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Notes

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Educational Technology

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# I (Educational Technology)

## UNIT - I

Education technology, Introduction, Aim and objectives, Application of educational technology in field of physical education

### Education technology

After years of development modes of education technology in physical education discipline has achieved outstanding achievement. That unpredictable attention was given by sports teachers and researchers and an agreement was reached that full use of educational technology can't benefit the design development, utility, assessment and management of sports teaching, training process and teaching material, which help colleges from self characteristics, but also helps in solving the bottleneck problems of physical education and thus achieves the optimisation of the combination of theory and practice in the physical education process of colleges and universities.

### The father of educational technology

Uno Cygnarics (1810-1888)

With technology, particularly mobile technology physical educators now have a wide range of tools they can examine and improve their students, physical skills, the list includes wearable technology

physical education applications, gaming system, virtual classes, monitors and trackees

Some examples of Education technology

Educational technology in classroom are tools like electronic whiteboard, smart board, flipped learning, desktops and laptops, video conferencing, class room technologies etc.

Defination of educational technology ?

Education technology is the considered implementation of appropriate tools techniques and process that facilitate the application of senses, memory and cognition to enhance the teaching practice and improve learning outcomes

technology facilitate learning process and increase performance of education system.

○ Any Norman, writes that reality is not any such thing as education technology, I believe he means that technology cannot be inherently educational. Here is his tongue-in-cheek "non-definition"

The last definition come from June 2004

The definition and technology committee of the association for education communication and technology.

## Aim of educational technology

Technology provides a variety of technological information and ideas, Encourage curiosity, ingenuity, resourcefulness and discrimination. stimulate self confidence through the knowledge and application of technology

Developing practical skills through creation of products/solutions, develop logical thinking skills, appropriate communication decisions and actions

## Objectives of physical education technology

- (1) to provide education in the use of information and communication technology.
- (2) to encourage higher-level thinking and creativity
- (3) To deliver students with a learning ~~sp~~ experiences in instructional technology
- (4) to provide computer based education resources.
- (5) To make students aware of information technology
- (6) To determine the practical use of technology integration
- (7) To manage the entire-educational system starting from planning to ~~Exec~~ Execution implementation and evaluation.
- (8) to understand the structure of education board strategies and its goal
- (9) to promote better learning with the use of diverse technologies
- (10) to impact educators with the knowledge of how education technology can be effectively implemented for teaching and learning process

## II Methods of learning UNIT-I

Methods - are the ways, the systematic strategic path, in other words we can say methods are the background ways by which we achieve results.

Learning is a process that leads to change which occurs as a result of experience and increase the potential for improved performances and future learning.

a change in a learner may happen at the level of knowledge attitude, behaviour, ideas social values.

apart from what we learnt in colleges / universities we must need to develop and practice intellectual skills thinking process. This thing motivates a learner to earn more knowledge.

We can remember 3 laws of learning to understand better

- (1) Law of readiness
- (2) Law of exercise
- (3) Law of effect

We are blessed to have the opportunity to learn whatever we want at a click of a button or tap on the smartphone's screen But.

It is sad reality that we are becoming passive learners for a reason when everything is clicked away, our brain has become wired to forget and ignore all the information you learn.

As a result we are fooling ourselves into thinking that we are learning or ~~going~~ growing

We develop fake confidences based on the information we can't even recall.

⇒ What is passive learning?

passive learning is the form of learning where the learner receives or internalizes the information without getting any feedback or practice

it is the fast way to learn and requires the least amount of efforts that's why it is the most common way to learn

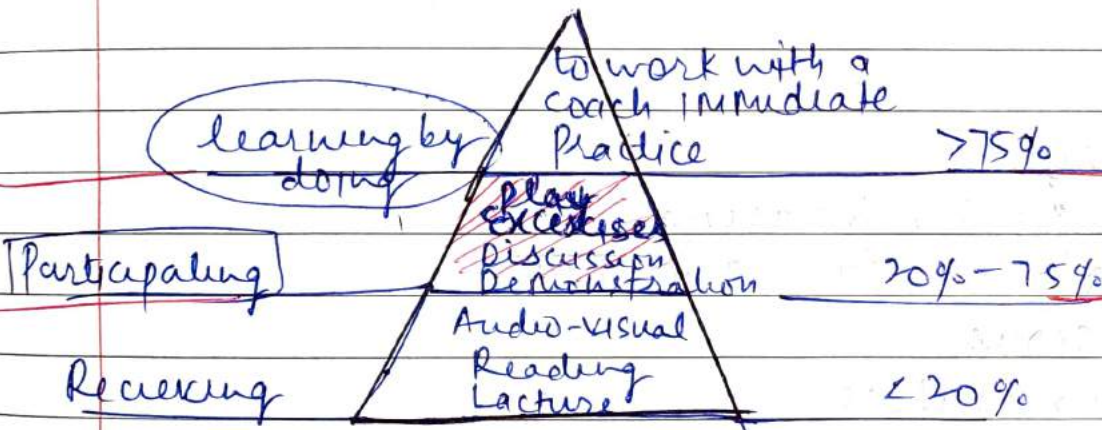
~~But~~

## = what is active learning ?

Active learning is the form of learning where the learners actively participates to learn and get real time feedback.

Unlike passive learning active learning is not about passively reading, listening or watching to consume the information

Active learning requires engagement and that is why rare. The true lifelong learners understand this principle so they get the unfair advantage to succeed in life.



Learning for active growth requires you to pick right learning type according to need.

## Experiential learning ?

where the learner learns by doing and reflecting upon their performances  
it is combination of practicing and reflecting forms of active learning

We will discuss 4 Mainly  
Methods of learning

## Types of learning

### I Visual learning learning by seeing

- (1) charts
- (2) Graphs
- (3) Graphic arrangements (video)
- (4) lesson outlines
- (5) pictures aids
- (6) powerpoints

### II Auditory learning by hearing

- (1) Read alouds लिखे हुए को पढ़ना
- (2) discussions
- (3) Listening centres
- (4) Verbal instructions
- (5) Repeat to a friend

### III Read and write

- learning by reading and writing
- (1) Books and texts
  - (2) Dictionary
  - (3) Note taking

## Kinesthetics

### Learning by doing

- (1) Incorporate body movements
- (2) tactile - (touch/feel)
- (3) Hands on (س۲۱۱۲)

\* 13 more Methods of learning that can change passive learning into active learning -

I Highlighting and Annotating  
while reading you can highlight. take notes, write your own comments  
it becomes more of a 2 way conversation  
instead of passive consumption.

II Reflecting and questioning  
after the learning. you can take some time to reflect on how you can apply the information into your life  
you can ask yourself good questions to extract the most out of your learning  
'what if'  
'How can I'  
why etc..

III Brainstorming and ideating  
it is best to use your creativity to come with ideas about anything related to what you learn.  
to get started make it part of your life to write ideas the more you practice the more creative you become  
you may also create mind maps of the info you learnt.

IV tracking and Game based learning  
this method is best when you are applying a habit, trait, lesson, routine and so on in your life you can use pen-paper any app to do it  
if you want to take it even further. you can use gamification and set points, badges rewards, competitions etc

V the Feynman technique

- (a) Pick a topic and study it
- (b) Explain to a child or to someone unfamiliar with the topic in a simple language.
- (c) Identify the gap in your understanding when you fail to explain.
- (d) study the gap again to understand better

VI Discussing and peer reviewing

Discussing a topic you learnt with group of friends who is also knowledgeable about the topic would help deeper your understanding and may expose you to new info.

VII hiring a coach and deliberate practicing.

- (a) A coach or a mentor can help you. They can give you accurate feedback instantly
- (b) A coach/mentor can correct your ways and suggest you more better ways of improvement

## VIII Experiential learning

Learners learn by doing some activities or use the info. in his daily life and then examine what he learnt.

## IX Repeated exposure

Due to the complexity of a topic or the passion you have for it you may want to learn more about a topic no matter how much you learn.

For those repeated exposure from different perspectives is the best way to learn and expand your knowledge.

## X Just in time learning

It is learning about the topics that are relevant at the current time in your life.

e.g. -

If you are starting a business you would learn a ton about it in that phase of your life.

## XI Interleaving learning

Interleaving technique is about learning multiple topics at once. It will not help you many subjects at once but you'll be able to connect different ideas of disciplines.

(Issue of getting bored may be solved)

## VII Active recalling

Active recalling is a method that help you memorize a topic by transferring the info from the short term memory to long term memory. The best system to practice it is the (speed repetition system)

## VIII testing and evaluating yourself

it has the unique value that you can't get from simply learning or practicing.

You need discipline and courage to admit what you don't understand or what you find hard to do.

Communication

Technology can help improve communication education.

Email: Connect with staff, teachers, students and parents through email, websites, post, relevant information and resources on district, school and classroom websites.

The term Communication is derived from the Latin word Communis. In general communication refers to the reciprocal exchange of information, ideas, facts, opinion, beliefs, feelings and attitudes through verbal and non-verbal means B/w two people or within a group of people.

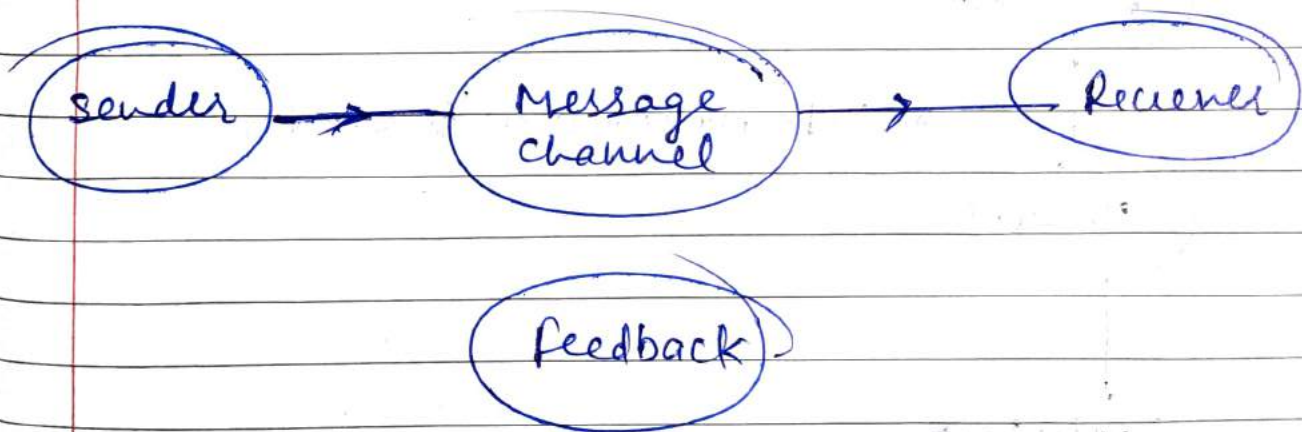
Communication is a process by which information is exchanged B/w individuals through a common system of symbols or signs of behaviour.

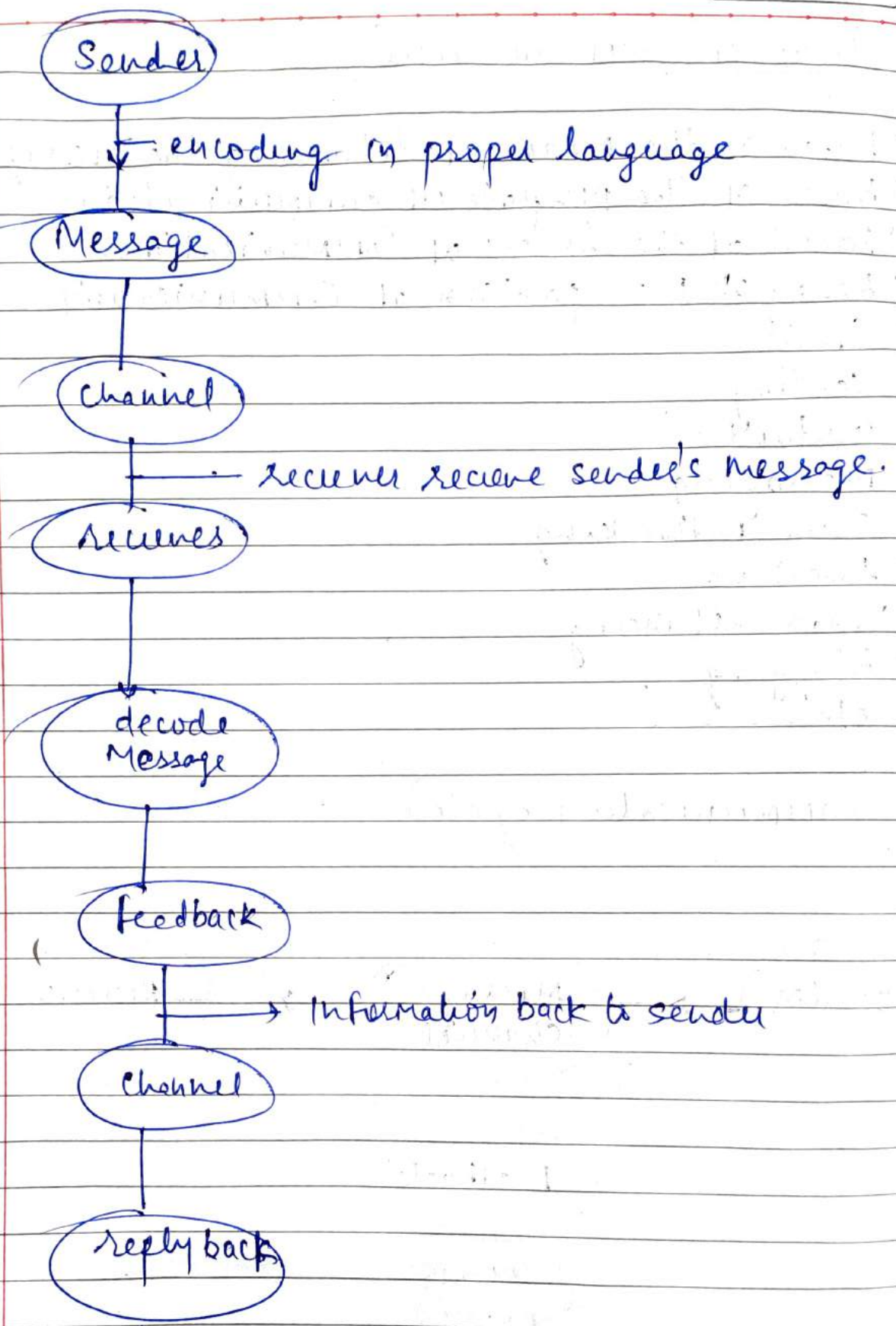
Communication is a two-way process where sending and receiving of messages are equally important.

## (Types of Communications)

- (1) Based on the Means of delivering the Message
- (2) Based of the purpose of communication
- (3) Based of the levels of Communications
- (4) Based on the pattern of Communication
- (5) Email
- (6) texting
- (7) instant
- (8) Messaging
- (9) Social Networking
- (10) tweeting
- (11) Video Conferencing
- (12) Blogging  
etc

## (Communication cycle)





(Basic Verbal Communication skill.)  
effective speaking and learning)

Effective learning - Involves 3 main areas  
the word you choose, How you said and  
How you reinforce them with other non  
verbal communication.

- (1) Active listening - is an imp skill However  
when we communicate, we tend to spend far  
more energy considering what we are going  
to say than listening to other person.
- (2) Be prepared to listen - Concentrates on the speaker  
and not on how you are going to reply.
- (3) Keep an open mind - and avoid making  
judgement about the speaker.
- (4) Concentrate the main direction of speaker's  
message - try to understand <sup>broadly</sup> what they  
trying to say overall. as well as the  
details of the words that they are using.
- (5) Avoid distractions if at all possible e.g -  
if there is lot of background noise you might  
suggest to go somewhere else to talk
- (6) Be objective
- (7) Don't be try to think your next question - while  
the other person is giving information.

(8) Do not dwell on one / two points at the expense of others.  
try to use / analyse the overall picture and all the information you have

(9) Do not stereotype the speaker  
try not to prejudice associated with  
e.g. Gender, ethnicity, accent  
social class, appearance or  
dress interface with what being  
said.

## Communication in classroom

Communication in classroom exists in three categories.

- (1) Verbal
- (2) Non verbal
- (3) Written

Verbal communication means anything that a teacher or student speaks aloud.

Non verbal communication refers to body language that people express

### Written Communications

It is writing and directed to a specific audience, such as report card comments or students, assignments.

### Opening communication

In many interpersonal encounters the first few minutes are very important. First impressions have significant effect for further communications.

### Closed questions in communication

are of one or 2 words

e.g. 'yes' or 'no'

## UNIT - II

### I teaching aids:-

The teaching learning programmes have also been affected by it. The process of teaching and learning depends upon the different type of equipments available in the classroom.

Teaching aids are tool equipment used in teaching as a supplement in classroom instruction to enhance the interest of students.

Teaching materials are important catalysts of effective instructions. Besides the traditional methods, there are wide variety of teaching aids audible to the teacher, they help students to improve reading and other skills.

In the present age science and technology the process of teaching and learning also depends on the latest technology. Teaching becomes interesting when the teacher uses different teaching material because it directly involves solution in the teaching-learning process.

It makes lesson enjoyable and memorable. Teaching aids are especially important to learn a new language because they develop the proper image in their mind and create an interesting atmosphere for the students to make learning easy and clear.

It helps to increase the vocabulary and simplify the course. Because teacher can deliver lectures easily and explain the concepts of chapter. Teaching aids enable all students of the class in participants actively and they can relate the topic to real time and life situation.

### Importance of teaching aids

Teaching is a social activity and it is not possible to teach students without taking part in this process. A teacher and students both should involve in this activity to perform better.

Teaching aids are very important instruments in teaching process which can involve both of them.

I This aid can also increase student's interest and motivate them to learn a second language better.

II Teaching aid makes the classroom live and active and avoid dullness because of involvement of every student it provides direct experience to the student.

III These teaching aids provide a metacognitive learning atmosphere and help to teach and learn them the activity and experiencing process.

- IV Teaching aids are effective to increase student's memory what they learn with the help of these aids imprints in their minds.
- V Teaching aids make lessons more enjoyable clear and compressible for students. They can be used at all level of training process to enrich vocabulary and knowledge.
- VI Teaching aids for second language motivates the students so that they can learn a language easily without having any difficulty.

## Criteria for selecting teaching aids

- (1) Accessibility
- (2) Visibility
- (3) practicality
- (4) Interactivity
- (5) Usability

### I Accessibility-

The most important factor of any education aid is effectiveness in its accessibility to the student.

Education aids must be made available to all students within a class room.

### II Visibility

For education aids to be effective, they must be clearly visible. Boards visibility provides convenient visual platform from which students observe and copy the information.

Dry erase boards used by teachers can be easily wiped away, electronic boards or white boards can linked directly to a teacher's computer to display information that can be accessed directly or remotely.

### III Practicality

Education aids are most effective when they introduces student's knowledge and skills that prepare them for a real world desktop and laptop Computer are useful for this purpose. they can be used to access educational and creative material while familiarizing students with technology

### IV Interactivity

Education aids become effective when they encourage participation from learners. the greater the degree of interactivity, the greater the benefit is to student

### IV Usability

A large degree of any educational aid's effectiveness lies in the ability of the person using it.

Both students and teachers must be familiar with the aid and its operation and its intended purpose before it can be used effectively.

## II Classification of teaching aids

The teaching aids are classified as

### I Audio aids.

Audio aids add a life-like effect to the text book and other printed materials used to teach the largest language. These aids are seen to reduce the teacher talk or conversation and the chalk method, and severally increase the learner's interaction and active participation.

### II Visual aids

Visual aids are items of a visual manner such as graphs, photographs, video clips etc used in addition to speaker's information, as one of the most popular visual tools. The whiteboard is good for recording interaction and comments during a brainstorming session, for drawing diagrams and for developing an explanation.

### III. Audio-Visual Aids

Audio-visual aids are those devices which are used in classrooms to encourage teaching and learning process and make it easier and interesting.

Audio-visual aids are the best tool for making teaching effective and the best to elaborate knowledge.

eg. ~~take~~ television,  
Interactive white boards.

### III Advantages and suggestions for effective use of selected teaching aids.

teaching aids are an integral component in any classroom, the many benefits of teaching aids include helping learners improve reading comprehension skills. illustrating or reinforcing a skill or concept. differentiating instruction and relieving anxiety or boredom by presenting information in a new and exciting way.

- (I) Supplement in verbal instruction
- (II) teaching aids make learning permanent
- (III) teaching aids provide variety
- (IV) teaching aids are helpful in attractive attention of the students.
- (V) teaching aids save time and energy
- (VI) teaching aids encourage the healthy classroom interaction.
- (VII) teaching aids helps the teacher to create situations for teaching the beginners
- (VIII) teaching aids helps in providing speech training to the students.
- (IX) teaching aids are helpful in creating the environment for discipline.

We can make it effective by using -

Verbally  
chalk-board  
charts  
models  
slide projector  
over head projector  
Motion picture (video)  
Self experiment  
projects

Suggestions for effective use of selected teaching aids.

- (1) Support lesson
- (2) Assist learning
- (3) Explain concepts and illustrate meanings
- (4) Facilitate teacher's work by promoting conversation in groups
- (5) Let student teach.
- (6) Emphasise behaviour management
- (7) Work as a team
- (8) Integrate technology in the classroom
- (9) Use graphic organisers
- (10) Utilize visual aids
- (11) Implement inquiry based learning

## Question paper which mam sent

Date :

Page No.

Q1) What is the Aim of Educational technology?

Ans- In true words aim of educational technology is to provide education to everyone by the different mediums of technologies.

Overall the motive of ~~some~~ educational technology is same as traditional education system but it is beneficial in many ways

e.g.  
(I) (1) it saves the time as in traditional education we use paper and pen... somehow that also consumes time to write

(2) when a teacher is writing on the board it takes time for the teacher to write on and then students to note down.

(3) it also helps the handicapped students - those who are not able to write and hence they can see and learn. Similarly who are sightless, they can listen the audio and can get the education

(4) we can easily undo and redo the things as compared to write and rub again.

(I)  $\Rightarrow$  Best motivation

(II)  $\Rightarrow$  Clear images

(III) = Save Energy and time

(IV) Capture attention and interest

(V) long term effect

- 2) Teaching Methods
- Direct Instructions
  - Flipped classrooms
  - Kinesthetic Learning
  - Differentiated Learning
  - Inquiry-based learning
  - Expeditionary Learning
  - Personalized learning
  - Game based learning

- 3) Communication -  
the act of sharing or exchanging information, ideas and feelings.

### Objectives of teaching aids / Edu technology

- (1) To enhance teacher's skill which helps to make teaching-learning process effective
- (2) Make learner active in classroom.
- (3) Communicate them according to capabilities
- (4) Develop lesson plan and build interest
- (5) To make student good observer
- (6) Develop easy and understood learning material
- (7) Follow child concern learning process
- (8) Involve intuition in objectives
- (9) To create interest in different groups
- (10) To make teaching more effective.

### Audio aid -

The aid involve the sense of hearing are called audio aids it's most dominant mode of instructions

eg - speakers, MP3 player, Radio, tape recorder, Gramophones etc.

### Visual aid

The aid which use the sense of vision are called Visual aid

eg - film, slide, model, cameras, photographs, recordings, flip charts

### Audiovisual aids

Training or educational material directed at both the sense hearing and the sense of sight

eg - (projector, laptops, smartphones, LED panels)

- (1) lecture
- (2) Television
- (3) film strips
- (4) Computers
- (5) Video tapes
- (6) VCD, DVD, LCD
- (7) Over head projectors

### Uses of audio visual aid -

- (1) to maintain a high level of interest in the lesson
- (2) to get the students to use the language or techniques properly at very beginning
- (3) To promote greater student participation
- (4) They can be used all level of learning.
- (5) the ability to listen can be developed best through the use of audio-visual material
- (6) It is generally accepted that the best learning takes place when the greatest number of senses are stimulated.
- (7) the use of audio-visual materials will stimulate the greatest number of senses
- (8) for this reason good teachers have always used devices or audio-visual material. A device in any mean other than the subject material for the learner

### Teaching machines

Machine learning is a key technology to design and create intelligent systems, products and relative services, we often faced problems before but we are successfully using machines to teach the students. we provide a tangible tool to the student to access

- (1) Machines saves time -
- (2) Easily accessible -
- (3) Easily divided in parts according to students' capability
- (4) Easy to Master the things / learn the things by using visual and audio aids,
- (5) Correct and accurate result saved.

(6) Human Can make mistakes but a machine is pre programmed ~~so we can~~ so at any cost we will get accurate definition and result everytime

(7) we can access according to ourself  
(when we want to study or rest)

### Disadvantage

(8) effect on eyes, body as we have to maintain a proper posture as they are fixed. sometimes but books are not fixed

### simulation teaching

Simulations are instructional scenarios where the learner is placed in a 'world' defined by a teacher. They represent a reality within which the student interact. Students experience the reality of the scenario and gather meaning from it. A simulation is a form of experiential learning

Team teaching - involves a group of instructors working purposefully, regularly and co-operatively to help a group of students of any age learn. Teachers together set goals for a course, design syllabus, prepare individual lesson plan, teach students and evaluate the result.

Skill of questioning - are essential to good teaching. Teachers often use questions to ensure that students are attentive and engaged and to assess students' understanding...

In addition, open ended questions motivate students to share their ideas, thereby allowing active, collaborative learning to take place.

teaching aids - is anything used by a teacher to help teach a lesson or make it more interesting to students.

teaching aids can come in almost any form. Some of the most common are. Videos, charts, flashcards.

objects like 3D models and educational toys.

## UNIT- III

### I Questioning

Questioning is the key to gaining more information and without it intrapersonal communication can fail.

Questioning is fundamental to Success Communication

We all ask and are asked questions by others when engaged in conversation

Although questions are usually verbal in nature they can also be non-verbal

e.g.

Raising of the eyebrow could for example be asking 'How are you?' and many facial expressions included

### Verbal Communication | Non Verbal communication

Any communication that uses words to share information to share information with others the words may be spoken or written

Non Verbal are expressions and by raising the hand or lifting or indicating with our body parts or movements

"it is the technique by which teacher can measure the degree of understanding of the students and student can clarify the any point not clear to them"

Date:  
Page No.

## ⇒ Purpose of questioning

- (1) Gain Information
- (2) check understanding and interest level
- (3) Gain participation
- (4) Give Information
- (5) Get an opinion
- (6) Bring attention back to the subject
- (7) Reduce tension
- (8) Give positive energy by the feedback / review
- (9) Analytical
- (10) To motivate the trainees and learning
- (11) To Discover interest of class in sub taught
- (12) To develop the thinking power and ability.
- (13) To obtain attention of Wandering Minds.
- (14) To check knowledge attained or not attained.

⇒ Bring students to the main stream

⇒ to bring them mentally back at spot

## (Classification of Questions)

- (1) Dichotomous questions  
is generally a yes/no. closed ended questions and used for basic validation
- (2) Multiple choice questions  
it consists right/correct, closed and wrong answers
- (3) Closed questions yes/no.
- (4) open questions  
is require a little more thought and generally encourage wider discussion and elaboration they cannot be answer by simply yes/no
- (5) Probing questions  
are useful for gaining clarification and encouraging others to tell you more information about the subject.  
e.g - when do you need the finished project and is it ok or I Email it to you?
- (6) leading questions  
leading questions are designed to lead the respondent towards a certain desired positive or negative route.
- (7) Loaded questions  
Loaded questions are seemingly straight forward, closed question with a twist.

they contain an assumption about the respondent famously used by lawyers and journalists.

e.g. -

have you stopped stealing pens.

### (8) funnel questions

these questions begin broadly before narrowing to a specific point or vice versa

e.g.

(1) what do you do for living

(2) was there more than one person.

### (9) Recall and process questions

Requires a recipient to remember a fact

e.g.

(1) where did you put keys ?

(2) why you are right to lead this ?

### Rhetorical questions

these are different beast altogether because  
 ⇒ they don't require really an answer

oftenly asked by coach or public speakers

e.g.

it is not! it nice working with friendly team

## Techniques of asking questions

- (1) should be asked to (1) right person
- (2) (2) on right time
- (3) (3) on right situation
- (4) (4) right way
- (5) related to topic
- (6) should be subjective
- (7) keywords should be there in question so that listener can understand.
- (8) Simple language must
- (9) According to knowledge of listener
- (10) According to mood of listener
- (11) Question shouldn't be over long so that listener can't understand.
- (12) Can add kinesthetics movements while asking
- (13) Purposeful questions

question is asked to -

- (1) To test learner's preparation
- (2) his attentiveness
- (3) develop interest
- (4) develop ideas
- (5) develop attitude
- (6) develop applications
- (7) strengthen learning
- (8)

## II Programmed learning

### Concept

programmed learning is popularly understood as a self instructional method where, the learner proceeds through instructional material in short steps at his own pace/ understanding.

He receives immediate knowledge and also ways and result of his answers.

In the words of American psychologist

B.F. Skinner

programmed learning is the first application to laboratory / analyse techniques utilized in the study of learning process

that is why it claimed that the origin of modern programmed instruction arises from the psychology of learning and not from tech. of learning.

it is the method of designing a productive sequence of instructional events to produce a measurable and consistent effect of behaviour on each and every acceptable student.

programmed learning is a method of instructions in which. the information is broken down into small units which are to be presented to the students. is a

Carefully planned sequence  
each unit of frame contains not only information but it also terminated with questions.

recent programmed learning have widened its concept as it is now an integral instructional system, which contains.

- (1) programmed books
- (2) teaching machines
- (3) films in various forms
- (4) audio-visual devices
- (5) simulators
- (6) actual apparatus.

the instructor himself trained in formulating objects and analysing of his teaching result.

thus programmed learning is a complex system in which programmer is physically absent and gives you a medium of self learning by auto instruction.

### Features

- (1) Individualised learning - learner can learn individually / alone.
- (2) Auto instructional system - No other hand is needed to learn.
- (3) Logical sequence material - All the process goes with steps-by steps.
- (4) Method present are limited as required and enough
- (5) Learner learn by his pace - slow learner can take his time as much he required. on behalf of his understanding.

- (6) Instant check and learn answers  
Learner will given true answer, that'll give him motivation
- (7) Intense Validation before the release of program  
programmed material must be verified by the programmer/ spacialist before delueing to students.

## Fundamental principles of programmed learning

- (1) Objective specification  
which means identifying the terminal behaviours that the learner will be able to perform when he has completed the programme.
- (2) Small step size  
which involves dividing the information to be communicated into small units.
- (3) Overt responding  
it means that students act on each unit of information by means of exercises provided to assimilate it.
- (4) Success or Minimal error.  
this means that errors and failure must be avoided at all costs because they are obstacles to learning.
- (5) Immediate feedback  
In order to ensure success and satisfaction the student must know that his action is correct.
- (6) logical graded progress  
It implies two things relevance of content and its graded presentation.

(7) Self pacing  
it is used for programme  
devt and validation takes place of  
a student.

## Steps involved in preparation of programme

### (1) Topic selection

Topic selection should be most familiar to the content/topic otherwise he has to take the help of sub expert.

### (2) Content outline

After topic selection, its outline may be prepared which cover all the materials, one plans, to teach for the programme one has to refer to examine relevant books and materials.

### (3) Instructional objectives

Instructional objectives must be formulated which involve both task description and task analysis. The format is the description of terminal behaviours which the learner is expected to achieve.

### (4) Entry skills

The learner should have some pre-requisite ability and skill to understand properly the new programme.

### (5) Presenting of the material

Suitable format is to be decided for presenting the material from the educational point of view. Programme material should be in sequence of frames arranged in steps.

- (6) Student's participation  
On analysing of the terminal behaviour one will find the critical response from the students.
- (7) Terminal behaviour test  
It is also called performance assessment this provide feedback to the programme and show the effectiveness of the instructional material.
- (8) Revision  
Lastly the programme may be revised on the basis of feedback the instructional material may be edited and modified according to the requirement of the target audience.



### III Team teaching

The term 'Team teaching' is being used in the school of USA from the long time. It is new concept for Indian schools.

In this concept. More than one teacher go for teaching a topic and help one another for obtaining the results. In this one teacher works as a mainstream and rest teachers works as to help him.

#### Defination

Team teaching is a teaching relationship where teachers together set goals for a unit, prepare individual lesson plan, teach student and assess the student's learning.

#### Guiding principles of team teaching

- (1) The size and composition of the group must be appropriate to its purpose.
- (2) The time allotted to any group must be appropriate to its purpose.
- (3) The learning environment must be appropriate to the activity of the group.
- (4) The nature and extent of supervision of the group activities depends upon the purpose of group.
- (5) The duties assigned to teachers must be appropriated to their special qualification and interest,

## Need of Team Teaching

- (1) Developing Education technology
- (2) Analysed and understood to student by various teacher.
- (3) Increase of educational level
- (4) Change in Subjects
- (5) development of sciences
- (6) Increase strength of students
- (7) Shortage of teachers.

## Challenges of Team Teaching -

- ⇒ Co teacher must click, not conflict
- ⇒ Requires support and carrying 100% load on both teachers
- ⇒ Depending upon the co-teacher's implementation they choose. Both teachers may have to be equally involved in the planning, grading, correcting and supporting in class

## (Advantages of team teaching)

- (1) Creates effectiveness
- (2) fun learning
- (3) teachers can use their knowledge effectively together
- (4) keeps co-teacher involved in the class
- (5) Allow for shared ideas including enrichment and differentiation
- (6) Breaks up to monotony of a person doing all instruction
- (7) Creates many spontaneous teachable moments.

# UNIT-IV

## I MICRO TEACHING

Micro teaching represents an appropriate innovative technique for helping the student teacher and being trained in the colleges of education in their acquisition of desired teaching skills.

We can define micro teaching as a sort of specialised training technique that provides appropriate opportunities to the pupil teachers for the practice and development of some specific teaching skills by organisation teaching it in its micro form - maintain in terms of class size, time duration and content to be covered.

It is a device of imparting training to the inexperienced or experienced teachers for learning the art of teaching by practicing specific skills through a "scaled down teaching encounters"

e.g.-

reducing the complexities of real normal teaching in terms of size of the class, time and content.

## Concepts and Features of micro teaching

- (1) In micro teaching the trainee can concentrate on practicing a specific well-defined skill.
- (2) Micro teaching provides for pinpointed immediate feedback.
- (3) As micro teaching is scaled down teaching, there is no problem of discipline.
- (4) Less administrative problems arise as teaching sessions are organised with peers.
- (5) Micro teaching provides an opportunity to undertake ~~research~~ research studies with better control over condition and situations.
- (6) Micro teaching used as an integral part of teacher training in India as sophisticated gadgetry is not a must.

## (Steps in micro teaching)

### (1) Planning

This involves selection of skill to be practiced, awareness of components of the skill, selection of a suitable concept, writing of micro lesson with specific objectives.

### (2) Teaching

The following setting is suggested for the micro teaching technique  
time 5 minutes  
Students:- peer group 5 or so in number  
Supervisors:- 1 or 2

If possible use of CCTV facility could be made to enable the teacher trainee to get a first hand look at his weaknesses.

### (3) Feedback

This is a vital aspect of the micro teaching cycle to be effective it must be clearly related to the model of the teaching skill used. Appraisal guides add to the comments of the supervisors and fellow students they focus the feedback on the specific.

Behaviours can be used for the analysis session or be just given to the teacher trainee with a written comment or rating of his skill/performance.

#### (4) Replan

Keeping in mind the feedback received from the supervisor the teacher-trainee replans his micro-lesson writing another micro lesson plan or editing the existing one.

#### (5) Re-teach

The teacher trainee re-teaches incorporating the suggested changes with the same students or another group of 5 students. Supervisor checks to see whether there is any improvement in skill attainment.

#### (6) Re-feed Back

The supervisor assesses the lesson again pointing out the improvements and lapses.

## (Principle of micro teaching)

### (1) one skill at one time

Skills in microteaching are targeted <sup>one</sup> at a time, training on particular skills are given until it is mastered.

Once mastered another skill is targeted next thus, micro-teaching aims for one skill at a time.

### (2) Small scale content

Limiting the content gives more freedom and ease to the trainees. Thus, micro teaching is based upon the principle of limited content.

Teachers are to prepare their lessons within the given content therefore, it becomes easier for them to conduct their lessons.

### (3) Practice makes a man perfect

Mastering skills require practice while focusing on one skill at a time, micro teaching program also gives an opportunity to practice those skills.

Lots of practice can boost the self-confidence and promote the development of teaching skills.

#### (4) Experiments

Experiments are the key factors in any concept. In micro teaching many experiments are conducted in order to test the skills of the teachers.

#### (5) Instantaneous Feedbacks

Micro teaching consists of teacher-student and supervisor as students. Once a session ends, teacher-student and supervisors come up with their feedback. This feedback is given instantly after the lesson plan ends. Thus it helps in rectifying the drawbacks.

#### (6) Self evaluation opportunities

Evaluation plays an imp role in any task. In micro teaching supervisors conduct various tests and thus there are several chances to analyze mistakes.

#### (7) Continuous effort

Acquiring and mastering skills is a slow and ongoing process. Even after mastering a previous skill one should continually strive for betterment. Continuous effort makes it easier to attain desired.

## Limitation of micro teaching

- (1) Micro teaching tends to reduce creativity of teachers
- (2) its applications to new teaching practices is limited
- (3) it requires competent and suitably trained teacher educators for its successful implementation
- (4) Micro teaching alone may not be adequate it needs to be supplemented and integrated with other teaching techniques
- (5) Micro teaching is very time consuming technique.
- (6) the ~~short~~ list of skills is not exhaustive and does not apply to all subjects.
- (7) too much fragmentation of skills is not considered conventional or practical for training.
- (8) Some skills tend to overlap each other.
- (9) Different skills are required for different stages and for different subjects which are difficult to formulate and achieve.

Only a few basic skills such as questioning, explaining, stimulus, variation management of class are common and can be developed.

## II (Simulation teaching)

Simulation means role-playing or rehearsal in which the process of teaching is carried out artificially.

Simulated teaching is a teacher training technique. It is used to bring about modification in the behaviour of the teacher to teach in non-stressful conditions.

In simulating teaching one student-teacher acts as a teacher and other teacher trainers act as students. The teacher in this situation teaches considering the student as school students.

### Basic assumptions

- (1) Teacher behaviour is modifiable by the use of feedback device
- (2) The underlying skill of teaching can be modified and practiced.
- (3) Teacher behaviour can be identified.

## (Steps of simulating teaching)

- (1) Assignment of role  
The Student-Teachers are assigned the roles of teachers and observe resp it is done rotation basis
- (2) Deciding skills to be practiced  
At this stage the skill to be practiced is decided and planning and preparation for it are done.  
Each trainee selects the topic according to its interest and intelligence
- (3) preparation of work schedule  
At this stage it is decided who will teach first and who will observe and how everyone would be teaching/observing one by one.
- (4) Determining techniques of observations  
the decision is taken about the type of observations technique to be adopted it also includes which type of data to be collected and how these data to be intercepted
- (5) Organisation of first practice sessions  
The first practice session is started and its observations are recorded for judging the teaching behaviour  
this followed by feedback and suggestions for further improvement

## Alteration of procedure

- (C) The whole procedure is changed at this stage there is a change of teacher, change of ~~observations~~ observers, change of teaching skills and change in topic to be taught. Every student is given the opportunity to play the role of teacher, a student and a teacher.

## Advantage of simulation teaching

- (1) It is for experiencing problem situation.
- (2) This technique helps us in acquiring some classroom manners.
- (3) The use of this technique enables us to study and analyze the teaching problems.
- (4) Self confidence in teaching develops through simulated teaching.
- (5) This technique helps in explaining the behaviour problems in the classroom and contributes to its solutions.
- (6) The technique makes a person more aware of the role.
- (7) It bridges the gap B/w theory and practically practice of teaching.
- (8) It provides them with the reinforcement to develop various teaching skills.

## Limitation of simulation

- (1) its use cannot be made in all subjects of the curriculum
- (2) This method requires a lot of preparation on the part of the teachers which they might not be ready to take
- (3) The Observer who is doing the role may incur a reading
- (4) For beginners it may be difficult to practice a few teaching skills such as questioning
- (5) No emphasis is given to teaching the content.

## III Teaching Machines

A machine or computer that gives instructions to students according to a program reacting to their responses

teaching machines are originally mechanical devices. they presented educational materials and taught students.

they were first invented by Sidney L. Pressey in 1920 his machine originally administered multiple-choice questions but since then skinner's writings and revisions have made his use more effective.

Usually the teaching process involves both the faculty and the professor. But as a result of some experiments in education some teaching techniques have come into existence. It is not necessary for the professor to be directly present with the students in the teaching process.

A teaching machine is a learning process that make such things possible

### Types of teaching machines

- (1) Fixed answering machines
- (2) Multiple choice selection machines

## Characteristics of teaching machines

- (1) A question or problem is presented to the student in particular form
- (2) The student <sup>has</sup> to respond openly. The student either has to type the answer or press the button to select the correct answer.
- (3) A student's answer is true or false for that either it is shown the correct answer or by moving forward to the next frame when a question has been answered correctly.
- (4) A feedback given by the students is kept in mind to make a decision about the education given to them further.

## Value of teaching machines

- (1) programm instruction and teaching machines provide a technological soln. to the problems of individual difference.
- (2) Students were active while using teaching machine during the learning process  
it is such kind of private tutor which alert students and kept them busy during learning process
- (3) teaching machines are helpful from the student's point of view also.  
Every student can proceed at his own rate of learning.
- (4) Large number of students can be taught with the machines.
- (5) teaching machine provide opportunities for teacher to analyze the responses of the students. By this they see what student understands
- (6) A program is not a human being and hence can be used at any time of the day

## Machine verses teacher

### Machines

- (1) No need of physically presence of teacher
- (2) Can use any time whole over the day
- (3) Machines are one time investment material
- (4) Machine cannot teach extra, only can teach what is feed in it
- (5) We cannot establish emotional attachments from the machines
- (6) Student don't hesitate while learning from machines
- (7) Machine doesn't make mistakes in result
- (8) Machine results in employment in society

### Teachers

- (1) Have to present physically
- (2) We are timely bounded to give or take classes.
- (3) We have to pay fee <sup>in</sup> periodic way
- (4) Teachers can elaborate, define any subject/topic very well.
- (5) We can connect emotionally with the teachers. to establish strong bonding
- (6) Few students hesitate when teacher noticed them.
- (7) As a human nature, teacher can make mistakes
- (8) More teachers more employment, more economical growth.

(9) Machine give a sudden result and fast processing in multiple result

(10) Machine can't react with students and if that is only remotable degree.

(11) For going forward student must give the answer or to push to next question

(9) Teacher takes time to check each answersheet manually

(10) Teacher can interact freely and openly

(11) Teachers can give hint or help the students in solving the problems.