COURSE NAME –M.Ed IV SEMESTER

SUBJECT NAME = EDUCATION TECHNOLOGY & ICT (SC-5)

3.8 SKILL OF EXPLAINING

Explaining can be defined as the use of interrelated statements about a concept, phenomenon, generalization, procedure, function and reason with a view to providing its understanding to some one else. It is a set of interrelated statements made by the teacher related to a phenomenon, an idea, principle, etc., in order to increase understanding in the pupils about it. A teacher teaches a number of concepts generalizations and procedures. For an explanation, to be understood by students, the previous knowledge refers to the knowledge already possessed by students. The quality of an explanation depends on preparation of the teacher and the degree of understanding of the students.

Components of explaining are:

1. Cognitive Link (CL)
2. Uses of Illustrations (ILL)
3. Compare and contrast (CC) and
4. Meaningful Repetition (MR)

1. Cognitive Link (CL)

A teacher introduces a new concept using the principles of "Known to unknown", "Concrete to abstract", "easy to difficult" and "simple to complex" to establish a link between the old (already known) concept and the new one. A new concept can be introduced and developed only through a series of sub-concepts. All sub-concepts must be linked with one another logically.

2. Uses of Illustrations (ILL)

Illustrations are included with examples and non example. Only examples cannot serve the purpose of illustrating. A new concept is to be adequately illustrated in terms of different situations or life-experiences providing non-examples also. The illustrations must serve the purpose of understanding the abstract concepts.

3. Compare and Contrast (CC)

While teaching different concepts, one should note that some of them are closely interrelated. There may be some similarities and dissimilarities between them. The pupils may find it difficult to discriminate between them. This component serves the purpose of discriminating between two related but different concepts.

4. Meaningful Repetition (MR)

By repeating a brief description of a concept, a term or a definition at regular intervals, the idea gets fixed in the minds of the learners. Repetition must be purposive, deliberative, meaningful and relevant.

3.8.1 Micro Teaching Lesson Plan No. 3

Skill: Explaining

Name of the teacher-trainee :
Subject : Physical Science
Class : IX
Unit : Units of Different Systems
Topic : Measurement
Date : Time : Duration: 6 mts

Teaching Points:

1. Fundamental units - Length, mass, time.
2. Different systems of units: CGS, MKS and S.I. systems.
3. Additional Units in S.I. System.
4. Definition of Standard unit of length (meter).

Steps	Teachers activity	Student's activity	Components
1. Introduction	Good morning students	Good morning Sir	
	How are you children?	Fine, thank you Sir	
2. Presentation	Kishore, How much, do you need to get your shirt stitched?	1.5 meters Sir	(C.L) (ILL)
	What 1.5 meters length or breadth?	Length	(CL)
	What is its breadth?	I don't know Sir	(CL) (CC)
	The breadth is the standard width of 1 meter, so we measure only length when we mean 1.5 meters it is 1.5 mts length and 1mt breadth	Observe it	(CC) (MR
	(showing chart)(Repeating) How many fundamental units of measurements are there?	Three	(CL)
	What are they?	Length, mass, time	(MR)
	How many systems of units are there?	Three	(CL) (ILL)
	What are they?	C.G.S., M.K.S and S.I Systems	
	What are the units of measurements in C.G.S system?	Centimeter, Gram and second	(CL)

Sl. No.	Components	Tallies	Rating of Performance						
			Not at all						Very much
1.	Cognitive Link (CL)		0	1	2	3	4	5	6
2.	Uses of Illustration (ILL)		0	1	2	3	4	5	6
3.	Compare and Contrast (CC)		0	1	2	3	4	5	6
4.	Meaningful Repetition (MR)		0	1	2	3	4	5	6
	Total								

3.9 SKILL OF PROBING QUESTIONING

When the teacher puts a question to a class, he gets various types of responses. The skill of probing questioning involves going deep into student responses through step-by-step questioning with a view to eliciting the required response. Each question is followed by a variety of student responses, such as no response, wrong response, partially correct response, incomplete response and correct response. Let us consider the fire response situations one by one.

1. No response situation

This situation may be due to student's inability to understand the question, to structured response, or due to lack of requisite facts needed for the purpose or responding or the failure to recall the related facts.

2. Wrong response situation

Wrong response to a question indicates the lack of knowledge of facts concepts and generalizations on the part of the student.

3. Partially correct response situation

They represent a partial knowledge of facts, concepts and generalization on the part of the students.

4. Incomplete response situation

Sometimes when an incomplete response situation occurs, we infer that either the student is not having the necessary facts, concepts or generalization in his memory or it may be due to his inability to understand and structure response to the question.

5. Correct response situation

Correct response situation refers to the statements expressed by the student.

Steps	Teacher's Activity	Student's activity	Components
	What are the units of measurements in S.I. System?	It is also a meter	(CL)
	How many fundamental Units are there in S.I. system?	Six	(CL) (CC)
	O.K, in C.G.S and M.K.S systems there are only 3 fundamental Units. What additional units are there in S.I. System?	Current, Temperature, and luminous intensity	(CL) (1LL)
	What are the unit measurements of current, temperature and luminous intensity in S.I. system?	Ampere, Kelvin, Candela	(CL)
	Can you define a meter, Anil?	1 meter = 100cm	(CL)
	O.K.(Showing a Chart) It is certain length of platinum rod maintained at 0 degree Celsius kept in the Achievers of Serves near Paris.	Students observe the chart	(ILL) (CC) (MR)
	It is taken as the standard unit of length called meter (Repeating once again)		
	It is more accurately defined as 1,650,363.33 times the wavelength of orange light emitted by krypton atom at normal pressure (Repeating) To day we have discussed the different systems of Units M.K.S. SI and C.G.S. Systems and also the definition for meter.	Students observe the chart	(ILL) (CC) (MR)

3.8.2 Observation Schedule

Skill: Probing Questioning

Name of the Teacher-Trainee :
Name of the Observer :
Subject : Physical Science
Class : VIII
Unit : Measurement
Topic : Unit of different Systems

Date : Time : Duration: 6 mts

The skill of probing questioning comprises of the components of behaviours of seeking further information, redirecting, refocusing and developing critical awareness.

The components are:

1. Prompting (P)
2. Seeking Further Information (SFI)
3. Refocusing (RF)
4. Redirecting (RD)
5. Developing Critical Awareness (DCA)

1. **Prompting (P)**

   Questions where there is a hint for the pupil(s) which helps in reaching expected response.

2. **Seeking Further Information (SFI)**

   Dealing with an incomplete response situation and partially correct response situation consists of eliciting additional information from the responding pupil t bring the initial response to the expected response in more complex and novel situations.

3. **Refocusing (RF)**

   Questions which seek the pupil to compare the phenomenon in his response with other phenomena either for similarity or contrast or for any other relationship.

4. **Redirecting (RD)**

   For more students involvement and to deal with 'no response' incomplete response' and 'partially correct' response, the same question is redirected to more students fro response.

5. **Developing Critical Awareness (DCA)**

   This involves asking 'why' and 'how' of the correct response. The teacher expects the pupil to justify his response or explain its rationale. This process develops his critical awareness.

3.9 SKILL OF PROBING QUESTIONING

3.9.1 Micro Teaching Lesson Plan No. 4

Skill: Probing Questioning

Name of the Teacher-Trainee :

Subject : Biological Science

Class : VIII

Topic : Non-renewable Resources

Date : Time : Duration: 6mts

Teaching Points:

1. Types of fuel.
2. Coal formation in earth.

Steps	Teacher's activity	Student's activity	Components
1.Introduction	Good morning students	Good Morning sir	
	How are you?	Find thank you sir	
2. Presentation	Ramu, how do you cook your food?	With Kerosene, gas and with wood etc.	(DCA)
	Which fuel is used in rail engine?	Coal, electricity, diesel etc.	(RF), (DCA)
	Good which fuel is used in scoters?	Petrol	(SFI)
	Where do you find the coal?	In the deeper layers of the earth	(DCA)
	Ok Where is coal mined out?	Coal is mined out from coalmines	(DCA), (RF)
	Where do we find coalmines in AP?	Singareni, Godavarikhani, Bhoopal pally, Man chiryal etc.	(DCA), (SFI)
	In which states do we find coalmines?	Bihar, Orissa Madhya Pradesh, and Andra Pradesh	(DCA), (SFI)
	Do you know how the coal is formed?	Yes, the coal is formed from dead plants	(SFI), (RF)
	What is that process called?	Destructive distillation and Carbonification	(SFI), (RD)
	How were the large tracks of forestland buried in earth?	Due to Volcanic activity and earthquakes	(DCA), (RF)
	How long was the dead plant buried?	For Several thousands of years	(DCA)
	How did the moisture squeeze out from the buried plants	The moisture was squeezed out due to the weight of rocks and great pressure exerted by soil on the buried plants.	(DCA), (RD)
	Was oxygen available in the deeper layers?	No, Oxygen was not available in the deeper layers	(SFI)
	What results from intense heat and pressure and absence of oxygen in the deeper layers of earth?	The plants were burnt partially and were converted into coal.	(SFI)
3. Conclusion	To day we discussed how the coal is formed and where it is available	Thank you, Sir.	

3.9.2 Observation with Rating Scale

Skill: Probing Questioning

Name of the teacher - trainee:

Sl. No.	Components	Tallies	Rating of Performance						
			Not at all						Very much
1.	Prompting (P)		0	1	2	3	4	5	6
2.	Seeking Further Information (SFI)		0	1	2	3	4	5	6
3.	Refocusing (RF)		0	1	2	3	4	5	6
4.	Redirecting (RD)		0	1	2	3	4	5	6
5.	Developing Critical Awareness (DCA)		0	1	2	3	4	5	6
	Total		**0**	**1**	**2**	**3**	**4**	**5**	**6**

Comments (if any) ----------

Check Your Progress : 6

Notes: (a) Write your answers in the space given below
(b) Compare your answers with those given at the end of the unit.

6. How will you stimulate pupils to complete their responses?

3.10 SKILL OF DEMONSTRATION

A demonstration is a showing. The demonstrations may be set up on a demonstration table which is usually kept in an elevated place so that all can closely watch the demonstration. It is an activity or process of teaching involving the showing of specimens or experiments to explain and describe the concerned concept, idea, teaching point etc., in the teaching learning process. This process makes the subject matter concrete with the real life satiations.

The Components are,

1. Appropriate Topic, Concepts, Ideas and Teaching Points (A)
2. Sequence, Order of Presentation (SOP)
3. Adequacy of Manipulative Skill (AMS)
4. Creation of Appropriate Situation (CAS)
5. Generalization (G)

(1) Appropriate Topic, Concepts, Ideas and Teaching Points (A)

It should be Appropriate to the Topic, Concepts, Ideas and Teaching Points.

(2) Sequence, Order of Presentation (SOP)

The sequential procedure in presentation of material indicates better preparation of the teaching learning activity.

(3) Adequacy of Manipulative Skill (AMS)

In the demonstration of experimentation the instruments or equipments should be repeatedly displayed in the teaching learning process.

(4) Creation of Appropriate Situation (CAS)

In the demonstration process appropriate physical situation with proper aids, instruments, diagrams, gestures etc., should convey the idea appropriately.

(5) Generalization (G)

Whenever the demonstration comes to an end, the teacher should conclude the theory and frame a rule or a principle. It can be called as generalization.

3.10.1 Micro Teaching Lesson Plan No. 5

Skill: Demonstration

Name of the teacher trainee :
Subject : Physical Science
Class : VIII
Concept : Archimedes Principle

Date: Time: Duration: 8 mts

Teaching points:

1. When a body is wholly or partially immersed in a fluid it experiences an upward thrust equal to the weight of fluid it displaces.
2. Weight of a body in the air is more than its weight when immersed in water.
3. When a body is immersed in water it displaces the water equivalent to its volume.

Steps	Teacher's activity	Student's activity	Components
1. Introduction	Good morning children	Good morning, Sir	
	How are you children?	Fine thank you, Sir	
2. Presentation	Does any one know swimming?	Yes. I can swim,Sir	CAS
	O.K. what do you feel when you dip in water?	I feel that I have lost some weight	CAS
	Today we discuss these phenomena and prove that result	Archimedes Principle	A
	Which Principle will explain this factor		
	CHART ARCHIMEDIS PRINCIPLE When a body is wholly are partially immersed in a fluid it experiences an upward thrust equal to the weight of the fluid it replaces		
	The teacher asks a boy to find out from the chart what apparatus are required for the experiment.	1. Spring balance 2. Stone 3. a vessel full of water 4. an empty vessel	SOP

	(The teacher explains the process) first we weight the stone in air, then we take a vessel and weigh it, we immerse the stone in water and note down the weight, we collect the overflowed water and weigh it; and then we verify the result.	Students observe it	SOP, CAS
	The teacher calls a boy to come to the dais, and asks to weigh the stone using the spring balance, and asks what does it read?	W1 gram	AMS
	The teacher takes an empty jar and asks the boy to weigh it.	W2 gm	SOP
	Then he asks the students to immerse the stone in water by means of a thread, and asks to read its weight on the balance.	W3 gm	AMS
	Then he asks the student to weigh the overflowed water along with the vessel	W4 gm	AMS
	The teacher asks "which weight is more, weight in air or weight in water?	In air	A
	What happened when the stone is completely immersed in water	It appeared to lose some weight	SOP
	How much does it lose?	W1-W3	SOP
	What is the weight of empty Vessel?	W2	SOP
	What is the weight with water?	W4	SOP
	What is the weight of water alone?	W4-W2	SOP
	Compare the results W1-W3, and W4-W2 and what is your inference?	They are equal	G
	The teacher concludes that the weight appeared to be lost by stone when immersed in water is equal to the overflowed water collected in the jar, the water, which is displaced by the stone.	Thank you, Sir.	G

3.10.2 Observation with Rating Scale

Skill: Demonstration

Name of The Teacher - Trainee :
Name of The Observer :
Subject : Physical Science
Class : VIII
Concept : Archimedes Principle

Date: Time: Duration : 8 min

Sl. No	Components	Tallies	Rating				
			Poor	Below Average	Average	Above Average	Excellent
1.	Appropriate topic, concepts, ideas and teaching points (A)		0	1	2	3	4
2.	Sequence order of Presentation (SOP)		0	1	2	3	4
3.	Adequacy of Manipulative Skill (AMS)		0	1	2	3	4
4.	Creation of Appropriate situation (CAS)		0	1	2	3	4
5.	Generalization (G)		0	1	2	3	4
	Total						

Comments (if any)
