UNIT 9: AUDIO-VISUAL TECHNIQUES IN TEACHING

UNIT STRUCTURE

9.1 Learning Objectives

9.2 Introduction

9.3 Concept of Audio-Visual Techniques in Teaching

- 9.3.1 Types of Audio-Visual Techniques in Teaching
- 9.3.2 Need and Significance of Audio-Visual Aids in Teaching
- 9.3.3 Guiding Principles of the Use of Audio-Visual Aids in Teaching
- 9.3.4 Limitations of Audio-Visual Aids

9.4 Let Us Sum Up

9.5 Further Reading

9.6 Answers to Check Your Progress

9.7 Model Questions

9.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- explain the concept of audio-visual techniques in teaching
- describe the need and significance of audio-visual aids in teaching
- classify the types of audio-visual techniques or aids
- discuss how to make effective use of the audio-visual aids in teaching
- identify the drawbacks of audio-visual techniques in teaching.

9.2 INTRODUCTION

An important development in modern education is the increased use of supplementary devices. By using these devices, the teacher can help the student or learner to clarify the concepts and also enrich his/her imagination. This unit introduces you to the meaning and concept of audio-visual techniques in teaching. In this unit, we are going to discuss the need and significance of audio-visual aids, classification of the different types of

audio-visual techniques in teaching, and specify the guiding principles for their use in teaching. Let us discuss the unit in detail.

9.3 CONCEPT OF AUDIO-VISUAL TECHNIQUE IN TEACHING

Audio-visual aids in teaching may be described as the most suitable learning device through which knowledge and concept of anything may be communicated between the teacher and the taught more conveniently. According to **K. S. James**, ‘‘audio-visual aids are any device which can be used to make the learning experience more concrete, more realistic and more dynamic.’’ According to **Edger Dale**, ‘‘audio-visual materials supply a concrete basis for conceptual thinking they give rise to meaningful concepts to words enriched by meaningful associations. Hence, they offer the best antidote available for the disease of verbalism.’’

The traditional method of teaching is said to be verbal and theoretical. It is based on verbal deliberation of the teacher and passive learning of the learner. This kind of one sided auditory experience is difficult to understand and still more difficult to be kept in mind.

The research findings in this regard have also revealed that man acquires about 80% of knowledge through the visual senses, whereas only about 10% of them are acquired though the auditory senses. The visual effect has, therefore, the greatest impact on our learning, retaining and remembering. It is also popularly said that seeing is believing. Thus, usual and auditory effect of experiences combined together may give more powerful, lively and lasting impression in our mind for knowledge and understanding. Therein lies the importance and significance of the use of audio-visual aids in education.

9.3.1 Types of Audio-visual Techniques in Teaching

At present improved means of audio-visual aids based on modern science and technology are being used widely in education. It has opened up a wider scope and prospect of educational

communication between the teacher and the taught. They may be divided into **three** different types as audio materials, visual materials and audio-visual materials. Specific instruments and devices of such materials are mentioned below.

i) **Audio materials:** They are radio sound distributors, tap recorders, audio-cassettes, gramo-phone record, language laboratories etc.

ii) **Visual materials:** They are chalk board, pannel board, bulletin board, charts, maps and globes, photographs, cartoon, picture, film strips, slides, posters, diagrams, banners etc.

iii) **Audio-visual materials:** They are movie films, television, computer, video taps, drama, puppet show, demonstration etc.

Audio-Visual Aids

Audio Materials	Visual Materials	Audio-visual Materials
● Radio	● Chalk Board	● Movie films
● Sound	● Bulletin Board	● Television
● Distribution	● Flannel Board	● Computer
● System Sets	● Charts	● Video Tapes
● Tape Recording	● Maps	● Drama
● Audio Cassettes	● Drawing	● Puppet show
● Gramophone	● Globes	● Demonstration
● Record	● Graph	● Printed Materials
● Language	● Slides	● With Recorded
● Laboratories etc.	● Posters	● Sound etc.
	● Diagrams	
	● Banners	
	● Photograph	
	● Magnetic Boards etc.	

Types of Audio-visual Aids



LET US KNOW

- Audio-visual devices are added devices that help the teacher to clarify, establish, corelate and coordinate accurate concepts and make them effective, interesting, meaningful and vivid.
- Audio-visual aids may be divided into three different types such as– audio materials, visual materials and audio-visual materials.



CHECK YOUR PROGRESS

Q.1: Give the meaning of audio-visual aids in education. Write within 30 words?

.....

.....

.....

.....

Q.2: Mention the different types of audio-visual aids.

.....

.....

.....

9.3.2 Need and Significance of Audio-Visual Aids in Teaching

The need, importance and significance of audio-visual aids in modern teaching-learning activity may be highlighted with the following points.

- **Removing complexity of teaching:** Audio-visual aids are very helpful to make the teacher's thoughts and ideas clear to the student. These aids easily make the idea clear which otherwise may not be possible through a good deal of the verbal explanation. They may remove complexity that may arise out of the verbal nature of teaching.

- **Abstract thought made concrete:** Teacher's verbal instruction generally remains abstract and obscure in the learner's mind. As such, the learners are required to take help of imagination in learning. But audio-visual aids can remove such abstract thought and imagination and give a clear impression of learning in mind.
- **Makes teacher's instruction realistic:** Audio-visual aids make teacher's verbal instruction realistic by removing all forms of illusion and misconception. They enable the students to keep the learning content in mind for long. They also help to make effective use of language when required.
- **Gives training of the senses:** Audio-visual aids can give direct sense training to the visual and auditory senses. There is the double impact of seeing and hearing in learning. As such the subject matter can easily attract the attention of the students and leave a lasting impression in their mind.
- **Motivates learning:** In education creating motivation in learning is a major responsibility of the teacher. These aids can motivate the students and make their minds curious to know the unknown and see the unseen. Motivation in learning can be easily created and thereby the act of learning is made simplified.
- **Creates playful situations:** Effective use of these aids can make the class room teaching-learning situation quite playful, joyful and spontaneous for students. Teaching and learning may appear to be quite lively and natural which may yield maximum results.
- **Creates attention and interest:** Audio-visual aids are the instruments that may easily create attention and interest in learning for all sections of people, young and old, brilliant and backward. They remove the monotony and dullness created by the traditional verbal nature of teaching.
- **Environment of freedom:** These aids are capable of creating an ideal situation of teaching and learning with freedom and spontaneity that are usually lacking in verbal teaching. The learner may feel the freedom of movement in the manipulation and use of the teaching aids which is essential for self learning.

- **Economy of time and effort:** Audio-visual aids are the devices that may save time and labour in teaching learning activities. The teacher is not required to take the trouble of making verbal explanations of things through words. Students are also not required to indulge in the abstract and conceptual learning. Consequently, it gives economy of time and effort to both the teacher and the taught.
- **Based on maxims of teaching:** Education through the audio-visual aids is based on teaching from simple to complex, concrete to abstract, and from the known to the unknown. Application of these principles in the class room teaching through use of these aids naturally makes learning simplified.
- **Serve the need of individual differences:** Learning is an individualised activity that involves one's own ability and rate of progress. All individuals are not able to exercise their visual and auditory senses equally. Audio-visual aids may act as a psychological device to individual learning.
- **Helpful for mass education:** Owing to the simplified means of learning provided by these aids, they are now being used as mass media of education. They provide a wider and better scope for mass education for removing adult illiteracy and in serving their educational need. These aids have, therefore, materialised the principle of democracy in education in its more practical sense.
- **Reduces verbalism:** Verbal and even printed words do not prove teaching to be more effective. Audio-visual aids can remove the problem of too much of verbalism and make the learners' knowledge and experience subjective and obscure. The teaching aids act as the ***antidote*** to verbalism in teaching.
- **Solves the problem of indiscipline:** Passive reception of knowledge may give much time and opportunity to students for indulging in undisciplined behaviour. The use of audio-visual aids do not give the students enough time and opportunity to indulge in such behaviour as they are required to be busy with those aids presented.

- **Develops scientific out look:** The use of audio-visual aids makes active learning of the students possible in the class room. They are required to perceive and observe and find out solution to problems themselves. As such the students with creative bent of mind may find scope for the development of scientific out look and attitude in their learning.



LET US KNOW

The need and significance of audio-visual aids in modern teaching are–

- Removing complexity of teaching
- Abstract thought made concrete
- Makes teacher's instruction realistic
- Gives training of the senses
- Motivates learning etc.

9.3.3 Guiding Principles of the Use of Audio-Visual Aids in Teaching

Audio-visual aids are the means to simplify teachers instruction to students in the class room. But if they are not used effectively, it may cause more harm than good. Keeping in view this fact, a teacher should follow certain guiding principles in making use of these aids. If better result are to be ensured in this respect our attention may be focused on the following points.

- **Training of the teacher:** Teachers need to be professionally trained in the use of audio-visual aids in the class room teaching. He /she should prepare some of the aids suitable for the teaching of his/her subject. The teacher must look for the innovative nature of the audio-visual aids.
- **Consideration of the age of students:** The teacher should make use of the teaching aids and apparatus keeping in view the students' age, mental ability, intellectual status and interest. All

types of aids are not equally useful and applicable to all grades and levels of students. The teacher should be in a position to judge them and use them accordingly.

- **Effective planning:** The teacher should make effective planning of the instruments before making use of them in the classroom as to which instrument or apparatus is to be used, when to use and for how long. This should be previously planned by him. He should be very careful about the need and relevance of the aids and their use for teaching.
- **To see reasonbleness:** In some cases and occasions instruction to students may be given effectively without making the use of these aids and apparatuses. In that case he should not make deliberate use of the teaching aids. He should see that the use of the teaching aids makes his verbal instruction easier, simple and natural for the students.
- **Teaching should not be overpowered:** Teacher should always keep in mind that the instruments are nothing but the aids to teaching. If he gives more importance to the use of the audio-visual aids in that case the major points of teaching may be frustrated and get lost in them. So, he should see that teaching aids do not overpower the act of teaching.
- **Working knowledge of the teacher:** The teacher should have some working knowledge in the use of the audio-visual aids. He should be able to tackle the mechanical defects arising in their use in the classroom. For this purpose, he should have necessary knowledge of the technical defects of the teaching aids to be removed at the points of time.
- **Proper maintenance:** The use of audio-visual aids largely depends on proper preservation and maintenance of the materials. It is the duty of the teacher to inspect and examine their effectiveness and workability from time to time. Any instrument or apparatus found to be defective and not in order should be immediately taken for repairing.

- **Keeping in safe custody:** The teacher should also see that the teaching aids are properly kept preserved under his safe custody and they are not made easily available to the students. A laboratory assistant or a store keeper should be appointed for the purpose of looking after them.
- **Teacher evaluation:** Audio-visual aids should provide scope for need, innovation, and experimentation to the teacher. He should try to find out new ways and means and materials for a better and more effective use of these aids. For this purpose he should undertake necessary research study and make new evaluation of the aids used in the classroom.
- **Students preparation of the teaching aids:** The teacher should not only use the audio-visual aids already prepared and stored up, but he/she should also encourage the students to prepare some of the aids with their own hands. More particularly, charts, maps, models, drawings, diagrams etc. should be given to be prepared by the students themselves. This can be done more effectively in the higher classes.



CHECK YOUR PROGRESS

Q.3: Mention some of the points about the need and importance of the audio-visual aids in teaching.

.....

.....

.....

.....

Q.4: How can one make effective use of the audio-visual aids in teaching? (Mention only five points)

.....

.....

.....

.....



ACTIVITY 9.1

Discuss the place of audio-visual aids in modern education. Describe a teaching aid that you can prepare and use in a classroom.

.....

.....

.....

9.3.4 Limitations of Audio-visual Aids

In spite of the advantages of the educational use of audio-visual aids there are some limitations of the use also. The following points will show the limitations:

- These aids are the media and means and not the end in education.
- They are unfit for use in all the subjects equally.
- They are not meant for entertainment as some people may consider, but for use in education.
- Appropriate use of these aids may minimise the gravity and seriousness in learning.
- Sometimes, they are not educationally effective and may be counter-productive in the hands of the untrained teachers.
- Audio-visual aids are unnecessary for the students who are intellectually superior and have better perceptual ability.
- Unplanned and accidental use of them in the class room by the teacher may spoil learning and teaching.



9.4 LET US SUM UP

- Audio-visual aids are the means by which the learning process may be encouraged or carried on through the sense of hearing or sense of sight.

- Audio-visual aids may be divided into three different types such as - audio materials, visual materials and audio-visual materials.
- Audio-visual aids give variety to classroom techniques.
- The need and importance or significance of audio-visual aids in modern teaching are- removing complexity of teaching, abstract thought made concrete, making teacher's instruction realistic etc.
- The guiding principles of the use of audio-visual aids are -training of the teacher, consideration of the age of students etc.
- The limitations of audio-visual aids are– these aids are the media and means and not the end in education, they are unfit for use in all the subjects equally; they are not meant for entertainment as some people may think but used for teaching learning responses.



9.5 FURTHER READING

1) Aggarwal, J. C. (Fifth Edition, 2003). *Essentials of Educational Technology, Teaching-Learning*. Mumbai: Vikash Publishing House.
2) Kochar, S. K. (Reprinted 1975). *Methods and Techniques of Teaching*. New Delhi: Sterling Publishers Pvt. Ltd.
3) Witch, W. A. & Chales, F. S. (1953). *Audio-Visual Materials: Their Nature and Use*. New York.



9.6 ANSWERS TO YOUR PROGRESS

Ans. to Q. No. 1: Audio-visual aids in teaching may be described as the most suitable means through which knowledge and concept of anything may be communicated between the teacher and the taught more conveniently.

Ans. to Q. No. 2: Audio-visual aids may be devided into three different types such as– audio materials, visual materials and audio-visual materials.

Ans. to Q. No. 3: The need and importance or significance of audio-visual aids in modern teaching are– removing complexity of teaching, abstract thought made concrete, makes teacher's instruction realistic, gives training of the senses, motivates learning etc.

Ans. to Q. No. 4: The guiding principles of the use of audio-visual aids are– training of the teacher, consideration of the age of students, effective planning, teaching should not be over powered , working knowledge of the teacher etc.



9.7 MODEL QUESTIONS

A) Short Questions (answer each question in aout 150 words)

Q.1: What is meant by audio-visual aids?

Q.2: Explain briefly the importance of using audio-visual aids in teaching.

Q.3: Describe the relevance of using audio-aids and video-aids for serving the purpose of good teaching.

B) Long Questions (Answer each question in about 300-500 words)

Q.1: What are some of the audio-visual aids? How are they useful in teaching?

Q.2: How to make the effective use of the audio-visual aids in teaching? Discuss.

Q.3: Discuss the limitations of audio-visual aids in modern-day education.

*** ***** ***

UNIT 10: BASICS OF COMMUNICATION

UNIT STRUCTURE

10.1 Learning Objectives

10.2 Introduction

10.3 Meaning and Definition of Communication

- 10.3.1 Meaning of Communication
- 10.3.2 Definitions of Communication

10.4 Characteristics of Communication

10.5 Purpose and Scope of Communication

- 10.5.1 Purpose of Communication
- 10.5.2 Scope of Communication

10.6 Let Us Sum Up

10.7 Further Reading

10.8 Answer to Check Your Progress

10.9 Model Questions

10.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- define the meaning of communication
- describe the characteristics, purposes and scope of communication.

10.2 INTRODUCTION

This unit introduces you to some basic concepts of “Communication”. These include meaning and definition of communication, characteristics of communication, purpose and scope of communication. As a beginner, we must proceed with the concept of communication.

We all know that man is a social animal and he/she cannot live without society. As a member of the society, one has to depend on others and has to take help from others. But the question is, how does one know what the other wants? One has to convey his feelings, thoughts, ideas, and requirements etc to another person in such a way that the latter understands

them correctly. This means, as a social individual, we have to live in the society and have to communicate with other persons for most of our daily activities.

In our social interaction with others, we are constantly engaging in the act of communication. Communication is the process whereby we attempt to transmit our thoughts, ideas, wishes or emotions to others. In this unit, let us know how people convey their feelings, ideas, opinions, messages to others and what the factors or elements involved in this communication process are.

10.3 MEANING AND DEFINITION OF COMMUNICATION

Communication is a way of developing understanding between two or more persons through an exchange of ideas, feelings, facts, emotions etc. In real sense, it is a process of transmitting and receiving information. Thus, it is the most effective tool for human survival. Let us discuss the meaning of communication in the following sub-sections.

10.3.1 Meaning of Communication

Communication is a universal phenomenon. Every human being communicate, in other sense every living beings communicates with each other in different mediums, which may be verbal, non-verbal or symbolic. Communication is understood as the exchange of understanding.

Man is social by nature and he cannot live isolated from the society. While living in the society, he has to interact with other persons through some medium for transmitting or exchanging his feelings, opinions, thoughts, ideas etc. All these activities of sharing or exchanging information, ideas, and experiences between two or more persons are known as Communication. So Communication can be defined as a process of sending and receiving facts, ideas, opinions, thoughts and information through speech, writing, gestures or symbols between two or more persons.

The word 'Communication' is derived from the Latin word *Communis,* which means 'common'. The word Common signifies a process of common understanding in terms of knowledge, information, opinion and thought transmitted or shared by two or more individuals. Another derivation of the word Communication comes from the Latin word *Communicare, which* means 'to share'. That means, through Communication, the two individuals or groups share their views or opinions etc for meeting their own needs and requirements.

Communication can best be summarized as the transmission of a message from a sender to a receiver in an understandable manner. It is through the communication process that the sharing of a common meaning between the sender and the receiver takes place. Effective communication leads to understanding. For example, in a classroom, communication is not only an exchange of knowledge or information between teachers and the taught, but also an interaction, which ultimately results in certain desired changes in the behaviour of both. Thus, Communication is essential for both the individual and the group to acquire desired behaviour pattern. It is important for the effective coordination of group activities and essential in the performance of all activities of the individual or group.

10.3.2 Definitions of Communication

To make the concept clear, we have to go through the various definitions put forward by some eminent educationists in different times. Here we can mention some of them to have a comprehensive idea of the concept of 'Communication'.

- According to **International Dictionary of Education**, "Communication may be defined as the exchange of meaning between people occurring either through language or non-verbally and varying with different degrees of knowledge, motivation and attitudes."
- According to **Aristotle**, "Communication is a means of persuasion to influence the other so that the desired effect is achieved."

- According to **Anderson,** "Communication is a dynamic process in which man consciously or unconsciously affects the cognition of another through material or agencies and in symbolic ways."
- According to **Schramm**, "Communication is the sharing of and orientation toward a set of informational signs. Information refers to not only facts/news or whatever is taught in the classroom but also to any content that reduces uncertainty or the number of alternative possibilities in a situation."
- According to **John Dewey**, "Communication is a process of sharing experience till it becomes a common possession. It modifies the dispositions of both the parties to partake it."
- According to **Hartman**, "Communication is the control of behaviour through descriptive and reinforcing stimuli."
- According to **Gerald Miller**, "Communication has central interest in those behavioural situations in which a source transmits a message to– (a) receiver (b) with conscious intent to affect better behaviour."
- According to **D. Berl**, "Communication is a process of interaction of ideas between the communicator and the receiver to arrive at a common understanding for mutual benefit."

We have mentioned so many definitions of Communication. After studying these definitions, we come to the conclusion that Communication is based on a relationship between at least two individuals, which influence each other. Communication therefore is the process whereby we transmit our thoughts, ideas, wishes or emotions to others. Thus, it is a two way process in which there is an exchange and progression of thoughts, feelings or ideas towards a mutually accepted goal or direction.



LET US KNOW

- Communication is the process whereby we try to transmit our feelings, thoughts, ideas, wishes or emotions to others.

- The word **Communication** is derived from the Latin word ***Communis***, which means 'common'.
- In other way, the word **Communication** comes from the Latin word ***Communicare***, which means 'to share'.
- According to **Aristotle**, "Communication is a means of persuasion to influence the other so that the desired effect is achieved".



CHECK YOUR PROGRESS

Q.1: What is Communication?

.....

.....

.....

.....

.....

Q.2: From where is the word Communication derived?

.....

.....

Q.3: Mention the definition of Communication by John Dewey.

.....

.....

.....

.....



ACTIVITY 10.1

In your view, what are the factors that basically influence the process of communication? Explain with some appropriate examples.

.....

.....

.....

10.4 CHARACTERISTICS OF COMMUNICATION

After discussing the meaning and definitions of Communication, we observe some characteristics of Communication. These are as follows:

- Communication is a two-way process in which the sender transmits the message to the receiver through some medium.
- Communication is a form of social interaction.
- Communication is a dynamic process.
- Communication is a process in which a person consciously or unconsciously affects the cognition of another.
- Communication can be verbal, non verbal or symbolic.
- Communication can modify the behaviour of all the people involved in it.
- The process of Communication involves some elements. The major elements are source, receiver, message, channel, feedback and settings.
- Communication is the process in which information and ideas are exchanged and shared.

10.5 PURPOSE AND SCOPE OF COMMUNICATION

Let us discuss the purposes and scope of communication in the following sub-sections.

10.5.1 Purpose of Communication

Purpose of Communication means the aims and objectives of Communication process. The purposes or aims of communication can be broadly classified into three types, i.e. (a) Exposition, (b) Persuasion and (c) Facilitation.

a) Exposition: Exposition is one of the important purposes of communication, which is related to knowledge, or the cognitive domain of human behaviour. Through this purpose, the information is presented in order to enhance the knowledge aspects of the receiver.

b) **Persuasion:** It is a type of purpose through which the attitude of the learner gets affected. It is related with the enhancement of attitudes, feelings and emotions, thereby it has a direct link with the affective area of human behaviour.

c) **Facilitation:** Facilitation is related to the psycho-motor domain of human bahaviour. Facilitation deals with the objectives, which involve the development of manipulative or physical skills such as measuring, setting up of equipment, using tools, drawing graphs etc.

10.5.2 Scope of Communication

The scope of communication means the range of communication processes. The scope of communication can be determined with respect to verbal, non-verbal and to fields like advertisement, industry, extension programmes to name a few.

According to research findings, the scope of human communication includes body language, voice tonality and words. It has been found that an adult on an average spends 55% of his/her time in body language like postures, gestures, and eye contact; 38% of his/her time is devoted to the tone of voice and the rest 7% is engaged by the content or the words used in the communication process. Although the exact percentage of influence may differ from variables such as the listener and the speaker, communication as a whole strives for the same goal and, thus, in some cases, can be universal. System of signals, such as voice sounds, intonations or pitch, gestures or written symbols can communicate thoughts or feelings.

From the above findings, it can be inferred that a human being spends much of the time on non-verbal communication through gestures, facial expressions, movements of body parts etc. On the other hand, around 10-11 hours of the clock, he/she spends on verbal communi-cation.

The scope of communication encompasses a vast field ranging from management, industry, advertisement and extension

programmes etc. In the contemporary world, a teacher will be lacking in communication skills if he/she does not apply the modern communication tools like tape recorder, overhead projector, Liquid Crystal Display Projector (LCD), video conferencing, computer etc in the teaching/learning process. As such, the scope of communication is not only encompasses the teaching/learning situation or classroom situation but also has a very wide relevance in other areas as mentioned earlier.



LET US KNOW

- The basic characteristic of Communication is that it is a two-way process in which the sender transmits the message to the receiver through some medium.
- Communication is a dynamic process which involves verbal, non-verbal or symbolic medium.
- The process of Communication involves some elements. The major elements consist of **source, receiver, message, channel, feedback** and **settings**.
- The purposes or aims of communication can be broadly classified into three types i.e. (a) Exposition, (b) Persuasion, (c) Facilitation.
- The scope of communication means the range of communication processes. It can be determined with respect to verbal, non-verbal and to fields like advertisement, industry, extension programmes to name a few.



CHECK YOUR PROGRESS

Q.4: Explain some characteristics of a communication process.

.....

.....

.....

.....

Q.5: What is meant by purposes and scope of communication?

.....

.....

.....

.....

.....

.....

.....



10.6 LET US SUM UP

- Communication is the process whereby we attempt to transmit our thoughts, ideas, wishes or emotions to others.
- All the living organisms communicate with each other in different medium; it may be verbal, non-verbal or symbolic.
- Communication is understood as the exchange of understanding between two or more individuals. As man is a social animal, he/she must interact with each other for sharing his/ her feelings, emotions, thoughts etc with others.
- Communication is derived from the two Latin words, *Communis* and *Communicare*, the word Communication means 'Common' and 'to share'. The basic meaning of Communication is the transmission of the message from the Sender to the Receiver in an understandable way.
- We can find various definitions of Communication quoted by eminent writers and educationists, which give us a better idea to grasp the exact meaning of Communication. Though an effective communication includes numerous characteristics, we can mention the importance of the medium as well as the ability of communication to effectively modify the behaviour of the people around.
- The purposes or aims of communication can be broadly classified into three types. They are: exposition, persuasion and facilitation.

Exposition is related to knowledge or cognitive domain of human behaviour through Persuasion, the attitude of the learner gets affected and lastly through Facilitation, it influences the psycho-motor domain of human behaviour.

- The scope of communication encompasses the range of communication processes. It can be determined with respect to verbal, non-verbal and to fields like advertisement, industry, extension programmes to name a few.



10.7 FURTHER READING

1) Broadbent, D. E. (1958). *Perception and Communication.* New York: Pergamon Press.
2) Das, B. C. (1998). *Educational Technology.* New Delhi: Kalyani Publishers.



10.8 ANSWERS TO CHECK YOUR PROGRESS

Ans. to Q. No. 1: Communication is a process or a way of developing understanding between two or more persons through an exchange of ideas, feelings, facts, emotions etc. In real sense, it is a process of transmitting and receiving information. All the living organisms communicate with each other in different medium.

Ans. to Q. No. 2: The word Communication is derived from the two Latin words, *Communis* and *Communicare*, which means 'Common' and 'to share'.

Ans. to Q. No. 3: The term Communication as defined by John Dewey is as follows, "Communication is a process of sharing experience till it becomes a common possession. It modifies the dispositions of both the parties to partake it."

Ans. to Q. No. 4: The three characteristics of Communication are as follows:

a) It is a process of social interaction.

b) Communication is a two-way process in which one sends the message and the other receives it.

c) It can modify the behaviour of all the people involved in it.

Ans. to Q. No. 5: The Purposes of Communication means the aims and objectives of the Communication process. The purposes or aims of communication can be broadly classified into three types. They are Exposition, Persuasion and Facilitation. The scope of communication encompasses the range of communication processes. It can be determined with respect to verbal, non-verbal and fields like advertisement, industry, extension programmes to name a few.



10.9 MODEL QUESTIONS

A) Short Questions (Answer each question in about 150 words)

Q.1: Define the term Communication in your own words.

Q.2: Explain the characteristices of communication.

Q.3: What are the purposes of communication?

Q.4: What is the scope of communication?

B) Long Questions (Answer each question in about 300-500 words)

Q.1: Discuss the importance of Communication Process in the teaching-learning process.

Q.2: Describe the purposes and scope of Communication in the field of education.

*** ***** ***

UNIT 11: COMMUNICATION AND TEACHING

UNIT STRUCTURE

11.1 Learning Objectives

11.2 Introduction

11.3 Types of Communication

11.4 Components of Communication Process

11.5 Barriers to Effective Communication

11.6 Suggestions for Better Classroom Communication

11.7 Let Us Sum Up

11.8 Further Reading

11.9 Answer to Check Your Progress

11.10 Model Questions

11.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- identify the types of communication
- state the elements or components of communication in teaching learning process
- describe the various factors which act as barriers to effective classroom communication.

11.2 INTRODUCTION

In the Unit No.10, we have discussed the basic concept of communication, why communication is important in our day to day life,its purposes and the scope. Apart from these basic issues related to communication, we should also know some other important aspects of communication such as types of communication, elements of communication etc. In this unit, we shall discuss the elements, types, barriers to effective communication and also suggestions for better classroom communication.

11.3 TYPES OF COMMUNICATION

Different educationists have classified the Communication in different ways. Some have classified communication from the point of view of l**anguage**. The different types of communication which are classified on the basis of language, are as follows:

i) **Verbal Communication:** Communication with the help of words is known as Verbal Communication. Verbal communication is made through words either spoken or written. Communication through spoken words is known as Oral Communication. For example, meetings, lectures, group discussions, telephonic conversations, radio messages etc. fall into this type. In Written Communication, messages are transmitted through written words in the form of letters, notices, reports, handbooks, memos, circulars, news papers etc.

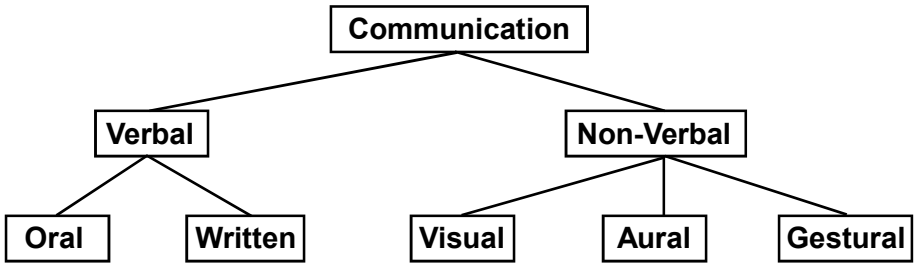
ii) **Non-verbal Communication:** Communication without any use of words is known as Non-verbal Communication. Non-verbal Communication may be visual, aural or gestural. Sometimes, we look at some pictures, graphs, symbols, diagrams etc. and all these convey some messages to us. All these are also different forms of Visual Communication; for example, traffic signal, photographs, posters and charts used by the teacher in the classroom etc. are the different means of non-verbal communication.

iii) **Aural Communication:** Communication with the help of sound is called Aural Communication. Bells, buzzers, whistles, cymbals, horns are used to communicate our message. For example, bells used in the school or colleges to inform the teachers or students about the beginning and end of periods; Siren used in the factories or workplaces etc. are medium of Aural Communication.

iv) **Gestural Communication:** Communication through the use of various parts of our body or through body language is known as Gestural Communication. For example, shaking hands, nodding, greeting the teacher by the students by standing up as the teacher enters the classroom, saluting our national flag etc. are the different forms of gestural communication.

Thus, from the above classification we know about the verbal, non-verbal, aural and gestural communication.

We can diagrammatically show the classification in the following ways:



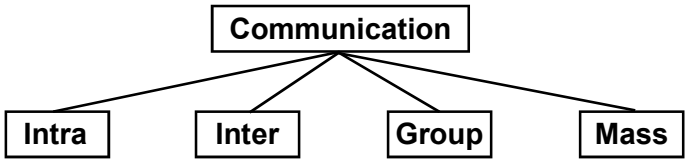
Classification of communication on the basis of Number: Some have classified Communication from the point of view of number. The number of persons involved in the communication determines the different types of communication as follows:

- Intra-personal Communication
- Inter-personal Communication
- Group Communication
- Mass Communication

- **Intra-personal Communication:** Intra-personal communication may be defined as a process through which the individual communicates with himself, which means the communication within the self or to the self. For example, thinking, working out a problem, writing diaries etc.
- **Inter-personal Communication:** Inter-personal communication may be defined as a process in which communication takes place between two individuals in a face to face situation. This type of communication can be verbal or non-verbal. For example, Classroom interaction between a teacher and a student, telephonic conversation, interview etc.
- **Group Communication:** Group communication may be defined as a process in which communication takes place between two or more groups. The groups may be small or large. For example, family meetings, committee meetings, housing society meetings etc.

- **Mass Communication:** Mass communication refers to a communication amongst large number of people or mass people. Radio programmes, open air concert, addressing a rally, postal programmes, television programmes etc. are examples of Mass Communication.

  The following diagram will show these forms of communication:





LET US KNOW

- Communication is a dynamic process which involves verbal, non-verbal or symbolic medium.
- The types of Communication can be classified in different ways, one being the language. According to the point of view of language, communication can be divided into Verbal and Non-Verbal. According to the point of view of number, it can be intra-personal, inter-personal, group and mass communication.



CHECK YOUR PROGRESS

Q.1: How can we classify types of Communication in different ways?

.....

.....

.....

.....

.....

.....

.....



ACTIVITY 11.1

a) As a learner, which type of Communication would you prefer in a classroom situation and why?

.....

.....

.....

b) Give some other examples of Non-Verbal Communication.

.....

.....

.....

11.4 COMPONENTS OF COMMUNICATION PROCESS

Communication is a simple two-way process that demonstrates all the activities of sharing or exchanging information, ideas and experiences between two or more persons. Communication is effective if the message that is received is the same as the one that is sent. This process of communication always contains messages which are to be transmitted between two parties– the Sender and the Receiver. The Sender is the one who sends/transmits the message and the Receiver is the one who receives it. The process of communication is said to be complete when the Receiver comprehends the message and gives the feedback or response. To transmit the message, a medium or channel is required, and through this channel only, the message will be transmitted from the Sender to the Receiver. Along with **Channel**, **Feedback** is an important component of Communication Process in addition to Message Sender and Message Receiver. **Setting** is also considered one of the most important components within which the process of communication takes place. It is the actual environment of communication.

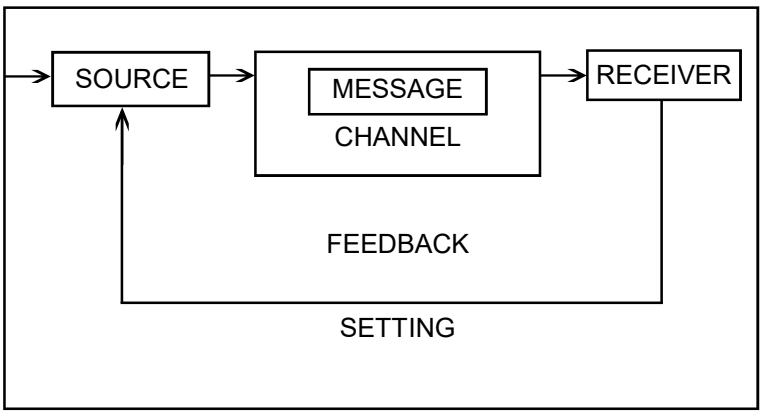
Thus, the components of communication can broadly be divided into 6 (six) parts–

- Sender
- Receiver
- Message
- Channel
- Setting
- Feedback

- **Sender:** Sender is the person who sends the message. It is also termed as Source or Encoder who transmits the message from him/ her to the receiver. Sender is the one who takes the decision about how, what and whom to transmit the message etc. There are mainly two factors, which decide the effectiveness of the source. First is the Sender's Attitude that must be positive. The second one is the Sender's selection of meaningful symbols or the selection of right symbols depending on the environmental scenario. The personality of the source or sender must be dynamic. For example, the Teacher in the Classroom is the source or sender in the Communication Process.
- **Receiver:** The Receiver is the person who receives the message, making sense of it or understands and translates it into some meaning. As such, the Receiver is also known as Decoder. The effectiveness of communication depends upon the homogeneity of the Receivers. The number of Receiver may be singular or it may range from a small to a large group. According to Research findings, the smaller the Receiver, the better are the chances of effective communi-cation. For example, the students in the Classroom situation.
- **Message:** It is the subject matter of communication, which contains facts, ideas, feelings or thoughts. It is the actual content or the physical form i.e. transmitted from the Source to the Receiver. The message must always be precise and clear, well organized in a proper sequence. The effectiveness of communication depends upon the message, which is supported by relevant data and diagrams. For sending a message, various types of channels are required depending on the nature of that message. For example, the Subject matter that is taught in the Classroom situation.
- **Channel:** Channel is the medium through which the messages are transmitted from the Source to the Receiver. It depends on the types of message to be sent. Generally, there are three types of channel: Written, Verbal and Non-Verbal. The effectiveness of the channels depends upon various criteria. In case of Written channel, it depends

upon correct writing, spelling, pronunciation, grammar etc. Verbal channel involves ***inflections***, fluency, as well as mispronunciation etc. Lastly, in case of Non-Verbal channel, it depends on body movement or body language, facial expressions, postures, dress codes etc. Thus, different channels are required for different receivers in order to have a successful communication. For example, various methods like Lecture, power point presentation etc.

- **Setting:** Setting refers to the actual environment in which different components of communication like Source, Receiver, Message, Channel etc operate and interact. The Setting must always be pleasant and free from any distracting stimuli. For example, the classroom environment.
- **Feedback:** Feedback refers to the Receiver's response or reaction or reply to the message, which is directed towards the sender. It can be a Verbal or Non-Verbal reaction or response. It is the feedback that allows the sender or the source to adjust his/her message to be more effective. Without feedback, it is impossible to know whether the Receiver has understood the meaning that has been shared. In other words, feedback means action-reaction interdependence in communication. It helps the source or the sender to improve or correct his/her message or skill for better communication. For example, Question Answering of the teachers and students in the classroom. A model of different components of Communication process can be shown with the help of this diagram.



A Modal of the Communication Process

11.5 BARRIERS TO EFFECTIVE COMMUNICATION

As we have mentioned above, the six components of communication process are crucial for effective communication. If the same is misused, then these will become barriers to effective communication. At any point in the Communication Process, a barrier can happen. Barriers prevent us from understanding other's ideas and thoughts and they can appear at any time of the communication loop. Thus, any factor that impedes the exchange of information between the sender and the receiver is a barrier to communication.

The barriers can creep up in any moment of the communication process. In case of the source, it may happen if the sender such as a teacher lacks the basic skills and knowledge including a dynamic personality. In case of the Receiver, the same thing may happen if the students are passive; not responding to the teacher/sender or the level of heterogeneity is on the higher side. Thirdly, in case of message, if it is not clear, well organized and precise, it will act as a barrier in effective communication. Lack of proper tone and variation, clarity of expression, wrong grammar and improper use of body language are some of the barriers that have been encountered in the Channel component. In case of Setting, unpleasant surrounding or ambience, full of disturbances etc. can be barriers. Lastly, unfavourable attitude or non-cooperation of the receivers to the sender can also hamper the communication process and hence it acts like a barrier.

Apart from the above-mentioned barriers, we can divide the barrier into two types– **internal and external**. Examples of Internal barriers are fatigue, attitude towards the centre or the information, poor listening skills, lack of interest in the message, fear, mistrust, negative attitude, problems at home, lack of common experiences and emotions etc. Examples of External barriers include noise disturbances, email/ Internet net working, bad phone connections, too technical messages etc.

Thus, these are the barriers to effective Communication Process. In the event of barriers, the basic objective of effective communication gets hampered even when we have better communication components.

11.6 SUGGESTIONS FOR BETTER CLASSROOM COMMUNICATION

Effective Communication plays a major part in achieving our educational goals. By following some appropriate guidelines, the teacher can overcome the barriers in the classroom communication and make the classroom more cordial for teaching and learning. The guidelines are as follows:

- First the teacher should create trust through consistent performance in the minds of the students and should develop a good rapport with them. He/she should develop his/her personality, skills in addition to noble qualities like honesty, un-biased mind and good intentions for his/her students.
- The message must be explained with possible data and diagrams besides illustrations so as to facilitate better understanding amongst the students of individual differences.
- The teacher should explain the technical terms in simple, well-understood direct languages. The message must be well organized and clear.
- The teacher should give special emphasis on the emotional condition of the students and should organize his teaching methods so that it can serve the emotional needs of the students.
- Teachers should use various modern communication devices like LCD Projector, Power point presentations, computers, and video conferencing in order to facilitate a lively interaction between the teacher and the students. Through the use of these technologies, the students will be in a better position to grasp and understand the learning materials.
- The teacher should be encouraged to employ much more written communication tools to make learning real and meaningful. The feedback should also be in written formats, as it will show up the basic loopholes/lack of understanding on the part of students.



LET US KNOW

- Communication is a two-way process, which involves basically six components.
- The basic components of communication process are : Source, Receiver, Message, Channel, Setting and Feedback.
- The six components of communication process are crucial for effective communication, but if misused, then these will become barriers to effective communication.
- For better classroom communication, various ingredients like personality and skill of the teacher, better feedback, suitable medium of transmission of message, use of modern technologies, active participation of the receiver etc are very crucial.



CHECK YOUR PROGRESS

Q.2: Describe the various components of communication with suitable examples.

.....

.....

.....

.....

.....

.....

.....



ACTIVITY 11.2

a) What are the different barriers you are generally facing in your classroom communication?

.....

.....

.....

b) Give some suggestions for better and effective communication in your classroom.

.....

.....

.....



11.7 LET US SUM UP

- Regarding types of Communication, we can divide it into (a) language point of view or (b) number point of view. In case of Language point of view, it can be Verbal and Non-Verbal. Verbal communication can be divided into Oral and Written. On the other hand, Non-Verbal can be divided into Visual, Aural and Gestural. According to Number point of view, it can be divided into Intra-personal, Inter-personal, Group and Mass Communication.
- There are 6 (six) components of Communication process; they are: Sender, Receiver, Message, Channel, Setting and Feedback. Sender or Encoder sends the message; Receiver or Decoder receives the message, Message is the subject matter of Communication, Channel is the medium through which the message is transmitted, Setting is the actual environment and Feedback is the Receiver's reaction or response to the message, which is directed towards the Sender.
- If these components of Communication are misused, then it acts as barriers for effective Communication, thus preventing us from grasping or understanding other's ideas. Lack of basic skills and dynamism in case of the Sender or passive nature of the Receiver can also act as barriers. The absence of a well-organized and clear Message is also a factor that acts as a barrier to effective communication. Lack of proper tone and variation, clarity of expression, wrong grammar and improper use of body language are some of the barriers that can be encountered in the Channel

component. Barriers encountered in Setting are unpleasant surrounding or ambience, full of disturbances etc. Lastly, in case of Feedback, unfavourable attitude or non-cooperation of the receivers to the sender can also deter the effective communication process.

- In addition to these barriers, we can also divide it into two types. They are internal and external. The External type includes the types like fatigue, poor listening skills etc. and the Internal type comprises noisy surrounding, Internet facility not working etc., to name a few.
- Lastly, some suggestions can be implemented to reduce these barriers of effective classroom communication. They may be through creating trust in the minds of the students through consistent performance by the teacher i.e. the Sender. Inclusion of diagrams and data in the message will further help in putting forward the ideas of the Sender to the Receiver (i.e. the students) in a better way. Besides, emphasis should be given to make the message clear, direct and easily understood by the students. Use of modern tools and techniques should be encouraged so that the students can grasp the materials easily. Lastly, in case of Feedback, besides the oral, written feedback should be encouraged as it will facilitate better response from the students so that the teacher can know in which field of study, the students are lagging behind.
- Effective Communication is a major part in achieving our educational goals. Communication involves active listening, speaking and observing. Now that you have learned about the Communication process, you can begin to evaluate your Communication skills. Each time you communicate, begin to watch yourself in action by observing what you do, how it went, what went well and what could have been better for effective communication.



11.8 FURTHER READING

1) Broadbent, D. E. (1958). *Perception and Communication*. New York: Pergamon Press.

2) Das, B. C. (1998). *Educational Technology.* New Delhi: Kalyani Publishers.

3) Mangal, S. K. (2001 Revised 2nd Edn.). *Foundations of Educational Technology.* Ludhiana: Tandon Publications.



11.9 ANSWERS TO CHECK YOUR PROGRESS

Ans. to Q. No. 1: We can classify the types of Communication Processes in different ways. It can be classified into language point of view or number point of view. In case of Language point of view, it can be Verbal and Non-Verbal. Verbal can be further divided into Oral and Written. On the other hand, Non-Verbal can be divided into Visual, Aural and Gestural. According to the Number point of view, it can be divided into Intra-personal, Inter-personal, Group and Mass Communication.

Ans. to Q. No. 2: The various components of Communication process are Sender, Receiver, Message, Channel, Setting and Feedback. To cite an example, we can take the Classroom situation. In a Classroom situation, the Teacher is the Sender or Source or Encoder who transmits the message to the Students i.e. Receiver or Decoder. The subject matter that is being taught in the classroom is the message and the method through which the message is transmitted is the Channel i.e. Lecture method etc. The response of the students to the question put forward by the teacher is the feedback and lastly the actual environment where this communication process undergoes is the Setting.



11.10 MODEL QUESTIONS

A) Short Questions (Answer each question in about 150 words)

Q.1: What is meant by Verbal and Non-Verbal Communication?

Q.2: Distinguish between Verbal and Non-Verbal Communication with examples.

Q.3: Illustrate the Communication Process with the help of a diagram or flow-chart.

Q.4: What is known as Intra-personal communication?

Q.5: What is meant by Inter-personal communication?

Q.6: Explain the basic differences between Intra-personal and Inter-personal communication.

B) Long Questions (Answer each question in about 300-500 words)

Q.1: Describe the different elements or components of the Communication Process.

Q.2: Discuss the different factors that impede in maintaining effective classroom communication and suggest the guidelines for overcoming these factors.

*** ***** ***

UNIT 12: TEACHING, LEARNING AND EVALUATION

UNIT STRUCTURE

12.1 Learning Objectives

12.2 Introduction

12.3 Meaning and Concept of Teaching Learning Process

- 12.3.1 Concept of Teaching Learning Process
- 12.3.2 Nature of Teaching
- 12.3.3 Nature of Learning

12.4 Teaching-Learning-Evaluation

12.5 Let Us Sum Up

12.6 Further Reading

12.7 Answer to Check Your Progress

12.8 Model Questions

12.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- define the meaning and concept of teaching-learning process
- describe the nature of teaching and learning process
- state the relationship among teaching-learning and evaluation.

12.2 INTRODUCTION

This unit introduces you to some basic concept of the Teaching-Learning and Evaluation. This includes the meaning and concept of the Teaching-Learning Process, their nature and characteristics, the concept of Evaluation and relationship between the Teaching-Learning Process and Evaluation. As a beginner, we must proceed with the concept of Teaching-Learning Process.

We all know that the term, “Teaching-Learning Process” involves two activities i.e. teaching and the other is learning. Though the two processes are different, yet they are inseparable activities. They are just like the two

sides of the same coin. Without learning, teaching is meaningless and we cannot think of learning without teaching. To understand it clearly, we have to go through the meaning and concept of the teaching-learning process, and how teaching learning and evaluation are interrelated.

12.3 MEANING AND CONCEPT OF TEACHING-LEARNING PROCESS

Teaching-Learning Process is a universal process. Both human beings and animals have to adjust with different situations of life from the very beginning of their lives. The human beings and animals also use this process to train their young ones to adjust satisfactorily to various situations of life. Thus, this process is one of the basic components for their survival. It is a continuous process, which gets involved from the birth of the organism, and continues till death. Therefore, teaching-learning process is a means whereby the society trains its young ones to adjust successfully with the world in which they live.

The main aim of the teaching-learning process is that it should help an individual to acquire knowledge, skills and attitude, which enable him/her to adjust in an effective manner with the environment.

12.3.1 Concept of Teaching Learning Process

With the passage of time, the meaning and concept of this process has undergone a revolutionary change. The modern concept can be better understood if we know the traditional concept.

- **Traditional Concept:** The teaching-learning process is as old as human beings on the planet earth. In the past, teaching-learning process was confined to the teaching process only. No importance was given to learning. It was a one-way process in which teacher occupied the highest place. He was considered to be the sovereign as far as teaching-learning process was concerned. He was like the supreme commander who decided what to teach, how to teach, whom to teach, what methods to use, etc. No importance was given to the learning process and

individual differences of the pupils etc. Pupils were considered to be more or less alike and methods of teaching, use of tools, course content were all treated as same for all the students, irrespective of the causes of backwardness of some of the students in the class. Thus, the traditional concept of the teaching-learning process was dominated by the teaching process only.

- **Modern Concept:** However, in the modern concept, teaching-learning process is an educative process which involves the teacher, the learner, the learning process and the learning situation. The teacher is one who creates the learning situations for the learners and the learner is one who learns different things according to their pace and capacity. The process is basically the interaction between the teacher and the students. Thus, the teaching-learning process is the process in which the teacher, students, subject matter or curriculum and other variables are organised in a systematic manner to achieve the aims and objectives of an educative process.

In the traditional concept of teaching-learning process, importance was given on the teacher only. But in modern concept, both the teacher and the student are important but utmost importance is conferred to the students. The teacher must adopt his/her teaching methods, tools and subject matter to suit the individual differences of the students. Moreover, different progressive educationists like Rousseau, Froebel, Montessori etc. advocated child centric education, which gives importance to the individual differences of the students. Therefore, the entire teaching-learning process basically emphasises the need and requirement of the children.

Though the prime importance has been given to the child, yet it does not minimise the responsibility and the importance of the teacher in the teaching-learning process. Earlier, the teacher was involved only for teaching or transmission of knowledge only but now he/she must study the child psychologically, use his/her methods according to the individual differences of the children and help develop

the child's total personality. This process of teaching-learning can best be understood if we analyse the nature of the process separately and then integrate them to have a complete picture of the same.



LET US KNOW

- Teaching-Learning Process is a means whereby the society trains its young ones to adjust successfully with the world in which they live.
- There are two concepts of the teaching-learning process i.e. traditional and modern
- The Traditional concept of the Teaching-Learning Process was dominated by the teaching process only.
- In the modern concept, both the teacher and the student are important but utmost importance is given to the students.



CHECK YOUR PROGRESS

Q.1: What is meant by the Teaching-Learning Process?

.....

.....

Q.2: What are the two concepts of the Teaching-Learning Process?

.....

.....



ACTIVITY 12.1

Think and provide some more examples of traditional and modern teaching learning process.

.....

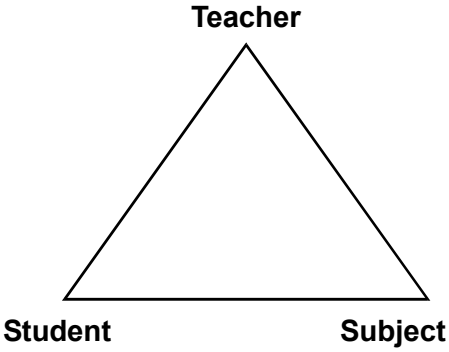
.....

.....

12.3.2 Nature of Teaching

In the traditional concept, teaching is a process of transmission of knowledge, skill or information from the teacher to the pupil. With the passage of time, the concept of teaching has undergone a revolutionary change. Now the teacher not only does transmit the text book information or only knowledge to his/her pupil, he/she is also engaged in an intricate, exacting and challenging job in which the attention is paid to the development of total personality of the individual, be it physical, intellectual, social, spiritual etc. The nature of teaching will be clearer if we analyse the main characteristics of teaching process. The following are given some main characteristics of teaching process–

- **Teaching is a Triangular Process:** According to the modern view, teaching is a triangular process which involves the three focal points– the teacher, the students and the subject matter.



Teaching is the process by which the teacher brings a harmonious relationship between the student and the subject matter. For example, this harmonious relationship exists among these three focal points where the teacher must understand his/her students as well as he/she must have complete knowledge of the subject matter.

- **Teaching gives information and imparts knowledge:** Teaching is a process of giving useful information and imparting knowledge by the teacher to his/her pupils. For example, the child is unaware of many things or does not know them around

him/her. Therefore, while the teacher gives information or imparts knowledge to his/her students, it is essential to know the child first; and the child's and capacities and then the teacher should provide useful information in a systematic and interesting manner.

- **Teaching should induce learning:** The teacher should not force anything on his/her students. The students will learn when he/she is willing to learn. Therefore, the main task of the teacher is to make teaching interesting and useful so that to make the student a willing learner. The teacher should help his students to learn for himself and to do things for himself/ herself.
- **Teaching is stimulating learning:** Teaching is stimulating learning, but willing to learn does not come automatically on the part of the learner. Therefore, it is the duty of the teacher to use some ways and means so that teaching become encouraging in which the learner feels the need to learn.
- **Teaching for giving guidance:** Through the process of teaching, the child must be guided to do the right things in the right manner and at the right time.
- **Teaching aids in adjustment with the environment:** Teaching helps in the adjustment of the child with the environment. It aids the child to adjust with different changing environments and enables him/her to lead a successful social life.
- **Teaching helps in the emotional development of a child:** Teaching is a process, which helps the child to develop emotional stability. It is the duty of the teacher to handle his/her students with an encouraging and sympathetic attitude.

12.3.3 Nature of Learning

In general sense, learning means acquisition of knowledge, skills, attitude in some work or ideas. An individual's life is a continuous process of adjustment with different situations. While adjusting with those situations, the individual acquires different new experiences. These experiences cause modification or change in

his/her behaviour. Thus, learning means the process of modification of behaviour of the individual through previous experiences. It is a continuous process, which starts from birth and continues till the death of an individual. There are different characteristics of learning process. These characteristics will clear the meaning and nature of learning process. These are as follows,

- **Learning is adjustment:** Learning is a process of adjustment with life from birth till death. Human beings have to face various situations in their life and learning helps to adjust with various situations effectively.
- **Learning is purposeful:** Learning is always purposeful or goal oriented. There must be some purpose behind every learning.
- **Learning is an active process:** Learning is not a passive activity, it is an active process in which the learner gets actively involved with his/her heart and mind to a new situation, acquires new experiences and utilises the same in future situations.
- **Learning is organised experience:** Learning is not only acquisition of new experiences, it is also an organised whole which includes new and old experiences to form a complex mental structure.
- **Learning is intelligent and creative activity:** In case of animals, all learning is instinctive activity, but in case of men, all learning is the product of intelligence and creativity. The individual learns the new experiences and drives meaningful impressions which guide the future behaviour.
- **Learning is both individual and social:** Man acquires new experiences while living in the society with other individuals. Thus, human beings learn different things through mutual interaction of the individual and society.
- **Learning is the product of environment:** All learning generally takes place in different physical and social environments. The environment provides the stage for all types of learning.

- **Learning is the permanent change of behaviour:** Learning permanently changes the behaviour of the organism. The total conduct of the learner is modified through the learning process. It completely changes the behavioural pattern of the individual.

After discussing the nature of teaching and learning separately, it is not difficult to understand the nature of teaching learning process. Teaching learning process is a way through which the society trains the young generation in a selected ambience (school/ college or institution) as fast as they can so as to enable them to adjust to the world in which they live. There can be no teaching without causing learning and there can be no learning without teaching. Therefore, both the processes are inseparable. In modern times, the teaching-learning process is known as educative process. The educative process may be called a teaching process when it is taken from the point of view of teacher, but when it is taken from the point of view of the learner, it is called learning process. In reality, educative process is known as teaching-learning process in which the teacher teaches and the individual learns. Teaching is the compliment of learning process. Teaching-Learning process is tri-polar. It establishes intimate relation between the teacher and the pupil in the context of environment. It is the sharing of educative experiences by both the teacher and the taught.

12.4 TEACHING-LEARNING-EVALUATION

Teaching, Learning and Evaluation are the three pillars of the educative process where the teaching occupies the central position. An interrelationship can be observed between the trio i.e. teaching objectives (goals), learning experiences (means) and evaluation (the proof of what is taught and learnt). Evaluation is a process of appraisal, which determines the extant of achievement of learning objectives, teaching-learning experiences in the classroom and the accomplishments of the goals of teaching. It is a continuous process, which starts from determination of learning objectives, provision of teaching-learning experiences and

assessment of outcome of the teaching-learning processes. The main aim of the teaching-learning process is to bring about desired changes in the behaviour of the students. Evaluation is the only process through which we get acquainted whether modification of behaviour is achieved or not. The teacher and the learner get feedback of their success or failure in the teaching-learning process. Evaluation comes at the planning stage when teaching objectives are identified. In every stage of learning, evaluation is an attempt to discover the effectiveness of the learning situation in awakening the desired changes in the students. Thus, evaluation is an integral part of the whole process of teaching and learning and its aim is to improve learning and not merely to measure its achievement. The teaching-learning process is an educative process in which evaluation is an important part, without which the whole process of teaching-learning is incomplete.



LET US KNOW

- The main characteristics of teaching process are– (i) it is a triangular process, (ii) it gives information and knowledge, (iii) it is causing to learn, (iv) it gives guidance, and (v) helps in the emotional development of a child.
- The main characteristics of the learning process are– it is an adjustment, purposeful and active process
- In terms of education, evaluation means estimating the probable worth of the activities involved in teaching-learning relationship, judging the worth of methods or devices used in pursuit of those activities and estimating at various stages the outcome resulting from the activities.
- Teaching, Learning and Evaluation are the three pillars of the educative process where teaching occupies the central position. An interrelationship can be observed between the trio i.e. teaching objectives (goals), learning experiences (means) and evaluation (the proof of what is taught and learnt).



CHECK YOUR PROGRESS

Q.3: Describe the Nature of Teaching and Nature of Learning.

.....

.....

.....

.....

.....

.....

Q.4: How would you like to explain the relationship between teaching learning and evaluation?

.....

.....

.....

.....

.....



ACTIVITY 12.2

Prepare a scenario of a classroom where teaching, learning and evaluation are involved.

.....

.....

.....



12.5 LET US SUM UP

- Teaching and Learning encompass two inseparable activities i.e. Teaching and Learning. They are just like the two sides of the same coin. It is a universal process through which human beings and animals can get equipped to adjust themselves to the day-to-day

life. It is thus a continuous process from birth till death. Therefore, the Teaching-Learning Process is a means whereby the society trains its young ones for successful adjustment with the world in which they live.

- The concepts of teaching-learning process comprise both traditional and modern concepts where the former was dominated by the teaching process only and the latter conglomerates all the three factors i.e. teacher, learner, learning process and learning situation. The teacher dominates the traditional concept and the students dominate the modern concept though both the teacher and student are important. According to the modern view, teaching is a triangular process which involves the three focal points– the teacher, the students and the subject matter. Teaching is a process of giving useful information and imparting knowledge by the teacher to his/ her pupils. Teaching is causing to learn. In general sense, learning means acquisition of knowledge, skills, attitude in some work or ideas. Learning can be summed up as an adjustment, purposeful and active process and a kind of organised experiences, bringing in permanent change of behaviour etc. In terms of education, evaluation means estimating the probable worth of the activities involved in teaching-learning relationship, judging the worth of methods or devices used in pursuit of those activities and estimating at various stages the outcome resulting from the activities.
- Regarding the relationship among teaching, learning and evaluation, it can be rightly said that they are the three pillars of the educative process. An interrelationship can be observed between the trio i.e. teaching objectives (goals), learning experiences (means) and evaluation (the proof of what is taught and learnt).



12.6 FURTHER READING

1) Mathur, Dr. S. S. (1996). *Teacher And Secondary Education*. Agra: Vinod Pustak Mandir.

2) Singh, Arun Kumar (1997). *Tests, Measurements and Research Methods in Behavioural Sciences*. Patna: Bharati Bhawan.



12.7 ANSWER TO CHECK YOUR PROGRESS

Ans. to Q. No. 1: Teaching-Learning Process is a means whereby the society trains its young ones to adjust successfully with the world in which they live.

Ans. to Q. No. 2: The two concepts of the teaching-learning process are Traditional and Modern concepts.

Ans. to Q. No. 3: The nature of teaching is basically a triangular process comprising teaching, learning and subject matter. It is characterised by stimulating learning, providing emotional support to the child and subsequent adjustment with the environment where he/ she lives.

The nature of learning is that it is a process of modification of behaviour of the learner. It is also a process of adjustment with the changing environment.

Ans. to Q. No. 4: Regarding the relationship among teaching, learning and evaluation, it can be rightly said that they are the three pillars of the educative process. An interrelationship can be observed between the trio i.e. teaching objectives (goals), learning experiences (means) and evaluation (the proof of what is taught and learnt).



12.8 MODEL QUESTIONS

A) Short Questions (Answer each question in about 150 words)

Q.1: State the importance of the teaching learning process.

Q.2: "Teaching-learning is an interaction between the teacher and the pupil." Explain briefly.

Q.3: ''Teaching is a triangular process.'' Explain briefly.

Q.4: How does the concept of traditional teaching-learning process is different from the modern concept of teaching-learning process?

B) Long Questions (Answer each question in about 300-500 words)

Q.1: What is teaching? Explain the nature of teaching.

Q.2: What is learning? Explain the nature of learning.

Q.3: Describe how teaching and learning are interrelated.

Q.4: ‘‘Teaching, learning and evaluation are the three pillars of the education process.’’ Discuss.

*** ***** ***

UNIT 13: EVALUATION AND ITS TYPES

UNIT STRUCTURE

13.1 Learning Objectives

13.2 Introduction

13.3 Meaning and Definitions of Evaluation

- 13.3.1 Meaning of Evaluation
- 13.3.2 Definitions of Evaluation
- 13.3.3 Purpose of Evaluation
- 13.3.4 Scope of Evaluation
- 13.3.5 Functions of Evaluation
- 13.3.6 Tools and Techniques of Evaluation

13.4 Types of Evaluation

13.5 Problems of Evaluation

13.6 Suggestions for Effective Evaluation

13.7 Let Us Sum Up

13.8 Further Reading

13.9 Answer to Check Your Progress

13.10 Model Questions

13.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- identify the concept, purpose and scope of evaluation
- identify the various types of evaluation
- describe various problems of evaluation and also discuss the suggestions for the effectiveness of evaluation process.

13.2 INTRODUCTION

Evaluation is a process through which any educational process or system can be assessed. Again, the strength and weakness of an educational system in terms of its teaching learning process can be justified through the evaluation process by the educational providers. Therefore, it is assumed

that through the process of evaluation, the aims of education can be scrutinized whether they are achieved or not during a period of time. Thus, evaluation is an integral part of the instructional process which helps to generate the intended learning outcome as well as it helps to improve the teaching learning process. In this unit, we are going to discuss the basic meaning, nature, purpose and scope of evaluation process. Besides these, different types, problems of evaluation and some remedial measures for improving the system are also discussed in this unit in detail.

13.3 MEANING AND DEFINITIONS OF EVALUATION

Each human behaviour is directed to some end in view. Education too like other human enterprises, is directed towards particular objectives or goals. The main responsibility of the teacher is to bring about desired changes in the behaviour of his/her students. For this, he/she puts in different things and utilises different techniques, methods and tools. After utilising all these techniques, he wants to know or take appraisal of the outcome of teaching-learning experiences and the behaviour of the students. So, evaluation is the process through which the teacher qualitatively and quantitatively measures the behaviour of the students and the outcome of the teaching-learning process. Thus, evaluation is the process through which the teacher gets acquainted with the total behavioural changes of his/ her students and also with the outcome of the teaching-learning process.

13.3.1 Meaning of Evaluation

In the field of education, evaluation means estimating the probable worth of the activities involved in the teaching-learning process, judging the worth of methods or devices used in pursuit of those activities and estimating at various stages the outcome resulting from the activities. In education, *evaluation* and *measurement* are common terms used frequently. Evaluation is a comprehensive term, which includes measurement. Evaluation is an important process in education. Education is a process, which seeks to change the behavioural pattern of human beings. The educational institution that

wants to bring about the changes in behavioural pattern, are through the educational objectives. Evaluation is the process of appraisal of the changes in the behavioural pattern of the students, which reflect the extent of the achievement of the educational objectives set by the concerned educational institution. Thus, evaluation is the device that provides evidence regarding the process of students towards educational objectives. The concept of evaluation can be better understood if we go through the various definitions of evaluation.

13.3.2 Definitions of Evaluation

Evaluation is a recent scientific concept. It is more comprehensive than mere measurement. By the term evaluation, is meant the appraisal or assessment of an object or event with respect to some standard. It is a process by which some value or judgement is given in which *test* and *measurement* form two distinctive steps.

- According to Tuckman, "Evaluation is a process wherein the parts, processes, or outcomes of a programme are examined to see whether they are satisfactory, particularly with reference to the programme's stated objective, our expectations, or our own standard of excellence."
- According to James M. Bradfield, "Evaluation is the assessment of symbols to phenomenon, in order to characterise the worth or value of a phenomenon usually with reference to some social, cultural and scientific standards."
- According to Hanna, "Evaluation is the process of gathering and interpreting evidence on change in the behaviour of all students as they progress through school."
- According to Writingstone, "Evaluation is a relatively new technical term introduced to designate a more comprehensive concept of measurement that is implied in conventional test and examination."
- According to Clara M. Brown, "Evaluation is essential in the never ending cycle of formulating goals, measuring progress towards them and determining the new goals which merge as a result of

new warnings. Evaluation involves measurement, which means objective, quantitative evidence. But it is broader than measurement and implies that considerations have been given to certain values, standards and that interpretation of the evidence has been made in the light of the particular situation."

It is evident from the above definitions that evaluation in educational process implies a comprehensive programme in which achievement, attitudes, interest and other personality traits and different skills are taken into consideration. It is a process of appraisal of an object or event with reference to some standards; the standard may be social, cultural, and scientific or it may be true or arbitrary. For example, an Investigator may measure the height of a child which is 30 inches and type him as short. The description of the height i.e. 30 inches is the example of measurement and when this height is compared with reference to some standard, it is found that the child is shorter than the general average height of the children of his age group. This is evaluation.

Evaluation may also be defined as the making of judgements about the value, for some purpose of ideas, works, solutions, methods, materials etc. For example, when a teacher converts test scores to grades like A, B, C, D etc. or Excellent, Good, Fair, Poor etc., the teacher is attempting an evaluation because he/she is making value judgement. Since evaluation is a process by which some judgement is given, education as a process cannot progress without the concept of evaluation.

13.3.3 Purpose of Evaluation

There are different purposes of the evaluation process. The purposes are given below:

- To make conditions for guiding the growth of individual pupils.
- To diagnose the weakness and strength of pupils.
- To mark areas where remedial measures are needed.

- To make provision for a modification of the curriculum and the courses.
- To give a basis for the introduction of experiences to meet the needs of individuals or groups of pupils.
- To inspire pupils towards better attainment and growth.
- To test the efficiency of teachers in providing learning experiences and the effectiveness of instruction and class room activities.
- To improve the instruction process.
- To bring out the inherent capabilities of a pupil like attitudes, habits, appreciation and understanding, manipulative skills besides conventional acquisition of knowledge.

13.3.4 Scope of Evaluation

The scope of evaluation is wider than the scope of measurement. Evaluation is concerned not only with the appraisal of achievement of the pupils but also in its improvement. The whole educational programme including objectives, curriculum, teaching learning process, textbooks, etc., is appraised as to its effectiveness so that the defects can be marked out and suitable remedial measures can be applied. As such, the evaluation is unavoidable. The evaluation process ranges from the lowest to the highest level, be it elementary or higher/ technical levels of education, through which the behavioural changes of the learner are appraised for a better personality make up. Lastly, the scope of evaluation also extends to the development of capabilities of a learner to assess himself/ herself for self-appraisal, so that he/she can become a better self-evaluator in order to achieve their own goals and accomplishments. The teacher can also assess the success or failure of his/her teachings through the evaluation process.

13.3.5 Functions of Evaluation

Following are the functions of evaluation process in brief,

- It determines the extent of the achievement of learning objectives.

- It paves the way for remedial measures so that the weakness of the instructional procedures can be overcome.
- It provides the empirical evidences about the effectiveness of teaching strategies, tactics and aids and suggests some modifications and improvements.
- It provides a healthy feedback to both the teachers and the students.
- It assists in developing a meaningful, all embracing standardised test.

13.4.6 Tools and Techniques of Evaluation

Tools and techniques are the devices through which the evaluation is done. All techniques of evaluation can be broadly classified into two categories i.e.

A) Quantitative Techniques
B) Qualitative Techniques

A) Quantitative Techniques: The Quantitative techniques are mainly used in educational evaluation. They are highly reliable and valid. These techniques can be classified into three types i.e. oral, written and practical. Oral techniques comprise oral questions, debates, drama etc. Written techniques are like written questions whereby the students have to write down the answers. These written tests are more or less objective type test, essay type test and short answer type test. Lastly, in the Practical techniques, some works are assigned to the students to accomplish it. Such techniques are based to assess the skill or psychomotor activities. Generally, this technique is used in Science subjects, agriculture, home sciences etc.

B) Qualitative Techniques: The Qualitative techniques are used in schools ad colleges for internal assessment of the students. These techniques are subjective and less reliable than the quantitative techniques. This is used for assessing the affective objectives. These techniques can be classified into five categories

like cumulative records, anecdotal records, observation techniques, checklist and rating scales.

In another classification, we can group the tools and techniques of evaluation in the following manner,

A) Psychological Test:

a) Intelligence Test
b) Aptitude Measurement
c) Interest Inventories
d) Personality Test

B) Achievement Test:

a) Oral Test
b) Written Test– Essay Type, Short Answer Type, Objective Type

C) Situation Test:

a) Questionnaires
b) Checklist
c) Rating Scales
d) Teacher Observation
e) Interview
f) Records
g) Pupils' Products
h) Home Work
i) Sociometry
j) Other Devices



LET US KNOW

- In terms of education, evaluation means estimating the probable worth of the activities involved in teaching-learning relationship, judging the worth of methods or devices used in pursuit of those activities and estimating at various stages the outcome resulting from the activities.
- Tools and techniques are the devices through which the evaluation is done. All techniques of evaluation can be broadly classified into two categories i.e., Quantitative and Qualitative.

- By the term evaluation, it means appraisal or assessment of an object or event with respect to some standard. It is a process by which some value or judgement is given in which test and measurement form two distinctive steps.
- There are different purposes of an evaluation process; these are (i) making condition for guiding the growth of individual pupils, (ii) diagnosing the weakness and strength of pupils etc.
- In another classification, we can group the tools and techniques of evaluation as Psychological, Achievement and Situation Tests.



CHECK YOUR PROGRESS

Q.1: What is meant by evaluation? Give one definition of the term evaluation.

.....

.....

.....

.....

.....

.....

.....

Q.2: Mention some purposes of evaluation process.

.....

.....

.....

Q.3: Identify some functions of evaluation.

.....

.....

.....

.....

Q.4: Identify some tools that are used in situation test.

.....

.....

.....

13.4 TYPES OF EVALUATION

When we talk about the types of evaluation, generally it can be of two types i.e. **(a) Formative** and **(b) Summative** Evaluation.

a) Formative Evaluation is conducted to monitor the instructional process, to determine whether the learning is taking place as planned. Evaluation that is used periodically as instruction proceeds is referred to as formative evaluation. This evaluation functions to provide–

I) Interim Assessment of the pupils' progress

II) Specific diagnosis of pupils' strength and weaknesses

III) Systematic feedback to both the pupil and the teacher

The formative evaluation is used to provide useful guidance to the teacher and the learner and it includes frequent assessment to provide systematic feedback on progress. They may include approaches such as tutoring, small group instruction, audio-visual presentations, alternate learning materials or programme instruction. The main aim of formative evaluation is to point put the shortcoming of the plan for the correction to the person responsible for it. For an educational institution, the formative evaluation can be categorised into three categories:

I) to collect vivid evidences of the merits and demerits of the educational plan,

II) on the basis of the educational plan, the limitation of the plan should be put for discussion, and

III) To remove the pitfalls and make the plan a more effective.

Thus, under the formative evaluation, any educational plan is evaluated to increase its quality, effectiveness, desirability and utility.

b) Summative Evaluation is conducted at the end of an instructional segment to determine if learning is sufficiently complete to warrant moving the learner to the next segment of instruction. The aim of summative evaluation in an educational institution is to know whether the scheme or plan that has made for instructional purpose, should be continued or not. Summative evaluation is a process of selecting the best out of the available alternatives. For example, formal

Classroom test, unit test or final examinations are the most frequently used tools of summative evaluation.

The main purpose of summative evaluation includes:

I) Assessing the extant of pupils' achievement or competence at the end of instruction.

II) Providing a basis on which grades or course marks can be fairly assigned.

III) Providing the data from which reports to parents and transcripts can be prepared.

Summative evaluation summarises the learning progress of both the individual learners and the group.

Both types of evaluation are the necessary components of classroom instruction. In some cases information gathered for summative purposes may be useful in a formative sense. For example, the scores in a unit test may be used to evaluate the achievement at the end of that unit. At the same time, the scores reflect progress in the course and in broader instructional programme. Therefore, both the types of evaluation are instrumental in the educative process.

13.5 PROBLEMS OF EVALUATION

In our present education system, though evaluation is an important part, the existing evaluation system suffers from many limitations. These limitations or drawbacks are as under,

- In our present educational system, the term evaluation is confined only to examinations, which is primarily aimed to measure the achievement of the students in academic subjects. Hence, the term evaluation is taken in a very limited dimension but in reality the scope of evaluation is very broad and encompasses the whole.
- In the present scenario of evaluation system, essay type examinations are the main technique of evaluation but this type of examinations has numerous drawbacks such as: (i) it is not reliable and valid, (ii) it is subjective in nature and encourages unhealthy competition and (iii) it gives undue emphasis on memorization of answers.

- The current evaluation system is not objective in nature. The behavioural objectives are not properly formulated and adequately tested. The students are assessed on rigid and fixed criteria of pass and fail.
- The present evaluation system is neither continuous nor teacher centered. The evaluation is done at the closing of the academic session, not on a daily basis.
- Evaluation at present is only information-centric or memory-centric. The actual qualities of the students are not taken into account.
- The current methods of evaluation fall short of leading to the diagnostic and remedial measures.
- The present system gives emphasis on the pass percentage of the students to assess the performance of the teacher.
- The processes of self-evaluation of the students are not at all encouraging in the existing evaluation system.

13.6 SUGGESTIONS FOR EFFECTIVE EVALUATION

After discussing the above problems in the existing evaluation system, some suggestions for improving the present system are mentioned below:

- Instead of the existing evaluation system, a continuous and comprehensive method of evaluation should be undertaken throughout the learning period.
- The goals or objectives should be well defined in behavioural terms. The objectives should include all the domains, cognitive, affective and psychomotor.
- Frequent assessment of the students through unit test, class test etc. should be encouraged instead of giving importance on just essay type examination at the end of the session.
- The present evaluation system should be modified so that the actual abilities of the students can be judged.
- The evaluation should be diagnostical and remedial. It should diagnose from time-to-time the different problems faced by the students and should provide remedial measures for effective solution.

- The evaluation system should encourage self-learning techniques in teaching-learning situations. Self-evaluation of the students should be encouraged.
- Instead of giving emphasis solely on the pass percentage of the students, importance should also be given to systematic, regular and critical assessment so that the real picture of evaluation comes into the focus.



LET US KNOW

- There are two types of Evaluation: Formative and Summative.
- Formative Evaluation is conducted to monitor the instructional process, to determine whether the learning is taking place as planned.
- Summative Evaluation is conducted at the end of an instructional segment to determine if learning is sufficiently complete to warrant moving the learner to the next segment of instruction.
- Problems of the existing evaluation are varied such as that it is very constricted; it gives emphasis on pass percentage only and memorization etc.
- Continuous and comprehensive method of evaluation should be undertaken throughout the learning period and the goals should be well defined in behavioural terms.



CHECK YOUR PROGRESS

Q.5: Write the meaning of Formative and Summative Evaluation.

.....

.....

.....

.....

.....



ACTIVITY 13.1

According to you which type of Evaluation is more reliable and valid? Write in brief.

.....

.....

.....



13.7 LET US SUM UP

- Evaluation is a recent scientific concept which is more comprehensive than mere measurement. Term evaluation means appraisal or assessment of an object or event with respect to some standard.
- Regarding the purpose of evaluation, it can be said that it is used to guide the condition for the growth of individual pupil, to diagnose the strength and weakness of the pupil and to offer probable remedial measures etc.
- The functions of the evaluation process can be briefly stated as determining the extent of the achievement of learning objectives, providing remedial measures, empirical evidences as well as healthy feedback so that the pupil is better assessed.
- Tools and techniques are the devices through which the evaluation is done. All techniques of evaluation can be broadly classified into two categories i.e. Quantitative and Qualitative.
- If we talk about the types of evaluation, it is of two types i.e. Formative and Summative Evaluation. Formative Evaluation is conducted to monitor the instructional process, to determine whether the learning is taking place as planned. Summative Evaluation is conducted at the end of an instructional segment to determine if learning is sufficiently complete to warrant moving the learner to the next segment of instruction.

- The problems of evaluation in the existing system are numerous like the prevalence of essay type examinations, not continuous and comprehensive, importance to memory centered and information centered, not objective or goal directed etc.
- The probable suggestions for effective evaluation can be summed up as it should be continuous and comprehensive, goal oriented, to encourage self-evaluation; objective should be in behavioural terms, systematic and critical in regular assessment etc.



13.8 FURTHER READING

1) Mathur, Dr. S. S. (1996). *Teacher And Secondary Education*. Agra: Vinod Pustak Mandir.

2) Singh, Arun Kumar (1997). *Tests, Measurements and Research Methods in Behavioural Sciences*. Patna: Bharati Bhawan.



13.9 ANSWER TO CHECK YOUR PROGRESS

Ans. to Q. No. 1: Evaluation is the process through which the teacher gets acquainted with the total behavioural changes of his/ her students and also the outcome of the teaching-learning process.

The definition put forward by James M. Bradfield is “Evaluation is the assessment of symbols to phenomenon, in order to characterise the worth or value of a phenomenon usually with reference to some social, cultural and scientific standards.”

Ans. to Q. No. 2: There are different purposes of an evaluation process; these are (i) making condition for guiding the growth of individual pupils, (ii) diagnosing the weakness and strength of pupils etc.

Ans. to Q. No. 3: The functions of the evaluation process is to determine the extent of the achievement of learning objectives, provide remedial measures and empirical evidences as well as give healthy feedback so that the pupil can be assessed in a proper way.

Ans. to Q. No. 4: In situation test, the following are the tools that are used: Questionnaires, Checklist, Rating Scales, Interview, Sociometry technique etc.

Ans. to Q. No. 5: Formative Evaluation is conducted to monitor the instructional process, to determine whether the learning is taking place as planned.

Summative Evaluation is conducted at the end of an instructional segment to determine if learning is sufficiently complete to warrant moving the learner to the next segment of instruction.



13.10 MODEL QUESTIONS

A) Short Questions (Answer each question in about 150 words)

Q.1: Explain the meaning and significance of evaluation in teaching learning process.

Q.2: What are the purposes of evaluation?

Q.3: Explain the scope of evaluation.

Q.4: Define Summative and Formative evaluation.

B) Long Questions (Answer each question in about 300-500 words)

Q.1: Describe the different tools and techniques of evaluation.

Q.2: Discuss the differences between formative and summative evaluation.

Q.3: What are the different problems faced by the existing evaluation system? Explain.

Q.4: How would you like to suggest some remedial measures for an effective evaluation system in the present situation?

*** ***** ***

UNIT 14: MICRO-TEACHING AND ITS USE

UNIT STRUCTURE

14.1 Learning Objectives

14.2 Introduction

14.3 Meaning and Definition of Micro-Teaching

- 14.3.1 Characteristics and Objectives of Micro-Teaching
- 14.3.2 Steps in Micro-Teaching Procedures
- 14.3.3 Micro-Teaching Cycle
- 14.3.4 Principles underlying Micro-Teaching
- 14.3.5 Use of Micro-Teaching

14.4 Let Us Sum Up

14.5 Further Reading

14.6 Answers to Check Your Progress

14.7 Model Questions

14.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- identify the meaning and definition of Micro-Teaching
- identify the characteristics and objectives of Micro-Teaching
- explain the procedures, principles and use of Micro-Teaching.

14.2 INTRODUCTION

After having a discussion on the various issues of technology in the previous units, let us discuss another important topic i.e. Micro-Teaching and the various issues related to it such as meaning and definition of Micro-Teaching, characteristics and objective of Micro-Teaching, procedures of Micro-Teaching, principles of Micro-Teaching and the use Micro-Teaching. Micro-Teaching is one of the most recent innovations in teaching education which aims at modifying teachers behaviour according to the specified objectives. Recent researches in advanced countries in classroom teaching have proved that classroom teaching may be objectively analysed and

modified according to the requirements in order to develop desirable teaching skills and competencies in the student-teacher and even inservice teachers. Micro-Teaching is one of the important innovations in this direction.

14.3 MEANING AND DEFINITION OF MICRO-TEACHING

Micro-Teaching is a training procedure which is aimed at simplifying the complexities of the regular teaching process. Micro-Teaching is a scaled down sample of teaching. The complex act of teaching is broken down into simple components. Only one particular skill is attempted and developed during Micro-Teaching session.

Micro-Teaching is a scaled-down, simulated teaching, which is designed for the training of both pre-service and in-service teachers. It has been used worldwide since its invention at Stanford University in the late 1950. The basic purpose of this teaching is to provide teachers with an opportunity for the practice of teaching skills while learning in terms of how to develop simple, single-concept lessons in any teaching subject. Micro-Teaching helps teachers improve both content and methods of teaching and develop specific teaching skills such as questioning, the use of examples and simple artifacts to make lessons more interesting, effective reinforcement techniques, and introducing and closing lessons effectively. Immediate, focused feedback and encouragement, combined with the opportunity to practice the suggested improvements in the same training session, are the foundations of the Micro-Teaching training programe.

The configurations of the Micro-Teaching earlier were very formal and complex. The students (typically four or five) were placed in a rotation of teaching stations in a Micro-Teaching clinic. Teachers would teach an initial five to ten minute, single element lesson that was evaluated or supervised by a supervisor or the expert. The teacher would have a brief time to revise the lesson and then re-teach the same lesson to a different group. In later years, these sessions were videotaped. Videotaping microteaching lessons became the optimal practice because it allowed teachers to view their own performance.This is what is meant by micro-teaching.

Micro-Teaching has been defined in a number of ways. Some selected definitions are given here–

- **Allen D. W. (1966):** "Micro-Teaching is a scaled down teaching encounter in class size."
- **Allen D. W. and Eve A. W. (1968): "**Micro-Teaching is defined as a system of controlled practice that makes it possible to concentrate on specified teaching behaviour and to practise teaching under controlled conditions.''
- **R. N. Buch (1968):** "Micro-Teaching is a teacher education technique which allows teachers to apply clearly defined teaching skills to carefully prepared lessons in a planned series of five to ten (5 to 10) minutes encounter with a small group of real students of ten with an oppurtunity to observe the result of video tape.''
- **Clift, J. C. and others (1976):** "Micro-Teaching is a teacher training programme which reduces the teaching situation to a simpler and more controlled encounter achieved by limiting the practice teaching to a specific skill and reducing time and class size.''
- **Passi., B. K. Lalita M. S. (1976):** "Micro-Teaching is a training technique which requires student teachers to teach a single concept using specified teaching skill to a small number of pupils in a short duration of time.''



CHECK YOUR PROGRESS

Q.1: What is Micro-Teaching?

.....

.....

.....

Q.2: Give any one definition of Micro-Teaching?

.....

.....

Q.3: Write 'True' or 'False' against each statement –

a) Micro-teaching implies the usual classroom teaching.

b) Size of the classroom is reduced in Micro-Teaching.

c) Micro-Teaching is not a scaled down teaching operation.

14.3.1 Characteristics and Objectives of Micro-Teaching

After going through the concept and various definitions of Micro-Teaching, now we are able to know that micro-teaching is a training procedure aiming at simplyfying the complexities of the regular teaching process. On the basis of the above mentioned definitions, the following characteristics of Micro-Teaching may be revealed–

- Micro-Teaching is relatively a new innovation in the field of teacher education.
- Micro-Teaching is a training technique and not a teaching technique.
- It is scaled down teaching:
  - Which reduces the class size 5-10 pupils.
  - Which reduces the duration of period 5 to 10 minutes.
  - Which reduces the duration size of the topic.
  - Which reduces the teaching skill.
- It provides adequate feed-back.
- Micro-Teaching provides opportunity to select one skill at a time and practise it through its scaled down encounter and then take other in a similar way.
- Micro-Teaching permits a high degree of control in practising a particular skill.
- The use of video tape and closed circuit TV makes the observation very objective.
- Micro-Teaching is an analytic approach to training.

Objectives of Micro-Teaching: Micro-Teaching is directed to achieve the following objectives–

- To enable the teacher trainee to learn teaching skills under controlled situation.

- To enable the teacher trainee to develop confidence in teaching by mastering a number of teching skills with a small group of students.
- To train the student teacher in the component skills of teaching at pre service level.
- To provide training to the student teacher by reducing the complexities of the class room situations.
- To provide immediate feed back to the trainees of their performance for modifying their behaviour.



CHECK YOUR PROGRESS

Q.4: Mention any four characteristics of Micro-teaching.

.....

.....

.....

.....

.....

Q.5: Point out any two objectives of Micro-Teaching.

.....

.....

.....

.....

.....



ACTIVITY 14.1

"Micro-Teaching is the real teaching but it used for developing teaching skills among teachers." Discuss this statement and give your own views.

.....

.....

.....

14.3.2 Steps in Micro-Teaching Procedure

Micro-Teaching procedure involves the following steps:

- **Orientation:** Micro-Teaching being a new technique, it is necessary that the student teacher should be given the theortical background on the concept of Micro-Teaching, significance of using Micro-Teaching, procedure of Micro-Teaching, requirements and settings for adoption of Micro-Teaching technique.
- **Discussion of Teaching Skills:** In this step, the knowledge and understanding of the student teacher about the following aspects are to be developed–
  - Analysis of teaching into component skills.
  - The discussion of the rationale of these skills in teaching.
  - Discussion on the components of teaching behaviour comprising various teaching skills.
- **Selection of a particular teaching skill:** In Micro-Teaching, one skill is to be practised at a time. Hence, for a Micro-Teaching session one skill is to be selected. The student teacher is to be allowed to observe a model demonstration lesson using the selected particular skill.
- **Presentation of a model demonstration lesson:** A demonstration of the use of the selected teaching skill is given by the teacher educator before the student teacher. This is called ‘‘modelling’’. Demonstration can be given in a number of ways depending on the type of the skill and the availability of the resources.
  - By providing written materials like hand book, guide, illustrations etc.
  - By exhibiting a film on video tape
  - By making the trainee listen to audio tape
  - By arranging a demonstration by the teacher educator or by an expert.

- **Observation of the model lesson:** An observation schedule especially designed for the observation of the specific skill is distributed among the student teachers to observe the model lesson.
- **Preparation of Micro lesson plan:** For the preparation of micro lesson plan, the student teachers are required to select a proper concept for the use of the selected skill. Necessary guidance may be taken from the teacher educator in preparing a micro lesson plan.
- **Creation of a Micro-Teaching setting:** The standard setting for Micro-Teaching developed by NCERT is as follows–
  - Number of pupils: 5 – 10
  - Type of pupils: Real pupils or preferably peers.
  - Type of supervisor: Teacher educator or peers.
  - Time duration of a Micro-Teaching cycle: 36 minutes.

    The time is divided as follows:

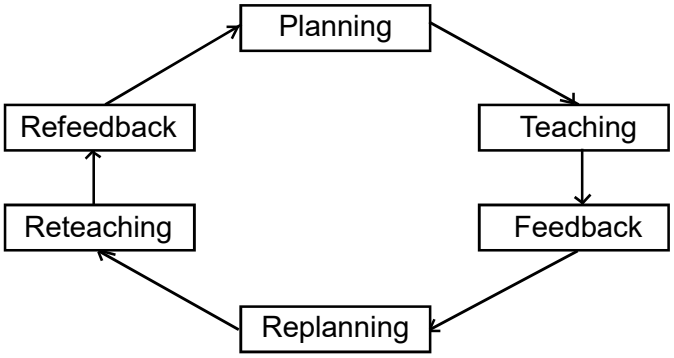
Teaching session	–	6 minutes
Feedback session	–	6 minutes
Replan session	–	6 minutes
Reteach session	–	6 minutes
Refeedback session	–	6 minutes
Total	**=**	**36 minutes**

- **Practice of the skill:** In this step the student teacher teaches the micro lesson for 6 minutes to a micro class 5 – 10 pupils or peers. The teaching session is supervised by the teacher educator and peers with the help of observation scheule. If possible the teaching session is to be video taped.
- **Providing feedback:** The student teacher is given immediate feedback on his teaching performance either by the teacher educator and by peers or by using tape or closed circuit television.
- **Replanning:** The student teacher replans his micro lesson in view of the feedback received from different sources. The time allotted for replanning is 12 minutes in the Micro-Teaching cycle.

- **Re-teaching:** The student teacher reteaches the lesson using the selected skill for 6 minutes on the basis of his replanned lesson.
- **Providing refeedback:** The student teacher is provided refeedback on the performance of replanned lesson with the help of observation schedule.

14.3.3 Micro-Teaching Cycle

A Micro-Teaching cycle consists of the following steps– planning, teaching, feedback, replanning, reteaching & refeedback. The following diagram illustrates a Micro-Teaching cycle.



Micro-Teaching cycle



LET US KNOW

Micro-Teaching involves such steps as orientation, Discussion of teaching skills, Selection of a particular teaching skill, Presentation of a model demonstration lesson, Observation of the model lesson etc.



CHECK YOUR PROGRESS

Q.6: Mention the general procedure involved in Micro-Teaching.

.....

.....

.....



ACTIVITY 14.2

What are the steps in micro lesson? Suggest a plan involving a teaching skill of your choice.

.....

.....

.....

14.3.4 Principles underlying Micro-Teaching

Micro-Teaching is based on the following principle–

- **Principle of individualised training:** In Micro-Teaching technique the student teacher is given training in one skill till he has acquired mastery over it.
- **Principle of Individualised attention:** In Micro-Teaching each trainee is given individual attention by the supervisor. Drawbacks in teaching are pointed out and suggestions are given to improve teaching.
- **Principle of limited content:** A single concept is taken for Micro-Teaching. It helps the student teacher to teach that limited content easily and confidently.
- **Principle of practice:** In Micro-Teaching a number of practice sessions can be done by taking one skill at a time by the student teacher. It helps to master a particular skill.
- **Principle of Immediate feedback:** After teaching the lesson for 6 minutes using a particular skill, immediate feedback is given to the student teacher by the teacher educator or by peers or by using video tape or through closed circuit television. It helps the trainee to know his drawbacks and subsequently to improve his teaching.
- **Principle of examination:** In Micro-Teaching the supervisor and the student teacher conduct experiment on teaching skills under controlled conditions such as the number of student in the class,

duration of the lesson, content of the lesson could easily controlled.

14.3.5 Uses of Micro-Teaching

Micro-Teaching can be used for various purposes such as–

- **Modification of teacher behaviour:** Micro-teaching is an effective device for the modification of teacher behaviour.
- **Knowledge of teaching skills:** By the use of Micro-teaching the knowledge and practice of teaching skills can be given.
- **Developing teaching skills:** Micro-teaching experiences develop the specific teaching skills such as reinforcement skill, explaining skill, skill of using black-board, skill for using audio visuals aids, skill for class management etc.
- **Developing teaching efficiency:** Micro-teaching is found useful for developing teaching efficiency in pre-service and in service teacher education programme.
- **Improving teaching practices:** This technique is a training device for improving teaching practices and for preparing better and effective teachers.
- **Individual training:** By Micro-teaching the training of teachers becomes individualized. Each trainee makes progress in developing the teaching skills at his rate depending on his ability.
- **Regulating teaching practice:** The technique permits increased control and regulates teaching practice.
- **Real teaching:** Micro-teaching is real teaching. It may be one in real class-room conditions.
- **Reducing complexities:** Micro-teaching reduces the complexities of normal class-room teaching by scaling down teaching, class size, scope of content and time which are all reduced.
- **Focus on teaching:** Micro-teaching focuses attention on the the teaching behaviour to modify and improve it in the desired direction.

- **Analysing one's own teaching performance:** This teaching is an economical device and the use of video-tape enables the trainee to analyse his own teaching performance.



LET US KNOW

Micro-Teaching is based on the following principle such as–

- Principle of individualised training.
- Principle of limited content.
- Principle of practice etc.

Micro-Teaching can be used for the various purposes such as–

- Modification of teacher behaviour.
- Knowledge of teaching skills.
- Developing teaching skills.
- Developing teaching efficiency etc.



CHECK YOUR PROGRESS

Q.7: Mention any four principles underlying Micro-Teaching?

.....

.....

.....

.....

Q.8: Mention any five uses of Micro-Teaching.

.....

.....

.....

.....

.....



ACTIVITY 14.3

How do the principles underlying Micro-Teaching help to improve teacher effectivness? give your own views.

.....

.....

.....



14.4 LET US SUM UP

- Micro-Teaching is a training procedure which is aimed at simplifying the complexities of the regular teaching process.
- Micro-Teaching is a scaled down sample of teaching.
- The objectives of Micro-Teaching are:
  - Micro-Teaching initiates the teacher trainees to analyse and develop teacher behaviour under controlled condition etc.
  - Micro-Teaching involves such steps as Orientation, Discussion of teaching skills etc.
  - Micro-Teaching is based on some principles such as– Principle of individualised training, Principle of limited content etc.
  - Micro-Teaching can be used for various purposes such as– Modification of teacher behaviour, Knowledge of teaching skills etc.



14.5 FURTHER READING

1) Babu, A. Ram (Editions 2006). Micro-Teaching Vol.-I and Vol.-II Neel Kamal Publications, Pvt. Ltd.

2) Kochar. S. K. (Reprinted 1975). *Methods and Techniques of Teaching*. New Delhi: Sterling Publishers Pvt. Ltd.

14.6 ANSWER TO CHECK YOUR PROGRESS

Ans. to Q. No. 1: Micro-Teaching is a Controlled practice that makes it possible to concentrate on teaching behaviour in the student teacher training programme.

Ans. to Q. No. 2: According to Allen D. W. (1966): "Micro-Teaching is a scaled down teaching encounter in class size."

Ans. to Q. No. 3: a) False, b) True, c) False.

Ans. to Q. No. 4:

- Micro-Teaching is relatively a new innovation in the field of teacher education.
- Micro-Teaching is a training technique and not a teaching technique.
- It is scaled down teaching.
- It provides adequate feed-back.

Ans. to Q. No. 5:

- To enable the teacher trainee to develop confidence in teaching by mastering a number of teaching skills with a small group of students.
- To provide training to the student teacher by reducing the complexities of the classroom situations.

Ans. to Q. No. 6: Micro-Teaching involves these steps such as Orientation, Discussion of teaching skills, Selection of a particular teaching skill. Presentation of a model demonstration lesson, Observation of the model lesson etc.

Ans. to Q. No. 7:

- Principle of Individualised lesson.
- Principle of limited content.
- Principle of practice.
- Principle of immediate feedback.

Ans. to Q. No. 8:

- Modification of teacher behaviour.
- Knowledge of teaching skills.
- Developing teaching skills.

- Developing teaching efficiency.
- Improving teaching practices.



14.7 MODEL QUESTIONS

A) Short Questions (Answer each question in about 150 words)

Q.1: What is Micro-Teaching? Explain clearly the Micro-Teaching cycle.

Q.2: Write short notes on:

a) Principle of Micro-Teaching

b) Use of Micro-Teaching

B) Long Questions (Answer each question in about 300-500 words)

Q.1: Define Micro-Teaching. Discuss its objectives and characteristics.

Q.2: Explain the general procedure involved in Micro-Teaching.

*** ***** ***

UNIT 15: COMPUTER ASSISTED INSTRUCTION AND ITS USE

UNIT STRUCTURE

15.1 Learning Objectives

15.2 Introduction

15.3 Meaning and Definition of Computer Assisted Instruction (CAI)

15.3.1 Basic Assumption of Computer Assisted Instruction

15.3.2 Types or Modes of Computer Assisted Instruction (CAI)

15.3.3 Uses of CAI

15.4 Let Us Sum Up

15.5 Further Reading

15.6 Answers to Check Your Progress

15.7 Model Questions

15.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- identify the meaning and definition of computer assisted instruction (CAI)
- explain the basic assumptions of computer assisted instruction
- differentiate the types or modes of computer assisted instruction.

15.2 INTRODUCTION

Computer is one of the finest and most important gifts of science and technology to the mankind. It has done miracles in almost all walks of life. Today there is no aspect of our life which has remained untouched by the use and application of computers. In the field education too, the computers are being used for managing its affairs including the actual teaching. With the introduction of New Education Policy in 1986 our country also had taken initiative for making their use in the teaching learning activities. Instructional work so carried out with the help of computers is generally known as Computer Assisted Instruction or CIA in brief. In this unit we shall try to know about such type of instruction in detail.

15.3 MEANING AND DEFINITION OF COMPUTER ASSISTED INSTRUCTION (CAI)

One of the most important contributions of modern technology is the introduction of computers in the teaching learning process. Computer assisted instruction (CAI), as the name suggests, stand for the type of instruction aided or carried out with the help of a computer as a machine. It is just one step ahead of the use of teaching machine and probably two steps after the use of programmed text books in making the instructional process as self-directed and individualised as possible. The computer is said to be ahead of the teaching machine on account of its unlimited capacity of doing more work and multiple types of work at the same time for unlimited number of individual learners more than what the teaching machine can do. Computer assisted instruction for this reason is relatively a new and more developed concept than the teaching machine and programmed learning oriented instructional technology. Computers can be used find out knowledge of the students at the entry level at the time of enrolment and to classify them according to their abilities. Computer provides direct interaction between the students and the subject matter to be learned. Computer also provides feedback to the learner on the basis of the performance. Computer assisted instruction (CAI) is in a sense an extension of programmed learning material and an individualised system of instruction.

The most important definitions regarding computer assisted instruction (CAI) are given below–

- According to Hilgard and Bower (1977), ‘‘Computer assisted instruction has now taken so many dimensions that it can no longer be considered as simple derivative of the teaching machine or the kind of programmed learning that Skinner introduced.’’
- Let us examine one more definition of computer assisted instruction (Bhatt and Sharma, 1992), ‘‘which states that CAI is defined as an interaction between a student, a computer controlled display and a reponse entry device for the purpose of achieving educational outcomes.’’

Let us analyse the above definition by Bhatt and Sharma which brings into light the following points.

- In computer assisted instruction (CAI) there is an interaction between an individual student and the computer just as it happens in tutorial system between the teacher and an individual student.
- Computer is able to display the instructional material to the individual student.
- The interaction between the individual learner and the computer device helps in the realisation of the set instruction objectives.
- In this way, while explaining all about the practical aspect of CAIs this definition is lacking in respect of giving the nature and characteristics of the instruction provided by CAI. The definition can be modified and stated as a method of instruction in which there is a purposeful interaction between a learner and the computer device for helping the individual learner to achieve the desired instructional objectives with his own pace and abilities at his command.



LET US KNOW

- Computer assisted instruction (CAI) is an extension of programmed learning material and an individualised system.
- Instructional work carried out with the help of Computers is generally known as Computer Assisted Instructional or CAI.



CHECK YOUR PROGRESS

Q.1: What is Computer Assisted Instruction? Write within 20 words.

.....

.....

.....

Q.2: Give a suitable definition of the term 'Computer Assisted Instruction'.

.....

.....

.....

.....

15.3.1 Basic Assumptions of Computer Assisted Instruction (CAI)

Computer assisted instruction meant for auto individualised instructions rests on some basic assumptions as mentioned below.

- **Instruction for a number of learners at a time:** Computer assisted instructional can serve thousands of the learners, at a time in an individualised way. What an individual needs according to his ability and interest in a particular subject or topic, he can get the needed instructional material and help from the computer. Hence the first assumption of CAI lies in its capacity of providing quality auto-instruction in a highly individualised way to a sufficiently larger number of the individual learners at a time.
- **Automatic recording of the learners performance:** How does an individual learner react to the persented instructional material? What are his querries and difficulties? What is his performance in terms of learning outcomes etc.? All such things can be successfully and accurately recorded by the computer device in CAI. It helps much in the further planning of the instruction needed for the individual learner for his proper advancement. Such types of timely and proper auto recording refer to the second assumption underlying computer assisted instruction.
- **Variety in the use of methods and techniques:** CAI assumes that every learner can not be benefitted through a single method and all topics in a subject can't be handled through a common method or strategies. Hence, it believes that there should be a

variety of methods and approaches for imparting instruction in a particular subject or topic so that all learners may be able to choose a particular method according to their own interest, ability and nature of the instructional material.

Three Technologies of CAI: Computer assisted instruction requires a joint effort of various persons in the matter of wise handling of men and material resources. Generally, three types of technology are involved in computer assisted instruction namely **hardware, software** and **courseware.**

The Computer as a machine represents the hardware. In computer assisted instruction, we certainly need an appropriate computer that suits the requirement of our teaching learning situation. It will require the services of an expert or technician for its maintenance and an operator (a teacher, a student or assistant may do the job with some training). The teacher himself must have a workable knowledge of the construction and working of a simple computer.

Computer as a machine can't do anything for imparting instruction to the learners if it is not fed with the **Software**. The programmes which contain instructions to the computer in language that it can understand are called **'Software'**. These programmes are made by an expert called programmer. The software uses in CAI is of two kinds– **application software** and **system software**. Application software includes those programmes which contain instructions to the computer for carrying out a total function required by the user. However, system software is needed for organising the resources of the computer to carry out the application tasks mentioned in the application programme.

Courseware technology is the base of the instruction which is imparted to the learner by CAI. For example a student of class IX wishes to learn about to the topic 'elements, compounds and mixtures' in the subject Chemistry. For this purpose, a computer machine as a hardware will need the services of software application and system programmes for its operation. These programmes will

be prepared by the software programmer who is an expert in the software technology. But for the preparation of this software material he will certainly require the services of those who are experts in courseware technology. The person who can make a team for imparting such technology will be an–

i) Expert in the subject,

ii) Expert in instructional technology,

iii) Expert in audio-visual aid preparation and use etc.

What the course-ware technology prepares in terms of the instructional material and method of instruction etc, the software technologists will translate it into software programmes for being used in the computer machine.

In this way, **all the three technologies** and the persons operating these technologies are jointly responsible for the preparation of the instructional activities conducted in CAI.



LET US KNOW

The basic assumptions of computer assisted instruction are–

- Computer Assisted Instruction (CAI) can serve thousands of the learners at a time in an individualised way.
- Timely and proper automatic recording is the second assumption of the computer assisted instruction.
- There should be a wide variety of methods and approaches for imparting instruction in a particular subject or topic so that all the individual learners may be able to choose a particular method and approach according to their own interest, ability and nature of the instructional material.
- Three types of technology are involved in computer assisted instruction, namely, **hardware, software** and **courseware.**



CHECK YOUR PROGRESS

Q.3: Point out in brief the basic assumptions of Computer Assisted Instruction.

.....

.....

.....

.....

.....

Q.4: Briefly explain the three technologies of Computer Assisted Instruction. (within 60 words)

.....

.....

.....

.....

.....

.....

.....

.....



ACTIVITY 15.1

"Computer Assisted Instruction has a wide application in the field of education" –How would you like to justify the statement?

.....

.....

.....

15.3.2 Modes of Computer Assisted Instruction (CAI)

In CAI the computer interacts directly with the learners while presenting lessons. It provides instructions directly to students and

allows them to interact with the computer through the lessons programmed in the system. It can facilitate various instructional modes such as–

- **Informational Computer Assisted Instruction:** This type of computer assisted instruction helps the learner to get the desired information needed by him. Here, the computer can serve the role of an enquiry officer to respond to students enquiry with answers it has stored. The sole purpose of this type of CAI is to provide essential information for the acquisition of concepts and skills.
- **Tutorial mode:** In such type of computer assisted instruction, the computer is engaged in actual teaching. Here, it can play effectively the role of a tutor by maintaining a perfect interaction and dialogue with the individual students. In the tutorial mode as in programmed instruction, information is presented in small units followed by a question. The tutorial programmes are prepared not only to provide instruction in topics like Newton's law of motion, sets and their operations but also to provide sufficient practice, having proper ***track*** of the students difficulties and performance and move the students on the path of progress according to their own ***pace***, abilities and requirements. In case the student is able to master a concept, the CAI programme provides the next step of instruction, but if he is not able to achieve the mastery, the programme provides remedial instruction.



Track: Foot print
Pace: step

- **Educational game mode:** It can or can not be instructional but it is mostly used for recreational purpose. In such type of compute assisted instruction, learners are provided with a variety of well designed computer games. The purpose of such type of game is only to provide intellectual challenge, stimulation of curiosity and serve as a source of motivation to the individual learner. In a course of learning, these games can be used as a source of review or as a reward for some accomplishment on the part of learner.
- **Simulation type of instruction:** In such mode of computer assisted instruction, ***simulation*** is used as a technique for



Simulation: resemblance

providing training to the students. Such type of instructional activities provide the most powerful learning tools to them. With the carefully prepared programmes the students here are made to face real or idealised situations. They have to play an active role and are required to take decisions that have consequences.

- **Problem solving mode of Computer Assisted Instruction:** Such mode of computer assisted instruction focuses on the process of finding an answer to a problem rather than the answer itself. Here, the students are provided with programme that can make them think about the ways and means of solving the problem systematically with the concrete ways suggested in the programmes. Here, students can decide or analyse the problem into its small constituents and then they are able to devise systematic procedure for its solution. 'Logo' is a procedure oriented language based on the learning theories of Jean Piaget. Beside this, there are other programmes available for the different types of students for increasing the sophistication of their thought process helping them to learn good thinking strategies and problem solving abilities.
- **Practical work oriented instruction:** Computer assisted instructional programme can provide valuable help in supplementing laboratory and other practical work. A student can learn so many things about the science experiments, before actually performing them in his practical class by watching and following a computer programme made for this purpose. Thus, the children can have necessary preparation and background from computers for their better performances at the school hours.
- **Managing the learning affairs of students:** In such type of instructional activities, computer assisted programme provides valuable help in managing and supervising the learning affairs of the students. They can give assignments, help in the self study, library reading, group work, keep progress chart and guide the teacher as well as parents to plan their children's education. In

the subject and areas needing extensive computation and manipulation of data like mathematics, engineering, statistics and advanced researches, computers can do wonders. In the education of the handicapped children like deaf and dumb, computers can play a leading role as they can provide the needed learning experiences with quite negligible efforts on the part of the children who are unable to speak or listen. In this way, computers can play a leading role not only in managing the affairs of the whole range and areas connected with the world of education.

- **Drill and practice programmes:** This type of computer assisted instruction provides the learners different types of drill and practice programmes covering specific topics related to a particular subject. Through such drill and practice programmes of CAI the services of computers can be properly availed for providing practice in something already learned in some other way. It helps in the development of a variety of skills. For example, for providing practices in multiplication skill, the computer may display on the TV, screen the following simple problem.

7 x 8 = ...

The child is required to respond to typing the numeric keys of the key board. If the answer is wrong the computer immediately displays WRONG and if the answer is correct, another problem for carrying out practice is presented. The responses from the computer come within the fraction of seconds; therefore, the child does not have to wait for the answer of feedback. On the other hand, the computer has the required patience to wait and allow the child to go ahead with his own speed and to move for forward.



LET US KNOW

There are various modes of Computer Assisted Instruction such as–

- Information Computer Assisted Instruction
- Tutorial mode

- Educational game mode
- Simulation type of instruction
- Problem solving mode of computer assisted instruction CAI.
- Practical work oriented instruction
- Learning affairs managing type
- Drill and practice programme.



CHECK YOUR PROGRESS

Q.5: Mention any two modes of computer assisted instruction.

.....

Q.6: State in brief about eduactional games type instructions provided through computer assisted instruction. (Write within 50 words)

.....

.....

.....

.....

.....

.....



ACTIVITY 15.2

How can we use the computer for recreational purposes?

.....

.....

.....

15.3.3 Uses of CAI

- Computer assisted instruction (CAI) can be used in all types of teaching learning programmes. Any lesson in any subject can be programmed for CAI provided that the lesson material can

be represented in words, pictures and experiments to be presented to the students.

- Through CAI one can learn at his own space can receive immediate and personalized feed back i.e. completely individualized instruction.
- CAI can be arranged for a large number of students simultaneously which one cannot imagine in a normal classroom teaching learning process.
- In CAI, each learner's performance during the course and on the test is automatically recorded and feed back can be given to the teacher so that he can promptly evaluate the learner's performance and use the data in designing the best teaching strategy for the learner in the future.



15.4 LET US SUM UP

- Computer assisted instruction (CAI) is an extension of programmed learning material and an individualised systems.
- Instructional work carried out with the help of computers is generally known as computer assisted instructions (CAI).
- The basic assumptions of computer assisted instruction are– computer assisted instruction (CAI), can serve at a time thousands of learners in an individualised way. Timely and proper automatic recording is the second assumption of the computer assisted instruction etc.
- The types of technology involved in computer assisted instruction, namely, **hardware, software** and **courseware**.
- There are various modes of computer assisted instruction such as– Informational computer assisted instruction, Tutorial mode, Educational game mode etc.
- Computer assisted instruction (CAI) can be used in all types of teaching learning programmess.

- CAI can be arranged for a large number of students simultaneously which one cannot imagine in a normal teaching learning process of a classroom.
- In CAI, the performance of each learner during the course is automatically recorded.



15.5 FURTHER READING

1) Aggarwal, J. C. (1997). *Essentials of Educational Technology: Teaching-Learning Innovations in Education*. New Delhi: Vikash Publishing House Pvt. Ltd.



15.6 ANSWERS TO CHECK YOUR PROGRESS

Ans. to Q. No. 1: Computer Assisted instruction (CAI) is, in a sense, an extension of programmed learning material and individualised system of instruction.

Ans. to Q. No. 2: According to **Hilgard and Bower** (1977) "Computer assisted instruction has now taken as so many dimensions that it can no longer be considered as simple derivative of the teaching machine or the kind of programmed learning that skinner introduced."

Ans. to Q. No. 3: The basic assumptions of computer assisted instruction are– Computer assisted instruction (CAI) can serve at a time thousands of the learners in an individualised way. Timely and proper automatic recording is the second assumption of the computer assisted instruction etc.

Ans. to Q. No. 4: Generally, three types of technology are involved in computer assisted instruction namely hardware, software and courseware. The computer as a machine represents the hardware. In computer assisted instruction we certainly need an appropriate computer suiting the requirement of our teaching learning situation. Software programmes which contain instructions to the computer in

language that it can understand are called 'Software'. Courseware technology is the base of the instruction which is imparted to the learner by CAI.

Ans. to Q. No. 5: Informational computer assisted instruction, Tutorial mode.

Ans. to Q. No. 6: Educational game type instruction can or can not be instructional but it is mostly used for recreational purpose. In such type of computer assisted instruction, the learners are provided with a variety designed computer games. The purpose of such type of game is only to provide intellectual challenge, stimulation of curiosity which serve as a source of motivation to the individual learner.



15.7 MODEL QUESTIONS

A) Very Short Questions (Answer each question in about 50 words)

Q.1: Why do you think that computer is important in our day to day life?

Q.2: How would you define the term 'Computer Assisted Instruction'?

Q.3: What do you mean by the Problem Solving Method of CAI?

Q.4: Explain briefly the term Simulation Type of Instruction.

Q.5: What do you mean by Tutorial mode of instruction.

B) Short Questions (Answer each question in about 150 words)

Q.1: Give a suitable definition of the term 'Computer Assisted Instruction' and throw light on its application as an instructional device.

Q.2: Explain the Drill and practice mode of Computer Assisted Instruction and its educational implications.

C) Long Questions (Answer each question in about 300-500 words)

Q.1: Discuss the three technologies of Computer Assisted Instruction.

Q.2: Discuss in detail the types or modes of Computer Assisted Instruction.

*** ***** ***



REFERENCES

1) Aggarwal, J. C. (1997). *Essentials of Educational Technology: Teaching-Learning Innovations in Education*. New Delhi: Vikash Publishing House Pvt. Ltd.
2) Aggarwal, J. C. (1996). *Principles Methods and Techniques of Teaching*. New Delhi: Vikash Publishing House Pvt. Ltd.
3) Aggarwal, J. C. (Fifth Edition, 2003). *Essentials of Educational Technology, Teaching-Learning*. Mumbai: Vikash Publishing House.
4) Awad, M. Ellas. *System Analysis and Design*. New Delhi: Golgotia Publications (P) Ltd.
5) Azarov, Yuri (1988). *Teaching-Calling and Skills*. Moscow: Progress Publishers.
6) Babu, A. Ram (Editions 2006). Micro-Teaching Vol.-I and Vol.-II Neel Kamal Publications, Pvt. Ltd.
7) Broadbent, D. E. (1958). *Perception and Communication.* New York: Pergamon Press.
8) Chadha, D. S. (2004). *Classroom Teaching*. A Mittal and Management Publishing.
9) Chauhan, S. S. (1981). *Innovations in Teaching-Learning*. New Delhi: Vikash Publishing House Pvt. Ltd.
10) Das Borbora, Dr. Rupa and Goswami, Dr. Deepali (2005). *Educational Technology*. Arun Prakashan.
11) Das, B. C. (1998). *Educational Technology.* New Delhi: Kalyani Publishers.
12) Goswami, Meena Kumari (2008). *Educational Technology*. Asian Books Pvt. Ltd.
13) Kochar, S. K. (Reprinted 1975). *Methods and Techniques of Teaching*. New Delhi: Sterling Publishers Pvt. Ltd.
14) Mangal, S. K. *Foundations of Educational Technology*. Ludhiana: Tandon Publications.

15) Mathur, Dr. S. S. (1996). *Teacher And Secondary Education*. Agra: Vinod Pustak Mandir.

16) Rao, Usha (2005). *Educational Technology*. Delhi: Isha Book.

17) Sampath, K. etal: *Introduction of Educational Technology*.

18) Sampath, K.; Panneerselvam, A.; Santhanam, S. *Introduction to Educational Technology*. Sterling Publisher Pvt. Ltd.

19) Saxena, N. R. Swarup, Dr. Oberoi S. C. *Technology of Teaching*. Meerut: Surya Publications, Near Government Inter College.

20) Sharma, Dr. A. R. (2005). *Educational Technology*. Agra: Vinod Pustak Mandir.

21) Singh, Arun Kumar (1997). *Tests, Measurements and Research Methods in Behavioural Sciences*. Patna: Bharati Bhawan.

22) Witch, W. A. & Chales, F. S. (1953). *Audio-Visual Materials: Their Nature and Use*. New York.

Name of the Paper: .....
Course Code: .....

Centre for Internal Quality Assurance (CIQA)
Krishna Kanta Handiqui State Open University
City Office: Housefed Complex, Guwahati-781006

Learner's Feedback on Course

Dear Learner,

Regarding the course as mentioned above, we would like to know your opinions and comments so as to improve the quality of self learning materials in future. Please respond to the following statements by ticking the number you feel most reflect your opinion. After completion of the additional comments, please detach the page and send/mail the same to us at the address given below.

The Director, Centre for Internal Quality Assurance, KKHandiqui State Open University
Housefed Complex, Dispur, Guwahati-781006
(E-mail id: ciqa@kkhsou.in)

1) Approximately how many hours did you spend for studying the units in the course? ☐☐☐

2) Please give your opinions (by ✓ mark) to the following items based on your reading of the block:

Sl. No.	Statements	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I)	The SLMs of the course fulfil the learning objectives set out in the beginning of each unit					
II)	The units of the SLM could satisfy my academic needs and expectations					
III)	The Unit writers have excellent knowledge about the course contents					
IV)	Language and contents of the units were presented at a level which I could readily understand					
V)	Ample opportunity for participation in the activities provided in the units					
VI)	Used enough Illustrations (Diagrams, tables etc.) for conceptual clarity					
VII)	Quality of content is engaging, relevant, and up-to-date					
VIII)	The self check questions are very helpful					
IX)	The Possible/model questions and the answers to check my progress have benefited me a lot					

Additional Comments: *(Please feel free to provide your open comments)*

1) Which aspects of the SLM, according to you, worked well?

   .....

   .....

2) What sort of changes/improvements do you feel KKHSOU could implement to improve the overall quality of the SLM?

   .....

   .....

Thank you for taking the time to complete this form.