
UNIT 15 SKILLS ASSOCIATED WITH TEACHER-CONTROLLED INSTRUCTION-I

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15.1 INTRODUCTION

Teacher performance is the most crucial input in the field of education. You, as a teacher, are responsible for teaching a particular subject or a portion of the prescribed content. In this situation your role is to keep the students always motivated, and help and guide them in learning. You should realise the need for achieving a wide range of objectives (output specification) in your students. The students in your class possess varying degrees of ability as some are brilliant who are interested in learning more, but a vast majority of them are average and some are below average. Of these, a few may be slow learning students.

In such a situation the teacher should use multiple instructional procedures because he/she can no longer rely on one technique to gain the interest of the class and to teach the material.

In this unit you will learn about the questioning skill, using different levels of questioning according to the levels of thinking of your students. You will also study the techniques of questioning in order to influence the learning of the students. Questioning is one of the most common techniques used by the teacher to make the student aware of and check his/her progress and understanding. The use of questioning helps the teacher become flexible and responsive to students. Questioning helps promote a student-centred learning environment while maintaining teacher-led instruction.

Besides questioning skills, you will also study the probing skills such as prompting, reinforcing and redirecting.

15.2 OBJECTIVES

After studying this unit, you will be able to :

- define questioning skill,
- state the levels of thinking vis-a-vis the level of questioning,
- describe various levels of questioning,
- discuss probing skills as prompting, refocussing and redirecting, and
- explain the importance of questioning in student learning.

15.3 QUESTIONING SKILLS

Questioning is a very important technique which every teacher should know thoroughly. Successful teaching is highly dependent on questioning. Questioning stimulates thinking. In a lesson, different types of questions, depending upon situation and purpose to be achieved, are used. Questions are used to help students recall certain facts, exercise their reasoning ability, and use their power of recognition and discrimination in enhancing their learning. Effective questioning encourages them to reflect over things and ideas, and leads them to participate in discussion.

- Questioning is a logical procedure of problem solving.
- Questioning is useful for presenting the tentative nature of knowledge.
- Questioning is used in solving problems.
- The teacher encourages the learners to seek more than one answer for a question.
- The teacher uses questioning to achieve learning objectives.
- The teacher uses questioning to assess students' understanding.
- The corner stone of any effective teaching technique is questioning. It is a critical skill that can be used in teaching any subject and any grade.

Thus questioning promotes involvement, enhances learning, and motivates students.

Let us examine why questioning is an essential skill for a teacher. A teacher equipped with effective questioning skill can :

- help the students display/test their knowledge
- elicit desired information from students
- develop subject-matter in the class
- enable students to analyse the problems related to the topic being taught
- enable students to apply their knowledge to a specific new situation
- help students evaluate for themselves their understanding of the concepts, and
- motivate students to participate in the teaching-learning process.

15.3.1 Questioning and Levels of Thinking

All that the teacher can do of his/her students is to develop their ability to think critically. Thinking is a continuous activity. It acts as a stimulus to thought, and leads to solution of the problems faced by the students.

Questioning stimulates thinking. The level of students' thinking depends upon the level of questions asked by the teacher. The level of questioning is determined by the objectives to be achieved through teaching-learning activities. The way a question is structured communicates the purpose for which it is asked and the students' thinking is structured accordingly. The level of the question is also determined by the level of the responses given by the students. In order to elicit responses at different levels from the students, we can frame questions at different levels.

While constructing questions at different levels, you can use different taxonomies of educational objectives. You have already studied about Bloom's taxonomy of educational objectives in Unit 6 of Block 2. According to Sanders, the knowledge level in Bloom's taxonomy refers more to the subject matter than to the thinking process. He has, therefore, renamed this level as the **memory level**.

Many researchers have divided the levels of thinking into different categories such as high and low, broad and narrow, open and close.

15.3.2 Orders of Questioning

Many researchers have worked on the styles and types of questions. Broadly, there are four types of questions. These are :

- Low order questions
- Middle order questions
- Higher order questions
- Follow-up questions

Let us briefly examine each of the levels of questions.

i) **Lower order questions** : This level of questions are limited to memory level of thinking which forms the basis of higher level learning. These questions merely deal with the mode of expression, such as "Define the feeling of patriotism in your own words".

ii) **Middle order questions**: The questions at the middle level involve interpretation of facts/concepts being taught or already learnt. Interpretation involves comparison or explanation of relationship between ideas, concepts, generalisations, etc.

In comparison questions, the students are asked to find out similarity or dissimilarity between two or more ideas, concepts or definitions. Questions such as – "Compare the market system of India and China" or "What are the differences between the powers of the Prime Minister and the President of India ?" - are comparison questions.

In explanation questions the students are asked to explain the relationship between two or more facts, concepts, values, and generalizations. In explanation, the cause and effect relationship is represented in the form of description or numerical expression. The examples given below will help you understand middle order questions:

- What is the central idea of the poem ?
- How can you prove that blood is purified in heart?

In application type questions, the students are asked to recall knowledge acquired in one situation and apply it in another situation. An important feature of middle order questions is that they are used to transfer already acquired training or learning to solve new problems faced by the students. The following examples illustrate middle order questions :

- Why does the pressure cooker whistle after the liquid has started boiling? (application of knowledge)
- The condition of women in India is very poor. Discuss the statement with suitable evidence. (a deductive approach)
- Examine and suggest the type of industry that should be established in a particular area. (knowledge of raw materials in relation with industrial production)

iii) **Higher order questions** : The questions at this level encourage children to think, to reason beyond acquired knowledge, to analyse problematic situations into their elements and to discover the interrelationship among those elements. These questions enable the students to produce new ideas and to develop creative and reasoning abilities. The skills promoted by higher order questions may be divided into three levels : analysis, synthesis and evaluation.

Analysis implies breaking the given idea, situation, generalization into its components in order to study their mutual relationship. Both inductive and deductive approaches are used in analysis. In inductive analysis, an idea is derived after observation from a number of given situations. In deductive approach, the situation is just the reverse. It starts from a generalisation, value, concept or idea and different examples are developed from given generalisation. Inductive and deductive analysis forms the scientific basis of higher order thinking among students. You should ask higher order questions of your students so that they can think critically. The following examples will help you understand various types of high order questions:

- How does the movement of earth cause the cycle of days and nights? (An inductive reasoning to find out the law)
- How does smoke pollute the air?

Synthesis is a unique process of representing the ideas, facts and concepts so that the final representation becomes new and different, e.g. interpretation of some phenomenon after many observations.

Sometimes synthesis implies the ability to interpret imaginary situations. The ultimate aim of this level of questioning is to develop higher level of thinking, and to train the students to synthesise new knowledge. A single question at the synthesis level can elicit a good deal of thinking from students. The following examples will give you an idea about the types of questions at the synthesis level.

- What will happen when the population of a country doubles within just five years?
- What type of working system can be adopted in a community with fewer resources and more people?

Evaluation is done in order to assess the achievement level of the students based on the predecided standards. Questioning requiring evaluation of an object, concept, value, etc., are included in the evaluation tool.

The following examples will give you an idea about questions at evaluation level :

- Why do you think that working conditions in free India are better than British India? (seeking justification)
- Why do you like to follow co-operative working in your school? (seeking judgement)
- Describe your ideas regarding saving for national development. (seeking evaluation).

Check Your Progress 1

Note : Compare your answers with those given at the end of the unit.

Match the items under Column A with those under Column B.

Column A

- i) Higher order questions
- ii) Lower order questions
- iii) Middle order questions

Column B

- a) Recall and recognition
- b) Interpretation and comparison
- c) Analysis and synthesis

15.3.3 Fluency and Delivery of Questioning

Fluency and good delivery of questions in classroom is an integral part of the skill of questioning. The rate of meaningful questions put per unit time by the teacher is called fluency of questioning. Meaningful questions are those which are relevant to the concept being taught, are well structured and delivered effectively (from communication point of view). There are three components of the skill related to fluency and delivery of questions:

- Structure
- Process
- Product

Let us examine each of these components in detail.

i) Structure : You should know the technique of structuring the question to suit the requirement of the students and the concepts being taught. Structuring of the question is in fact a technique of formulation of questions. The content and language used play an important role in framing and delivering the questions. The content part of a question refers to the subject matter and its language part refers to the following five aspects.

- a) Grammatical correctness
- b) Conciseness
- c) Relevancy
- d) Specificity, and
- e) Clarity

Let us elaborate each of these five aspects with the help of suitable examples.

a) Grammatical correctness : You as a teacher, are expected to use grammatically correct, unambiguous and simple language. Carelessly used language creates confusion. Students will take more time to understand and respond to a question if it is improperly worded. Such a practice will create hindrance in fluency and good delivery of your questions, and this will reduce your effectiveness and hold up the progress of your students.

Here are two simple examples of wrongly worded questions and their correct versions:

Where is Rani Durgawati born ? (Wrong)

Where was Rani Durgawati born ? (Correct)

Where did Olympic games started ? (Wrong)

Where did the Olympic games originate ? (Correct)

b) Conciseness : Conciseness refers to the minimal but essential length of a question. A question should be direct and straight forward about the content; it should be concise and free from redundancy. Teachers often use more words than are necessary in their questions. Extra words should be always avoided because very long questions or questions that have more words than are necessary make communication less effective; they confuse and bore students.

The following examples will help you understand the importance of proper use of words while framing a question.

Incorrect : Does anybody in the class know, when India became a Republic ?

Correct : When did India become a Republic ?

You have seen that the first question contains extra words which should have been avoided. At the same time we should not be miserly in the use of necessary words. A question can not be treated as a telegram with minimum words. A good question should always contain the appropriate number of words. It should convey whatever is intended to be conveyed : it should convey neither more nor less.

c) Relevance : As has already been mentioned, your question should be relevant to the content and the context. Besides, the questions should suit the mental level of your students. The ultimate objective is to use questions as a tool for effective teaching and learning. The teacher should be able to teach better and the learners learn better. Questions which are not related to the topic being taught are irrelevant and they confuse students. Use of terms which are beyond the knowledge of students is also irrelevant. A good question should use only such terms which are understood by the students.

d) Specificity : The question should be specific to the content and should call for a single answer.

Example — Which is the adjective in this sentence ?
Which is the longest river of the world ?

e) Clarity : As the term indicates, clarity in terms of content and language is an essential component of questioning skill. Clarity increases the fluency and delivery of questions. If a question is not clear enough, it will lead to misinterpretation and as a result a teacher will have to provide necessary explanation or clarification.

ii) Process : The process of formulating and asking question has more than one aspect/component. There are four major components of skills related to the process of questioning. These are: speed, voice, pause and style.

We shall elaborate each of these components with the help of suitable illustrations.

a) Speed of asking questions : You should not ask question at a slow speed, in pieces or hurriedly. Very slow speed of questioning decreases the fluency of questioning and is a time consuming activity. Very hurriedly asked questions do not provide any clear idea about the intention of the teacher and may become difficult for students to understand the question and to respond to it. Question asked with unnecessary pauses also create hindrance in the way of its proper understanding. See the following examples :

- How many months are there in a year ? (asked very rapidly)
- How.....many.....months.....are.....there....in.....a year? (too slow)
- How.....many months.....tell me Kamala are there.....in a year ?
(in pieces/i.e. fragments)

b) Voice : While asking questions your voice should be audible and clear enough so that every student understands the question properly. You should ask questions in a slightly raised voice to enable the students sitting at the back to hear you. By doing so, you can also detect those students who are hard of hearing or have some hearing problems.

c) Pause : Pause is defined as the time or the period of silence given by teacher just after the delivery of the question to the class. Pause helps the students understand and think about the question and formulate its answer. Pause enable students to understand the intention of the teacher about the level of the answer he expects of the students. The length of the pause depends on the type of the question asked. However the guidelines for pauses are as follows :

- Short pause for memory level answers.
- Relatively longer pause for answers to higher order questions.

A pause after the interrogative words such as 'who', 'which', 'where', gives stress on the expected correct response.

Note the following examples :

- Where..... (a little pause) was Mahatma Gandhi born ? (pause)
- Who..... (a little pause) is known as 'the Iron Man of Indian politics' ? (pause)
- Which building..... (a little pause) in India is famous as the monument of love ? (pause)

d) Style : You should take care that the question should be put using a style suitable for questioning and in a declaration style which is used for statements. The question should be asked in a properly modulated and pleasant tone and friendly manner.

Besides observing the above mentioned components of the skill of fluency and delivery of questions, you should take precaution to avoid unnecessary repetition of a question. The repetition of a question leads to wastage of time and this practice encourages students to be inattentive. Therefore you should not repeat a question unless it is necessary to do so. This is important in order to maintain fluency of questioning.

You should also avoid repeating the answer given by the student as it results in more teacher talk, wastage of time, distraction of students' attention and decrease in fluency in questioning.

iii) **Product** : The product means the student's answer to the question asked by the teacher. Question followed by answer is an effective strategy for sustaining the teaching learning process. The product of questioning depends on various factors. Chief among these are the following :

- The students may not be intelligent enough to understand the question you have asked
- The language of the question may be of a higher difficulty level for students
- The students may not be taking interest in your class
- The students may be inattentive in your class or may be disturbed by the noise in the environment, or
- There may be lack of rapport between the teacher (you) and the students.

In all these situations you should re-examine your teaching strategies and find out the cause of students' non-response. Once you are sure about the cause (s), you can decide upon the remedial mechanism to be used. You can explore the reasons as to why they are non-responsive to the questions asked. You can also observe the students' behaviour and find out the factors (such as fatigue, disturbing physical environment, etc.) responsible for their passive behaviour and non-response. You can even undertake action research in order to make your teaching more effective and result-oriented.

By now you have studied the various components and skills related to questioning. In the following section you will study the skills associated with probing. But before that you should check your progress so far.

Check Your Progress 2

Notes : a) Write your answers in the space given below.

b) Compare your answers with those given at the end of the unit.

Find out the defects in the following questions and write your response locating the type of defect.

- a) Can you tell me about Mr. Ballabh Patel ? What portfolio he had been given in the Ministry ? Why is he famous for ?

Your response

- b) The teacher is teaching about the historical buildings of Agra. He asks the following questions :

- Who had built the Kutub Minar ?
- What is the importance of history teaching ?

Your response

- c) Teacher: When did India gained freedom ?
 Student: 15th August, 1947 ?
 Teacher: Yes, in 15th August, 1947 India gained freedom.

Your response.....

- d) Teacher: How does a farmer increase cultivation ?
 Teacher: In what ways does a farmer increase the production ?

Your response.....

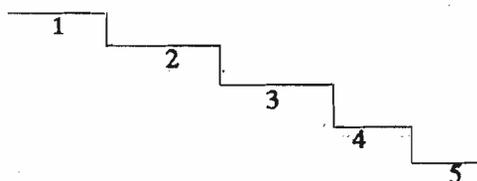
15.4 PROBING SKILLS

When the students are asked questions, they give various types of responses. Their responses may be incorrect, partially correct or completely correct. In case of incorrect or partially correct responses you have to lead your students to the correct response. You have to go deep and probe into their responses by asking a number of supplementary questions on what they already know and then lead them to the correct response by removing the defects, if any, in the wording of the question or hindrance in understanding the question. Even if the response is correct, you can lead the students towards a better and broader perspective of the response. The technique that deals with student response, going deep into students' knowledge by asking a series of questions, is called probing.

Probing is a specialised skill that should be acquired by all teachers who are keen to become more effective. You therefore should know and use probing skills to help your students learn more and better. From the point of view of discussion and clarity, we can divide probing skills into five components.

They are:

- Seeking further information
- Prompting
- Refocussing
- Redirecting
- Increasing critical awareness



Let us study each one of these in some detail.

15.4.1 Seeking further Information

If the initial response of the student is partially correct or incomplete, you should help him elaborate, clarify or explain the response. You can elicit more information or seek further information by asking additional questions. These questions will help the student supply additional information to complete the response, and/or remove shortcomings.

- What do you mean by the term "culture" you have used in your statement ?
- Can you define it in some other words ?
- Can you give some examples to support your view ?

The purpose of seeking further information is to encourage the students to supply additional information and bring the initial response to the criterion level. You can motivate them to complete their responses by asking questions like

- What more can you add to your response ?
- State your answer in other words.
- Will you please elaborate your answer ?
- How can you make your answer more clear ?
- Add some examples to support your response.

You, as a teacher, should monitor closely the underlying rationale of the student response and correct his faulty assumptions if there are any.

15.4.2 Prompting

A teacher prompts when he gives clues or hints and helps his students by asking them leading questions. The objective of using these devices is to help the student answer the question correctly and adequately by himself. This skill allows the teacher to probe the student's knowledge by prompting him.

You can use prompting when your student has difficulty in answering the question correctly. Prompting questions consist of a series of questions which help the student develop the correct answer. The teacher should begin prompting the student from what he/she knows and then proceed towards the standard response. Prompts can thus help your pupil to arrive at the correct response by means of a systematic and step-by-step questioning process. The following example will give you an idea about the manner in which a prompt is used in questioning.

Teacher : How is blood purified in lungs ?

Student : I do not know.

Teacher : Can you tell what happens to the oxygen we inhale?

Student : It is filled in the lungs.

Teacher : What happens to the haemoglobin which is present in the blood capillaries in lungs ? (giving hints and prompts).

15.4.3 Refocussing

Generally when a pupil gives a correct response, the teacher relates that answer with the topic already taught. This refocusses his (i.e. the student's) or the classes' attention to the related topic/unit. The main aim behind this is to make the student aware of the implications of a given response in more complex and novel situations.

Example: In what way it is different from ?

In what way it is similar to ?

How does it relate to?

What is the other point of view of?

15.4.4 Redirecting

A teacher 'redirects' a question when he puts or directs the same question to several other students for the desired response. The main purpose of redirecting is to probe and increase student participation. When there is no response, incomplete response or incorrect response, you can probe further by prompting or seeking further information. In this situation you may involve other students of the class as also. You may put the same main question to many students in order to get the expected response.

Example: Teacher: What were the reasons for the out break of plague in the mid of 1994 ?

Student : No response

Teacher : Sarla (redirecting)

Student : Due to rats

Teacher : Was there anything regarding unhygienic condition ? (prompting) Neeta ? (redirecting)

You have seen that even the same question may be redirected in the form of probing question.

15.4.5 Increasing Critical Awareness

Teacher tries to increase the students' critical awareness when he aims at eliciting 'why' (reason) and 'how' (process) of a correct response from them. The main purpose of this component is to find out the student's increased critical awareness. The teacher asks questions to justify the student's responses rationally. Therefore you can elicit a reason for a student's initial response.

Example: How can you prove it ?

What are you thinking/assuming here ?

Why do you favour this ?

When questions as those given above are asked they increase critical awareness among students about the correct response.

Check Your Progress 3

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

i) a) What is the use of prompting questions ?

.....
.....
.....

b) What do you mean by questioning for seeking further information ?

.....
.....
.....

c) What is the importance of refocussing ?

.....
.....
.....

ii) Column A shows the component and Column B has some statements. Match words or phrases under Column A with those under Column B.

Column A
(Components)

Column B
(Statements)

- | | |
|--|--|
| a) Seeking further information | i) to give hints to students |
| b) Refocussing | ii) to direct questions to other students |
| c) Prompting | iii) to seek more information from students |
| d) Redirecting | iv) to elicit rationale for the given correct answer |
| e) Increasing students' critical awareness | v) to ask related questions on previously taught lessons |

iii) Which type of probing questions are the following :

- Name the other historical buildings of Agra ?
- Can you add something more to your answer?
- What were the other causes of freedom struggle of India.....
- Why do you think that people of the country are facing problems?

iv) In the following situations which probing questioning skill should be used ?

a) student does not give response

.....

b) student gives incomplete response

.....

c) student gives correct response

.....

d) student can not justify the response

.....

15.5 LET US SUM UP

In this unit you have studied that questioning is a skill that is used in order to make the student think logically about the response to a question. Questioning has various levels and these levels have a relationship with the students levels of thinking. Lower level questions stimulate lower level of thinking usually limited to the memory level, while higher order questions lead them (i.e. the students) to a higher level of thinking.

The skill of fluency and delivery in questioning is concerned with asking as many meaningful questions as appropriate within a given period of time. A question is said to be meaningful if it is well structured (i.e. grammatically correct, relevant, specific, and concise) and is put in a proper manner with appropriate speed, pause, voice, and style. Questioning becomes more meaningful when it is followed by a student response (product) of the student. The teacher can analyse and find out the difficulties in smooth interaction between the teacher and students and initiate remedial measures. These steps can help remove the non-responsive behaviour of the students.

Under probing skills you have studied various components of probing i.e. how to seek further information and prompt the students to provide required response. You have also studied that refocussing in probing skills helps the student relate the recently acquired knowledge to his/her previous knowledge. You have also studied that redirecting questions to other students increases student participation in the teaching-learning process. Lastly, under probing skill, you studied about various ways of increasing critical awareness among the students.

The probing skills can be developed by practising questions related to seeking further information, prompting or giving hints to help the student give criterion response. Using the skill of probing you may refocus his/her present knowledge to the previous one, or direct other students in the class to give correct response. You should also increase critical thinking among your students through probing even if the response made by them is correct.

15.6 UNIT-END EXERCISES

1. Observe two teachers teaching their subjects - English and Science - for examples to their students. Prepare a list of questions they used during their teaching. Classify the questions according to the types of questions.
2. Observe the classroom teaching of a senior teacher and describe how is he using skill probing questions.

15.7 ANSWERS TO CHECK YOUR PROGRESS

- | 1. | Column A | Column B |
|----|---|----------|
| | i) | c) |
| | ii) | a) |
| | iii) | b) |
| 2. | a) Lack of fluency because of unnecessary words - "Can you tell me". | |
| | b) Irrelevant | |
| | c) Repetition of student's response | |
| | d) Repetition of question by the teacher | |
| 3. | i) a) By going deep into the incomplete or no response of the student to lead him to the correct response | |

- b) Seeking more information regarding the response
- c) Relating the present answer to the topic already covered in class or the previous knowledge of the student

ii) **Column A** **Column B**

- | | |
|----|------|
| a) | iii) |
| b) | v) |
| c) | i) |
| d) | ii) |
| e) | iv) |

- iii) a) Seeking further information
- b) Seeking further information
- c) Seeking further information
- d) Increasing critical awareness
- iv) a) Prompting
- b) Prompting
- c) Increasing critical awareness
- d) Seeking further information

15.8 SUGGESTED READINGS

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