$, $\frac{2}{5}$
etc.

Announcement of the

Topic :-

Today we are going to discuss about Rational number

Preliminary Informations

Name of the student teacher :

Class : 7th class

Subject : Mathematics

Unit : Integers

Subunit : Multiplication of Integers

Topic : Multiplication of Two Integers

Duration : 5-10 min

Date :

Name of the skill : Explaining Skill

No's of students : 5-10 members

Name of the Supervisor :

Teach/Return :

SLNo	Teacher's activity	Pupils activity	Block Board work
1	Today we are going to discuss about the multiplication of two integers.	Student observe	Multiplication of two Integer.
2,	Let us do Multiplication of a Positive and a Negative Integer	Student Observe	$3 \times (-5)$
3.	Let us first find 3×5	$3 \times 5 = 15$	$3 \times 5 = 15$
4.	Then put minus sign (=) before the product obtained.	$-(3 \times 5) = -15$	-15
5.	we find $-(3 \times 5)$ to get -15	Student Observed	-15

S.No	Teacher's Activity	Pupils Activity	Black Board work.
6	By multiplying (Positive Integer) x (Negative Integer)	Student-observe	$(+) \times (-) = -()$
7.	We multiply them as whole number and put a minus sign (-) before the product	Student-observe.	-15
8.	we thus get a Negative integer	-15	-15
	<u>Announcement of the Topic</u>		
	Today we discuss about multiplication of Two integer		

Preliminary Information

Name of the Student Teacher :

Class : 7th class

Subject : Mathematics

Unit : Rational Number

Sub Unit : Rational Number

Topic : What are Rational Number

Duration : 5-10 min

Date :

Name of the Skill : Questioning Skill

No's of student : 5-10 members

Teach/Reteech :

S.No	Teacher Activity	Pupils Activity	Black Board work.
1	What is your name	S. Pooja	
2.	What is meant by Rational number?	Ratio of two number.	
3.	Give any two examples of Rational number.	$\frac{4}{5}$, $\frac{2}{3}$	$\frac{4}{5}$, $\frac{2}{3}$
4.	What is meant by ratio of two Integer?	Ratio of Two Integer	
5.	Give an example of two ratio of two integer?	$\frac{4}{5}$, $-\frac{4}{5}$ $\frac{2}{3}$, $-\frac{2}{3}$	$\frac{4}{5}$, $-\frac{4}{5}$ $\frac{2}{3}$, $-\frac{2}{3}$
6	What is meant by Integer?	Integer is Positive number or Negative number.	2, (-2)

Teacher Activity

Prepils Activity

Black Board work

7 What is Positive Rational number ?

$$\frac{3}{8}, \frac{5}{7}, \frac{2}{9}$$

8. What is Negative Rational number ?

$$-\frac{5}{7}, -\frac{3}{8}, -\frac{9}{5}$$

9. Mention five rational numbers sum of whose

- (a) Numerator is a Negative integer and denominator is a positive integer.
- (b) Numerator is Positive integer and Denominator is a Negative integer.
- (c) Numerator and denominator both are Negative integer.
- (d) Numerator and denominator both are positive integer.

$$-\frac{2}{3}$$

$$\frac{2}{-3}$$

$$-\frac{2}{-3}$$

$$\frac{2}{3}$$

Sl ^{No}	Teacher Activity	Pupils Activity	Black Board work
10	<p>Is $\frac{8}{-3}$ is a Negative rational number</p>	<p>Yes, it is a Negative Rational number.</p>	
11	<p>Is $-\frac{3}{-5}$?</p>	<p>$-\frac{3}{-5} \times \frac{(-1)}{(-1)} = \frac{3}{5}$ is a positive rational number.</p>	<p>$-\frac{3}{-5} \times \frac{(-1)}{(-1)} = \frac{3}{5}$</p>
<p>Announcement of the topic :- Today we discuss about the Topic of 'Rational numbers'</p>			

Preliminary information

Name of the student-teacher

Class

Subject

Unit

Sub unit

Topic

Duration

Date

Name of the skill

No of student-

No of Supervisors

Team / Research.

9th class

Mathematics

Number system

Real Number and their

Decimal Expansion

Decimal Expansion

5-10 min

black board skill

5-10 members

S.No	Teacher's Activity	Teacher's Activity	Block Board work
1.	We will look at the decimal expansion of real number	Student observe	Decimal expansion
2.	Let us take the examples of $\frac{10}{3}$	Student observe	$\frac{10}{3}$
3.	Divide the number 10 by 3 repeatedly.	Student observe	$\begin{array}{r} 3 \overline{) 3.333} \\ \underline{3} \\ 0 \\ \underline{0} \\ 0 \\ \underline{0} \\ 0 \end{array}$
4.	Remainder: 1, 1, 1, 1 Divisor 3	Student observe	1, 1, 1, 1, ...
5.	The remainders either become 0 after certain stage or start repeating themselves.		

S.No	Teacher's Activity	Pupils Activity	Block Board work
6	Another example, let us take. $\frac{7}{8}$	Student observe	$\frac{7}{8}$
7	Remainders : 6, 4, 0	(Student observe)	$\begin{array}{r} 0.875 \\ 8 \overline{) 7.0} \\ \underline{64} \\ 60 \\ \underline{56} \\ 40 \\ \underline{40} \\ 0 \end{array}$
8	We found that the remainder becomes zero after some steps and decimal expansion		
9	of $\frac{7}{8} = 0.875$ we call the decimal expansion of such a number is Terminating Type.		
	Announcement of Topic!! Today we discussed about Decimal expansion		

Preliminary information

Name of the student teacher :
Class : X class
Subject : Math
Unit : Polynomials
Sub unit : Polynomial
Topic : Degree of Polynomials
Duration : 5-10 min
Date :
Name of the skill : Demonstration Skill
No's of students : 5-10 members
Name of the Supervisor :
Teach / Reteach : Teach

S.No	Teacher's Activity	Pupils Activity	Black Board work Teaching Learning materials.
1.	<p>$P(x)$ is a polynomial in x, the highest power of x in $P(x)$ is called the degree of the polynomial $P(x)$</p>	Student Observe	<p>$4x+2$ is a Polynomial in the variable x of degree 1</p> <p>$P(x) = 4x+2$, degree 1 i.e x power is 1</p>
2.	<p>Polynomial in the variable y of degree 2</p>	Student Observe	<p>$P(y) = 2y^2 - 3y + 4$ Polynomial in the variable y and highest power in y is 2. So degree is 2</p>
3	<p>Polynomial in the variable x of degree 3</p>	Student Observe	<p>$P(x) = 5x^3 - 4x^2 + x - \sqrt{2}$ highest power of x is 3 So degree of Polynomial is 3</p>
4	<p>Polynomial in the variable u of degree 6</p>	Student Observe	<p>$P(u) = 7u^6 - \frac{3}{2}u^4 + 4u^2 + u - 8$ highest power of u is 6 So degree is 6</p>

S.No	Teacher's Activity	Pupils Activity	Black Board Work Teaching Learning Material.
5.	<p>Expressions like . . .</p> <p>Not Polynomials</p> <p>Linear Polynomial</p> <p>Eg $2x-3$, $3z+4$, $4t+1$</p>	Student Observe	$x-1$, $\sqrt{x+2}$ $\frac{1}{x^2+2x+3}$ etc A polynomial of degree 1 is called linear polynomial. A polynomial of degree 2 is called quadratic polynomial. A polynomial of degree 3 is called cubic polynomial.
7	<p>Quadratic Polynomial, which means square term.</p> <p>$2x^2+3x-1$, y^2-2</p>	Student Observe	
8.	<p>Cubic Polynomial,</p> <p>x^3+2x+1, y^3+2y+5</p>	Student Observe	
	<p><u>Announcement of Topic:</u></p> <p>Today we discussed about Polynomial, and Degree of Polynomial.</p>		