

UNIT III: INSTRUCTIONAL MATERIAL AND EVALUATION

AUDIO VISUAL AIDS

Introduction:

Audio visual material must be seen in their relationship to teaching as a whole and to the learning process as a whole, until the teacher understands the relationship between audio visual material and teaching learning process.

Audio visual materials are produced, distributed and used as planned components of educational programs. It helps the process of learning that is motivation, classification and stimulation. A.v. aids are multisensory materials which motivate and stimulate the individual. It makes dynamic learning experience more concrete realistic and clarity. It provides significant gains in thinking and reasoning.

Audio visual aids are sensitive tools used in teaching and as avenues for learning. These are planned educational materials that appeal to the senses of the people and quicken learning facilities for clear understanding.

Definitions:

1. ***According to Kinder S. James:*** Audio visual aids are any device which can be used to make the learning experience more concrete, more realistic and more dynamic.
2. ***According to Burton:*** audio visual aids are those sensory objects or images which initiate or stimulate and reinforce learning.
3. ***According to Carter.v.Good:*** audio visual aids are those aids which help in completing the triangular process of learning that is motivation, classification and stimulation.

4. **According to good's dictionary of education:** audio visual aids are any thing by means of which learning process may be encouraged or carried on through the sense of hearing or sense of sight.
5. **According to Edger Dale:** audio visual aids are those devices by the use of which communication of ideas between persons and groups in various teaching and training situations is helped. These are also termed as multi sensory materials.
6. **According to McKean and Roberts:** audio visual aids are supplementary devices by which the teacher, through the utilization of more than one sensory channel is able to clarify, establish and correlate concepts, interpretations and appreciations.
7. **According to KP. Neeraja:** an audio visual aid is an instructional device in which the message can be heard as well as seen.

Purposes:

- To supplement and enrich teachers own teaching to make teaching-learning more concrete.
- To serve an instructional role in itself.
- To create interest among the group.
- To make teaching as an effective process.

Advantages:

1. A.V.Aids helps in effective perceptual and conceptual learning.
2. A.V.Aids helpful in capturing and sustaining attention of students.
3. A.V.Aids arouses interest and motivates students to learn.
4. A.V.Aids is helpful in new learning.

5. A.V.Aids helps in saving energy and time of both the teacher's and students.
6. A.V.Aids provides near realistic experience.
7. A.V.Aids can meet individual demands.
8. A.V.Aids is useful in for education of masses.

Characteristics of good teaching aids:

Teaching aids should be

- Ø Meaningful and purposeful
- Ø Motivates the learners
- Ø Accurate in every aspect
- Ø Simple and cheap
- Ø Improvised
- Ø Large in size
- Ø Up-to-date
- Ø Easily portable

According to intellectual level of students Sources of A.V.Aids:

- Ø Government
- Ø Educational institutions
- Ø Professional organizations
- Ø Non-governmental organizations
- Ø Voluntary organizations(national and international)

- Ø Commercial producers of educational material
- Ø Commercial advertisement
- Ø In nursing organizations like TNAI, INC...etc.

CLASSIFICATION OF A.V.AIDS:

Various classifications are given for Audio visual aids according to the type of projection by various authors.

I) Classification of A.V.Aids

I) Audio aids

Audio materials are those which can be heard. Ex: - radio, tape recorder, walkman, Headphones.

II) Visual aids: these are helpful to visualize the things. Ex:- graphic aids, 3d-aids, display boards, and print material.

III) Audio visual aids: these aids can be heard and seen simultaneously. Ex: - projected aids, TV, films.

II) Classification of A.V.Aids

I) Simple A.V.Aids: It includes graphic aids, display boards, 3d-aids, print material...etc.

II) Sophisticated A.V.Aids: includes audio-visual aids.

**PRINCIPLES TO BE FOLLOWED FOR THE EFFECTIVE USE OF
A.V.AIDS:**

- Audio visual materials should function as an integral part of the educational program.
- A.v. aids should be centralized, under specialized direction and leadership in educational programs.
- An advisory committee consisting of representative from all areas of curriculum should be appointed to assist in selection and coordination of a.v. materials.
- An education program should be flexible.
- A.v. material should be carefully located to eliminate duplication, easy accessibility and convenient use.
- A.v. material should be available whenever and wherever they needed for effective utilization as an integral part of curriculum.
- Budget appropriations should be made regularly for a.v. education programs.
- Periodic evaluation to be done to assess the function of, utilization and expenditure of the program.

PROJECTED A.V. AIDS:

OVER HEAD PROJECTOR:

The over head projector is the most used in all a.v. aids. It projects transparencies with brilliant screen images suitable for use in a lighted room. The teacher can write or draw diagrams on the transparency while he teaches; these are projected simultaneously on the screen by the OHP.

During presentation:

- § Keep the screen above the heads of the participants.
- § Keep the screen in full view of participants
- § Make sure you are not blocking any ones view when presenting.
- § Darken the room appropriately by blocking out sunshine and dimming near by.
- § Turn the screen off between slides if you are going to talk for more than two.
- § Talk to the audience, not to the screen

Purposes:

- § To develop concepts and sequences in a subject matter area.
- § To make marginal notes on the transparencies for the use of the teacher that can carry with out exposing them to the class.
- § To test students performances, while other classmates observe.

- § To show relationships by means of transparent overlays in contrasting color.
- § To give the illusion of motion in the transparency.

Advantages:

- § It permits the teacher to stand in front of the class while using the projector, thus enabling her to point out features appearing on the screen by pointing to the materials at the projector itself and at the same time, to observe the students reactions to her discussion.
- § Gains attention of the student

OVER HEAD TRANSPERENCIES:

Transparencies are popular instructional medium. They are simple to prepare and easy to prepare and easy to operate with the over head projector which is light weight.

A 10*10 inches sheet with printed, written or drawn material is placed on the platform of the projector and a large image is projected on a screen behind you. The projector is used from near to the front of the room with the teacher standing or sitting beside, facing the student.

Guidelines for making effective transparencies:

- Have one main idea an each transparency.
- Include only related figures and diagrams.
- Use simple lettering style in writing.
- Use diagrams in proposition to its lettering.
- Keep the message clear and simple.
- Emphasize the key messages.
- Use color and lettering with discretion.

Advantages:

- Permits face to face interaction with the students.
- Can be used in daylight conditions.
- Can present information in systemic developmental sequences.

- Requires limited planning and can be prepared in variety of inexpensive methods.
- Easily available.

THE OPAQUE PROJECTOR

Opaque projector is the only projector on which you can project a variety of materials ex: - book pages, objects, coins, postcards, or any other similar flat material that is non-transparent.

The opaque projector will project and simultaneously enlarge, directly from the originals, printed matter, all kinds of written or pictorial matter in any sequence derived by the teacher. It requires a dark room, as projector is large and not reality movables.

Advantages:

- Stimulates attention and arouses interest.
- Can project a wide range of materials like stamps, coins, specimen, when one copy is available.
- Can be used for enlarging drawings, pictures and maps.
- Does not require any written or typed materials, hand-written material can be used.
- Helps students to retain knowledge for longer period.

- Review instructional problems.
- Test knowledge and ability.
- Simple operation.

Disadvantages:

- Costly equipment.
- Needs to use it with care.
- Needs a dark room for projectio

SLIDE PROJECTOR

A slide is a small piece of transparent material on which a single pictorial image or scene or graphic image has been photographed or reproduced otherwise.

Slides are a form of projected media that are easy to prepare. They are still pictures on positive film which you can process and mount individually yourself or send to a film laboratory. The standard size of the slides is 2 “X 2 “any 35mm camera will make satisfactory slides.

Types of slides

1. Photographic slides: 2" X 2"

3" X 4"

- a) Black and white
- b) Colored

2. Hand made slides: can be made with

- a) Acetate sheet
- b) Cellophane
- c) Etched glass
- d) Plain glass
- e) Lumarith

Slides can be made from photographs and pictures by teachers and pupils taking photographs and snapshots when they go on fieldtrips for historical, geographical, literacy or scientific excursions.

The arrangement of slides in proper sequence, according to the topic discussed, is an important aspect of teaching with them.

Advantages:

- 1. Requires only filming, processing and mounting by self or laboratory.
- 2. Results in colorful, realistic, reproduction original subject.

3. Preparation with any 35mm camera for most uses.
4. Easy to revise and up-date.
5. Easily handled, stored and re-arranged for various uses.
6. Can be combined with tape narration or can control time for discussion.
7. May be adapted to group or individual use

FILMSTRIPS

Film strips are sequence of transparent still pictures with individual frames on 35mm film. A tap recorded narration can be synchronized with film strip.

Each strip contains from 12 to 18 or more pictures. It is a fixed sequence of related stills on a roll of 35mm film or 8mm film.

PRINCIPLES

1. Preview filmstrips before using them and selected carefully to meet the needs of the topic to be taught.
2. Show again any part of the filmstrip needing more specific study.
3. Use filmstrip to stimulate emotions, build attitudes and to point up problems.

4. It should be introduced appropriately and its relationship to the topic of the study brought out.
5. Use a pointer to direct attention, to specific details on the screen.

Types of filmstrip:

- 1) **Discussion filmstrip:** it is continuous strip of film consisting of individual frames arranged in sequence usually with explanatory titles.
- 2) **Sound slide film:** it is similar to filmstrip but instead of explanatory titles or spoken discussion recorded explanation is audible, which is synchronized with the pictures.

Advantages:

- 1) Are compact, easily handled and always in proper sequence.
- 2) Can be supplemented with recordings.
- 3) Are inexpensive when quantity reproduction is required.
- 4) Are useful for group or individual study at projection rate are controlled by instructor or user.
- 5) Are projected with simple light weight equipment.

NON PROJECTED A.V. AIDS:

GRAPHIC AIDS:

It is a combination of graphic and pictorial material designed for the orderly and logical visualizing of relationships between key facts and ideas ex: comparisons, relative amounts developments, processes, classification or organization. It includes the following

CHARTS

Introduction:

These visual symbols used for summarizing, comparing, contrasting or performing other services in explaining subject matter. A chart is a combination of pictorial, graphic, numerical or vertical material, which presents a clear summary.

Definition:

Chart is defined as a visual aid which depicts pictorial and written key information in systematic way to summarize, compare, ex: anatomical charts and figure, diagrams etc.

Purposes:

- Ø To visualize an item, it is otherwise difficult to explain only in words.
- Ø To highlight important points.
- Ø To provide outline for materials covered in presentation.
- Ø To show continuity in process.
- Ø For creating problems and stimulating thinking.

Ø For showing development of structure.

Types of charts:

Ø **Narrative chart:** Arrangement of facts and ideas for expressing the events in the process or development of a significant issue to its point of resolution or we can show an improvement over a period of years.

Ø **The cause and effective chart:** Arrangement of facts and ideas for expressing the relationship between rights and responsibilities or between a complex of conditions and change or conflict.

Ø **The chain chart:** arrangement of facts and ideas for expressing transitions or cycles.

Ø **The evolution chart:** facts and ideas for expressing changes in specific items from beginning data and its projections in to future.

Ø **Strip tease chart:** it enables speaker to present the information step by

It increases the interest and imagination of the audience.

The information on the chart is covered with thin paper strips to which it has been applied either by wax, tape or sticky substance or pins.

As the speaker wishes to visually reinforce a point with words or symbols, he removes the appropriate strip or paper. It produces interest.

It increases learning and aids recall.

Ø **Pull chart:** it consists of written messages which are hidden by strips of thick paper. The message can be shown to the viewer, one after another by pulling out the concealing strips.

Ø **Flow chart:** diagrams used to show organizational elements or administrative or functional relationships. In this chart lines, rectangles, circles, are connected by lines showing the directional flow.

Ø **Tabulation chart:** it shows the schedule of an activity or of an individual ex: time-table of a class. These are very valuable aid in the teaching situation where breakdown of a fact or a statement is to be listed. Also it is a useful aid for showing points of comparison, distinction, and contrasts between two or more things. While making the table charts the following points must be kept in the mind.

The chart should be 50 X 75 cm or more in size.

The chart should be captioned in bold letters.

The vertical columns should be filled in short phrases rather than complete sentences.

Ø **Flip chart:** a set of charts related to specific topic have been tagged together and hang on a supporting stand. The individual charts will carry a series of related materials or messages in sequence. The silent points of specific topic will be presented.

Ø **Pie chart:** a circle will be drawn and divisions will be made into different sections, each section will be coded differently and code key will be given at right corner of the chart as legend. The circumference is divided into suitable sections. It is relevant for showing the component part

FLASH CARDS

Definition:

“Flash cards are a set of pictured paper cards of varying sizes that are flashed one by one in a logical sequence.”

“Flash cards can be self made or commercially prepared and are made up of chart or drawing paper, plane paper using colors or ink on them for drawings.”

Purposes:

1. To teach the students.
2. To give health education.
3. Useful for small group.
4. Used in group discussions.

Principles:

- The messages can be brief, simple line drawing or photographs, cartoons and the content will be written in few lines at the back of the each card.
- 10” X 12” or 22” X 28” is commonly used size.
- 10-12 cards for one talk can be used. It should not be less than 3 and more than 20.
- Prepare a picture for each idea which will give visual impact to the idea.

- The height of writing on the flash card is to be approximately 5cm for better visualization.

Using the flashcards:

For class room instruction, the flash card s is to be properly used. The following steps are used while displaying flash cards.

1. Give brief introduction about the lesson to students.
2. Give instructions to students about their actions while you flash the cards.
3. Flash the card in front of the class by holding it high with both your hands so that all the students can see it.
4. Let the student respond as per instructions already given.
5. Review the lesson by selectively using flash cards.

Advantages:

- Flash cards can be used to introduce and present topics.
- It can be used to apply information already gained by students to new situations
- It can be used to review a topic.
- Can be used for drill and practice in elementary classes
- To develop the cognitive abilities of recognition and recall of students.

- It can work as a useful supplementary aid and can be effectively used with other material.

Disadvantages:

- Can not be used for a large group
- Prone to get spoiled soon
- Preparation is time consuming.

POSTERS

Definition:

“Posters are the graphic aids with short quick and typical messages with attention capturing paintings.”

Purposes:

- To provide general motivation.
- To create an esthetic or atmospheric effect.
- To communicate a more general idea. To thrust the message for leading to action.
- For the class room and community.

Preparation and rules:

- To do a special job.
- To promote one point.

- To support local demonstration.
- Planned for specified people
- Tell the message at single glance.
- Use bold letters.
- Use pleasing colors...
- It should place, where people pass or gather.

Features of a good poster:

- Brevity: message should be concise
- Simplicity: message should be easily understandable
- Idea: should base on single idea and it should be relevant.
- Color: suitable color and combination should be used to make the poster attractive and eye catching.
- Display: while displaying one should be sure to find a place where there is adequate light and where the larger population will see it.

Advantages:

- It attracts attention.
- It conveys the message very quickly.
- It does not require a detailed study.
- Good poster leads to action with good motivation
- It can stand alone and is self explanatory.

Disadvantages:

Poster does not always give enough information

When a poster is seen for longer time it may not attractive. So it should be dynamic

SAL

SADBHARNA

FIG 7.POSTERS

GRAPHS

Definition:

Graphs are the visual teaching aids for presenting statistical data and contrasting the trends or changes of certain attributes.

Method of preparation:

- Before making the bar chart makes a rough sketch of it in a note book.
- For drawing the bar graph use the chart paper of 50x 72 cm size.
- Use two different color shades for the two contrasting groups.
- The bars should be equi-spaced.
- Write the key to the bar graph in a box on the right hand side corner of the chart paper.
- Numbers specifying the magnitude of the bars should be on the top on the bars.

TYPES:

Pie graph: These are called as circle diagram. The data are presented thorough the sections of portions of a circle.

- In determining the circumference of a circle we have to take in to consideration a quantity known as pie.
- The surface area of a circle is to cover 360 degree.

- The total frequencies or value is equated to 360 degree and then the angles corresponding to component parts are calculated.
- After determining their angle, the required sectors in the circle are drawn.

Bar graph:

The graphic presentation extends the scale horizontally along the length of bars. Each bar must be of the same width, height of the bar over a period represents the corresponding time of the variable. Graphs are available in 2 forms that is vertical and horizontal

Line graph:

To show the trends and relationships ex: single line shows the relation and the variation in the quantity. Quantitative data are plotted or when the data is continuous. The concepts are represented with the help of lines drawn either horizontally or vertically. The plotted points are connected to one another, instead of the base thus producing the curve.

Pictorial graph:

It is an outstanding method of graphic representation. Pictures are used for the expression of ideal; they are more attractive and easily understood. Vivid pictures will be used to create rapid association with the graphic message; each visual symbol may be used to indicate quantity.

MAPS

Definition:

A map is a graphic aid representing the proportionately as a diagram, the surface of the earth, world or parts there of. It conveys the message by lines, symbols, words and colors.

Types of maps:

- v **Political maps:** these maps show political divisions of the world, a continent, a nation.
- v **Physical maps:** shows the physical contour of a place, area, and region.
- v **Relief maps:** it shows the actual elevations and depressions in a place, area, and region.
- v **Weather maps:** shows the amount of rains, temperature extremes, humidity in an area, region country.

- v **Population maps:** shows the distribution of population in various parts of region, country.
- v **Picture or tourist maps:** shows historical spots monumental sites.etc..
- v **Road maps:** shows the roads of a region connecting various parts and points together.
- v **Railway maps:** shows the railway links between various points.
- v **Air maps:** shows the air routes between various points.
- v **Sea root maps:** shows the sea routes between various sea ports

CARTOONS

The word **cartoon** has various meanings, based on several very different forms of visual art and illustration. The term has evolved over time.

The original meaning was in fine art, and there cartoon meant a preparatory drawing for a piece of art such as a painting.

Definition:

A cartoon is humorous caricature which gives a subtle message.

In a cartoon the features of objects and people are exaggerated along with generally recognized symbols.

Principles:

- The quality of the drawing should be high primarily for visual effectiveness.
- The symbols used should be familiar and represent a concept or idea to which students can react intellectually.

Advantages:

A cartoon can be effectively used to initiate certain lesson.

- It can be used for making a lesson lively and interesting.
- Fantasy
- Satire
- Exaggeration.

NEWS PAPERS

It can furnish health messages in local languages which can reach to the public easily. The information will be available in low cost, easy to read and understand simple language .the people may learn to read and interpret the contents along with pictures to enhance easy grasping.

Advantages

- ü Best method to reach a large group

- ü Pictures will help in easy understanding
- ü Attractive and easy to understand
- ü Lot of information can be obtained in various fields

Disadvantages

- ü useful for literates only
- ü detailed information cannot be produces

COMIC STRIPS

Definition:

A comic strip is the graphic depiction in a series of pictures or sketches of some character and events full of action.

This medium of communication is found very interesting and exciting by children.

Uses:

- Comic strips fire the imagination of children
- It boosts the courage of children and builds up the spirit of adventure.

- It communication detailed and vivid.
- It stimulates reality and involvement.

Limitations:

- Comic strips misguide children by depicting characters with supernatural powers divorced from the hard realities of life.
- Comic strips hamper the development of language of children.
- Classics brought out in the form of comics develop the tendency in children to ignore or by pass the original work.
- Comics can soon become an obsession with young children and they tend to avoid serious studies

3- DIMENSIONAL AIDS

MODELS

Definition: a model is a recognizable representation of a real thing three dimensionally, that is height, width, and depth is felt as reality.

Types of models:

1. **Solid models:** it is the replica of an original thing made with some suitable material like clay, plaster of Paris, wood, iron etc. to show the external parts of the things. Ex: globe, clay model of human and animal.

2. **Cutaway and x-ray models:** are the replicas of the original things to show internal parts of a thing. Cross sectional models are difficult to make in the class room or institutions as they require expertise to construct them. Ex: cross sectional model of human body.
3. **Working models:** these models are either actual working things or their miniature replicas. For illustrating an operation. Ex: a motor, a generator.
4. **Sand models:** made by using sand, clay, saw dust, ex: a tribal village, a forest area.

Advantages:

- Models heighten reality of things and make learning direct and meaningful as they are three dimensional.
- Models illustrate the application side of certain principles and laws.
- Models explain the complex and intricate operations in a simplified way and thus make comprehension easier.
- Models are lasting and ultimately work out to be cheaper teaching aids.
- Still models are easy to make with the help of discarded materials like empty boxes, pins, clips, nails, and clay.
- Models are to reasonable size and convenient to handle.
- Models involve the use of all the five senses and thus make learning effective.

Limitations:

- It requires expertise to make.
- Time consuming.
- Some of the models may be very expensive.

OBJECTS AND SPECIMENS

Definition:

A collection of real things for instructional use refers to objects.

A specimen is a sample of the real object or a material.

Using objects and specimens: while using the specimen and objects as teaching aids, a teacher must **keep the following points in her mind.**

- Plan your teaching with certain simple and direct observations of the object or specimen being referred to.
- Ask questions from the students to elicit more details of the features of the object or specimen under observation.
- Clarify and emphasize important structural details of the object or specimen under observation
- Provide review and practice to make learning permanent.

Sources of objects and specimens:

- Local markets
- Manufacturers and factories
- Discarded material from the houses
- Specimen found in the nature can be collected by students from field trips and nature hunt
- Plasters casts can be purchased
- Wild flowers, leaves shells, stones butterflies moths, insects can also be procured.

Mounting the objects and specimens:

Objects and specimens should be mounted in shallow boxes in an artistic way and the boxes should be covered with cellophane paper. Also label each object or specimen using self adhesive paper.

Advantages of objects and specimens:

- Collection of objects and specimens by students requires interaction with others leading to development of social skills and values.
- Students when collect and display objects and specimens derive satisfaction of contributing to the school and teacher something worthwhile.
- Student's power of observation and first hand experiences is enhanced by collection of objects and specimens.

- Student's personal collection of objects and specimens can be good source of doing investigatory projects.
- Collection of objects and specimens become an interesting educational pursuit of the teacher and students alike.
- It arouse some interest among students in learning
- Objects and specimens involve all the five senses in the process of learning
- It heighten the reality in the class room
- It makes teaching lively.

EXHIBITIONS

Many times in the school, a department of the school or a class put up their work for showing it to the people out side the school, and such a show called exhibitions.

The pieces of work done by the students for an exhibition are called exhibits.

Requisites for exhibition:

- The exhibition should have a central theme with a few sub themes to focus attention to a particular concept
- The exhibits should be clean , labeled properly
- The concepts of contrast in color and size should be used for laying out the exhibitions
- The exhibits should be so placed so the most visitors , can see them
- The place and exhibits should be well lighted
- To capture attention and interest of visitors , both motion and sound should be utilized
- The exhibition should have some exhibits with operative mechanism such as switches, handles, to be operated by the visitors to observe some happenings.
- The exhibition should include lot of demonstrations as they involve deeply the students and the visitors
- The exhibition should be able to relate various subjects' areas to provide integrated learning.

Advantages:

- Exhibitions inspire the students to learn by doing things themselves and they get a sense of involvement
- Exhibitions give students a sense of accomplishment and achievement
- Exhibitions develop social skills of communication , cooperation, coordination

- Exhibitions foster better school community relations and make community members conscious about the school
- Exhibitions couple information with pleasure
- Exhibitions foster creativity among students.

Disadvantages:

- Requires thorough preparation
- Time consuming
- Require funds or budget.

MUSEUMS

Definition:

A museum is a building displaying a collection of historical relics, antiques, curiosities, works of arts, works of science, literature and other artifacts of general interest.

Museums can be useful both for public education and specific class room instructions.

Setting up school museum:

- School should have enough space
- Take the help of students, collect old and new objects and articles
- Accept donations from various organizations who donates the articles
- Students can be guided to prepare the exhibits
- All the collected and prepared articles should be displayed and labeled
- A detailed report book should be maintained giving a brief description of each museum pieces
- The museum rooms should be well lighted
- It should be cleaned and maintained timely.

Dioramas:

Definitions:

A diorama is a three dimensional arrangement of related objects, models, and cut outs to illustrate a central theme or concept.

The objects and models are generally placed in a big box or show case with a glass covering and background printed with a shade or a scene. Ex: a harvest scene, a planting scene etc.

Advantages:

- Provide a good opportunity to learn
- It gives the appearance of actual things which can not be brought to the class room
- Interesting and enhance creativity
- Live things also can shown in diorama ex: aquarium
- Provides students to do project works

Disadvantages: sometimes cost effective

- Needs expatriation for the preparation
- Require budget
- Sometimes it may misguide the student if is not the replica of actual thing.

MOCK UPS

It emphasizes the functional relationship between the device reality and its workability. Certain element of the original reality is emphasized to make it more meaningful for the purpose of instruction.

In common usage, a **mockup** is a scale model of a structure or device, usually used for teaching, demonstration, testing a design, etc.

Mockups are also used in the Consumer goods industry, as part of the product development process, when the size, impression and/or artworks have to

be tested and approved.

Mockup is also a frequently used term when talking about an early layout or sketch of a Web site or GUI program.

Ex: An artificial kidney to demonstrate dialysis.

MOULAGE

Mould can be made up of plastic material to stimulate some life in objects. ex: body which shows evidence of trauma, infection, disease, surgical intervention.

IMAGE PERSPECTIVES' MOULAGE PROCESS

The basic material we use to create our soft tissue injuries is *very inexpensive*; it costs only pennies per simulation.

If someone walks off with a simulation *it can be recreated in a matter of minutes!*

You are not limited to mass-produced latex or plastic "one-size-fits-all injuries".

You determine the type, scope and

Size of the injuries and *create as many as you wish, in whatever size you need.*

Our simulations *can be handled and bandaged*, with care, as you would a real injury. The simulations will not shift and/or be damaged. When bandages are removed, the injury simulation will remain intact.

The simulations can be made *liquid-proof*, and with care - *reusable!*

PUPPETS

One of the old and popular arts in Indian villages is puppetry.

Puppetry is an education cum entertaining aid in which puppets manipulated by the performer is a person termed as a characters in a story to be depicted.

Definition:

A puppet is a manipulative doll dressed as a character and the performer is a person termed as a puppeteer. A good puppeteer has to blend his art with dramatization to produce the desired effect. It is used as an effective teaching aid for languages and social sciences.

Types of puppets

1. String or marionettes puppets:-Marionettes consist of puppets with hinged body parts which are controlled by nine strings produces required movements in the puppet. These puppets are mainly manipulated by professional puppeteers.

2. Stick puppets: - stick puppet are the painted cutouts attached by sticks. The actions of these puppets are manipulated by the teacher and students by hiding behind a screen so that only puppets are visible to the audience or the class.

3. Shadow puppets: - shadow puppets are silhouettes of cardboard which produce shadows on white screen. The motion of these silhouettes is manipulated by the teacher and students.

4. Finger of hand puppet: - Hand puppets are round balls painted as heads with overflowing colorful costumes. These are worn on fingers which operate their movements. These are operated from below the stage.

Selection:

In writing or selecting a puppet play, the age, background and tastes of the students should be taken in to consideration. A short puppet play is always preferable.

Advantages:

- 1) Creates interest
- 2) Gives the knowledge in a brief period
- 3) Puppet is an effective method in teaching.
- 4) Motivate students
- 5) Easy to carry and operate

Disadvantages

- 1) Needs group cooperation and coordination
- 2) Requires skills in preparation and supply
- 3) Skills needed in presentation

DISPLAY BOARDS

CHALK BOARD

DEFINITION

A **chalkboard** or **blackboard** is a reusable writing surface on which text or drawings are made with chalk or other erasable markers. Blackboards were originally made of smooth, thin sheets of black or dark grey slate stone. Modern

versions are often green or brown and are thus sometimes called a greenboard or brownboard instead.

A blackboard can simply be a piece of board painted with matte dark paint (usually black or dark green). A more modern variation consists of a coiled sheet of plastic drawn across two parallel rollers, which can be scrolled to create additional writing space while saving what has been written. The highest grade chalkboards are made of a rougher version porcelain enameled steel (black, green, blue or sometimes other colours). Porcelain is very hard wearing and chalkboards made of porcelain usually last 10-20 years in intensive use.

Blackboards have disadvantages:

They produce a fair amount of dust, depending on the quality of chalk used.

Some people find this uncomfortable or may be allergic to it, and there has been speculation about links between chalk dust and respiratory problems.

The dust also precludes the use of chalk in areas shared with dust-sensitive equipment such as computers. However, these alternative methods of displaying information have drawbacks of their own.

The scratching of fingernails on a blackboard is a sound that is well-known for being extremely irritating.

Blackboards are also used in many establishments (typically public houses) as a form of advertising often for upcoming events and menus - as well as to keep the score in darts matches

FLANNEL BOARD

Sometimes called a flannel graph.

This teaching tool is called by different names:

Visual Board , Frick Board, Slap Board, Felt Board, Coherograph, Video graph

Flannelgraph is a storytelling system that uses a board covered with flannel fabric, usually resting on an easel. It is very similar to Fuzzy felt, although its primary use is as a storytelling medium, rather than as a toy

How to use

The principle involved is the interlocking of fibers of two rough or bairy surfaces, so that the pieces pressed on to a background which is hard and vertical will stay. It can be illustrated on a larger scale by pressing two tooth brushes or hair brushes together, so the bristle inter-look. In case of flannel graph similar principle of friction helps an object to cling to the surface of the board.

The flannel board is usually painted to depict a background scene appropriate to the story being told. Paper cutouts of characters and objects in the story are then placed on the board, and moved around, as the story unfolds. These cutouts are backed, either with flannel, or with some other substance that adheres lightly to the flannel background, such as coarse sandpaper.

ADVANTAGES

1) Permits numerous and varied arrangements of visual materials.

- 2) Permits the use of either chart or small pieces of material Materials can be packed and transported complete notes.
- 3) Permits the development of a complete story.
- 4) Promotes conscientious planning, which must precede the development of the material in the first place.
- 5) Challenges one to develop symbols to portray such things as abstractions.
- 6) Easier to construct materials for flannel board than to make slides or movies.

Disadvantages:

- 1) Transportation and storing of boards and materials is a problem. Suitable tables to support boards must be available.
- 2) Time and cost of making material for presentation present a problem.
- 3) Cost of boards themselves can't be overlooked.
- 4) Presentation is limited a new idea involves a lapse of time before the new material can be added
- 5) Might tend to deter one from using other more effective methods and techniques when it is evident that other methods might be more appropriate.
- 6) To tell a complete story it often takes either too much board space or smaller designs and materials some of which cannot be seen well.

BULLETIN BOARD

DEFINITION

It is a soft board which will hold pins or tags almost suitable. Simple device placed either indoor or outdoor. Items generally displayed are photographs, publications, posters, news paper cut outs.

Advantages

Explains important events
Reports special activities

Disadvantages

Not effective for illiterate group.

Takes lot of preplanning and preparation

A **bulletin board** (**pinboard**, **pin board** or **notice board** in British English) is a place where people can leave public messages, for example, to advertise things to buy or sell, announce events or provide information. Dormitory corridors, well-trafficked hallways, lobbies, and freestanding kiosks often have cork boards attached to facilitate the posting of notices. At some universities, lampposts, bollards, trees, and walls often become impromptu poster sites in areas where official boards are sparse in number.

PEG BOARD

It is a type of board which contains small holes to fix certain letters into the holes which is used especially in the offices to display certain items, name of the personal or faculty member.

MAGNETIC BOARDS

It is a framed iron sheet carrying porcelain coating in some dark color generally black or green. It can be used to display pictures, cutouts and light objects with disc magnets or magnetic holders.

Advantages

Movement of visual material is easy.

AUDITORY AIDS

These are also an effective aid, usually radios, recorders, gram phones come under this category.

Using a record player for teaching:

-A record player can be used in the following ways in the actual class room situation

A record player can be used to supplement a lesson.

A record player can be used for an appreciation lesson in music.

A record player can be used for an appreciation lesson in literature.

A record player can be used for students to acquire the singing ability, deliver a speech properly, and recite a poem in the right way.

The player can be used to end or conclude a lesson;

Introduce a lesson and review a lesson.

A record player can be used for physical exercises accompanied with music

TAPE RECORDER:

A tape recorder is a portable electronic gadget to record, reproduce, erase and re-record sound on a magnetic tape. This device can be used without much fuss by anybody by operating the following press buttons attached to the recorder, viz, stop, play, wind, rewind, record, pause, and eject.

Uses: it is used to learn foreign languages, rhymes, and songs with clarity.

GRAMME PHONES Like radio gramophones are also important teaching devices.

Helps to listen to famous speeches

To teach good pronunciation in a foreign

ACTIVITY AIDS

There are certain learning situations in which student participation through direct experiences can be easily incorporated, these are called activity aids. The activity teaching aids are really of great value as they put students in a role of active seekers of knowledge. There are five important activity teaching aids, which are listed below:-

- 1) Field trips
- 2) Demonstrations
- 3) Experiments
- 4) Dramatizations

FIELD TRIPS

DEFINITIONS

According to Hedger ken Field trip may be defined as “an educational procedure by which the student studies firsthand objects and materials in their natural environment.”

Types of field trips: -

Depending on the place of visit and its duration, field trips are mainly of the following four types, namely:-

- a) Local school trips
- b) Community trip
- c) Educational trips
- d) The natural hunt

Advantages of field trip:

Field trip provides learning experience in the real life situation by direct contact with objects, process, and systems and thus has many advantages which are enumerated as follows:

->It provides accurate information objects, process, and systems in their real life setting.

->It provides meaningful direct experience and hence results in lasting learning.

->The students learning can be easily diverted towards effective learning.

->Field trips are valuable aids to what students are curious about the natural and man-made process and objects.

->field trips can effectively supplement the classroom learning through application and reviewing the experiences of student.

Limitations of field trip:

1) A field trip may be occasional activity which at best supplement some learning segments of the syllabus.

2) They can be expensive and out of reach for many disadvantaged and poor students.

3) Field trips require proper and detailed planning to make them meaningful otherwise the trip leads to confusion, and fails to fulfill the requirement

DEMONSTRATIONS:-

Demonstration method is a concrete visual aid, because of its wide use in the teaching of nurses. In nursing education, it is used for this purpose and also for clinics, conferences, laboratory classes, symposia, autopsies, and teaching of health to patients. The demonstration method teaches by explanation and exhibition. In short, it is a performance to show a process or activity to others. When a teacher demonstrates, students observe and imitate to learn

Advantages of demonstration:-

The following are the advantages of demonstration method.

- 1) It activates several senses. This increases learning, because it gives a better opportunity for observational learning.
- 2) It clarifies the underlying principles by demonstrating the ‘why’ or ‘how’ of the procedure.
- 3) It provokes interest by use of concrete illustrations.
- 4) It correlates theory with practice engages student’s attention and concentration.
- 5) It encourages student’s participation in learning through questions and answers as the teacher performs.

EXPERIMENT

An experiment is a learning activity in which students collect and interpret observations using measuring instruments to reach some conclusions. In science subjects experiments are used invariably used as instructional aid as they encourage learning by doing. While giving a lesson on an experiment, the teacher should organize the instruction so as to make the students aware of the following steps of the experiments:

- 1) Objectives of the experiments
- 2) Apparatus required
- 3) Procedure or methodology
- 4) Observations of data
- 5) Computation (totaling) of the observations made.
- 6) Results or conclusion
- 7) Precautions
- 8) Ideas for future work

The student performs the experiment and writes a report on it. Showing the cause and effect relationship.

DRAMATIZATION

Dramatization is a very potent method of keeping the class room instruction lively and interesting. When a teacher dramatizes a lesson, the students become both the spectators and participants. This makes learning easy and permanent.

Types of dramatizations suitable for class room instruction:-

- 1) Role-play
- 2) Play lets
- 3) Pageant
- 4) Pantomime
- 5) Tableaux

Advantages of dramatization:

- 1) Dramatization gives an added advantage of students working as both observers (spectators) and doers (participants) unlike in experiment where there are just doers and in demonstration where there are just observers.
- 2) Dramatization makes learning a pleasure children love to act and show off.
- 3) Dramatization involves students totally and they appreciate the lessons remember it better
- 4) Dramatization develops the social skills required for them such as cooperation, co-ordination, punctuality, and human relations etc.
- 5) Dramatization makes students creative, sensitive, and alert.

CONSTRUCTION OF AN ACHIEVEMENT TEST

Achievement Test

- Any test designed to assess the achievement in any subject with regard to a set of predetermined objectives

Major steps involved in the construction of achievement test

- Planning of test
- Preparation of a design for the test
- Preparation of the blue print
- Writing of items
- Preparation of the scoring key and marking scheme
- Preparation of question-wise analysis

1. Planning of test

- Objective of the Test
- Determine the maximum time and maximum marks

2. Preparation of a design for the test

- Important factors to be considered in design for the test are:
 - Weightage to objectives
 - Weightage to content

- Weightage to form of questions
- Weightage to difficulty level.

Weightage to objectives

- This indicates what objectives are to be tested and what weightage has to be given to each objectives.

Sl.No	Objectives	Marks	Percentage
1	Knowledge	3	12
2	Understanding	2	8
3	Application	6	24
4	Analysis	8	32
5	Synthesis	4	16
6	Evaluation	2	8
Total		25	100

Weightage to content

- This indicates the various aspects of the content to be tested and the weightage to be given to these different aspects.

Sl.No	Content	Marks	Percentage
1	Sub topic - 1	15	60
2	Sub topic - 2	10	40
Total		25	100

Weightage to form of questions

- This indicates the form of the questions to be included in the test and the weightage to be given for each form of questions.

Sl.No	Form of questions	No. of Questions	Marks	Percentage
1	Objective type	14	7	28
2	Short answer type	7	14	56
3	Essay type	1	4	16
Total		22	25	100

Weightage to difficulty level

- This indicates the total mark and weightage to be given to different level of questions.

Sl.No	Form of questions	Marks	Percentage
1	Easy	5	20
2	Average	15	60
3	Difficult	5	20
Total		25	100

3. Preparation of the blue print

- Blue print is a *three-dimensional chart* giving the placement of the *objectives, content and form of questions*.

Objective s	Knowledg e	Under- standin g	Applicatio n	Analysi s	Synthesi s	Evaluatio n	Gran t Total
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Form of Qtn	O	SA	E	O	SA	E	O	SE	E	O	SA	E	O	SA	E	O	SA	E		
Sub Topic- 1	2 (4)			1 (2)			2 (4)	2 (1)					4 (1)	2 (1)			2 (1)			15
Sub Topic – 2	1 (2)			1 (2)				2 (1)					4 (2)	2 (1)						10
Total Marks	3	0	0	2	0	0	2	4	0	0	4	4	0	4	0	0	2	0		25
Grand Total	3			2			6						8				4			2

Note: O – Objective Type, SA – Short Answer Type, E – Essay Type

The number outside the bracket indicates the marks and those inside indicates the number of questions.

4. Writing of items

- The paper setter write items according to the blue print.
- The difficulty level has to be considered while writing the items.
- It should also checked whether all the questions included can be answered within the time allotted.
- It is advisable to arrange the questions in the order of their difficulty level.

GOVT. GIRL'S HIGHER SECONDARY SCHOOL, MALAPPURAM

ACHIEVEMENT TEST

Std: IX

Time : 45 Mts.

Div. : D MATHEMATICS

Max. Marks: 25

Instruction

Q. 1.

Q. 2.

Q. 3.

Q. 4.

5. Preparation of the scoring key and marking scheme

- In the case of objective type items where the answers are in the form of some letters or other symbol a scoring key is prepared.

-

Scoring Key

Q.No	Answer	Marks
1	A	1/2
2	C	1/2
3	A	1/2
4	D	1/2
5	B	1/2

- In the case of short answer and essay type questions, the marking scheme is prepared.
- In preparing marking scheme the examiner has to list out the value points to be credited and fix up the mark to be given to each value point.

Marking Scheme

Q.No	Value points	Marks	Total Marks
1	Value Point – 1½		2
	Value point – 2½		
	Value point – 3½		
	Value point – 4½		
2	Value Point – 1½		2
	Value point – 2½		
	Value point – 3½		
	Value point – 4½		

6. Preparation of Question-wise Analysis

Question-wise Analysis

Q.No	Content	Objectives	Form of Questions	Difficulty Level	Marks	Estimated Time
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						(In Mts.)
1	Sub topic – 1	Knowledge	Objective Type	Easy	½	1
2	Sub Topic – 2	Understanding	Objective Type	Average	½	1
3	Sub Topic – 2	Application	Objective Type	Easy	½	1
4	Sub Topic – 1	Knowledge	Objective Type	Easy	½	1
5	Sub Topic – 2	Understanding	Objective type	Average	½	1
5	Sub Topic – 1	Analysis	Short answer	Average	2	3
6	Sub Topic – 1	Synthesis	Short Answer	Difficult	2	3
7	Sub topic – 2	Application	Short answer	Easy	2	3
8	Subtopic – 1	Analysis	Essay	Average	4	10

TYPE OF TEST ITEMS

- Objective type
- Short answer type

- Essay Type

1. OBJECTIVE TYPE

- An objective type of test item is one which the response will be objective.
- Objective type test item broadly classified into two:
 - *Supply type (Recall Type)*
 - The respondent have to supply the responses.
 - *Selection type (Recognition Type)*
 - The respondent have to select the responses from among the given responses.

Objective Type – 4 Type

1. True – False Items (Alternate Response Type)

- 1. Multiple Choice Items**
- 2. Matching Type Items**
- 3. Completion Type Test Items**

Advantages of Objective Type Items

- A large amount of study material can be tested in a very short period time
- Economy of time.
- Objectivity of scoring.
- No bluffing
- It reduces the subjective element of the examiner to the minimum.
- If carefully planned, it can measure the higher mental process of understanding, application, analysis, prediction and interpretation.

Limitations of Objective type items

- Difficulty in preparing good items.
- Problem of guessing.
- Problem of cheating.
- Inefficiency in testing complicated skills
- High printing cost.
- Emphasis on testing superficial knowledge.

2. Short answer type

- A question requiring three value points at most may be defined as a short answer question.
- Value points diminish the subjectivity.
- Help in ensuring wide coverage of content.

Advantages of Short answer Type Items

- Large portion of the content can be covered in a test.
- No opportunity for guessing.

- Easy to construct, because it measures a relatively simple outcomes.
- It can be made quite objective by carefully fixing the value points.
- Useful in evaluating the ability to interpret diagrams, charts, graphs, etc.
- If carefully prepared, deep level objectives understanding, application and problem solving skill can be evaluated.

Limitations of Short answer Type Items

- It is more subjective than the objective type of items.
- It may encourage student to memorize fact and develop poor study habits.
- Mechanical scoring is not possible

3. Essay type

- It is free response test item.
- Help in ensuring a wide coverage of content and variety of objectives.
- Help in evaluating complex skills.

Advantages Essay Type Items

- Easy to prepare.
- Useful in measuring certain abilities and skills.
- Permit the examinee to write down comprehensively what he knows about something.
- Promote originality and creative thinking.
- Possibility of guess work can be eliminated.
- Reduce chance on the spot copying.
- Low printing cost.

Limitations of Essay Type Items

- Minimum validity.
- Lack of reliability.
- No objectivity.
- Rote memory is encouraged.
- It is a time consuming test item.

Constructing Classroom Achievement Test

Achievement tests are well suited to provide educators with objective feedback as to how much students are learning and understanding. Commercially published achievement tests, if used carefully, can provide not only evaluations of the knowledge levels of individual students, but also information about how those students compare with students in other schools. While assessing a wide range of skills, however, commercial achievement tests often provide only limited instructional guidance. They seldom provide feedback on the mastery or non-mastery of the full range of specific skills taught in any given classroom.

The most instructionally-relevant achievement tests are those developed by the individual teacher for use with a particular class. Teachers can tailor tests to emphasize the information they consider important and to match the ability levels of their students. If carefully constructed, classroom achievement tests can provide teachers with accurate and useful information about the knowledge retained by their students.

This digest is meant for classroom teachers. It describes the steps of test construction--designing the test, writing the questions, and checking the test for construction problems. It also presents suggestions for interpreting the outcomes of achievement tests.

STEP 1. DESIGNING THE TEST

The first step in constructing an effective achievement test is to identify what you want students to learn from a unit of instruction. Consider the relative importance of the objectives and include more questions about the most important learning objectives. If, however, the test focuses on a few objectives to the exclusion of others, students will not have the opportunity to demonstrate their understanding of other aspects of the material and you may not be able to make an accurate assessment of each student's knowledge.

The learning objectives that you want to emphasize will determine not only what material to include on the test, but also the specific form the test will take. For example, if it is important that students be able to do long division problems rapidly, consider giving a speeded test. The types of questions to be used will also depend on the learning objectives. If it is important for students to understand how historical events affected one another, then short answer or essay questions might be appropriate. If it is important that students remember dates, then multiple-choice or fill-in-the-blank questions might be appropriate.

STEP 2. WRITING THE QUESTIONS

Once you have defined the important learning objectives and have, in the light of these objectives, determined which types of questions and what form of test to use,

you are ready to begin the second step in constructing an effective achievement test. This step is writing the questions.

General Principles

While the different types of questions--multiple choice, fill-in-the-blank or short answer, true-false, matching, and essay--are constructed differently, the following principles apply to constructing questions and tests in general.

1. Make the instructions for each type of question simple and brief.
2. Use simple and clear language in the questions. If the language is difficult, students who understand the material but who do not have strong language skills may find it difficult to demonstrate their knowledge. If the language is ambiguous, even a student with strong language skills may answer incorrectly if his or her interpretation of the question differs from the instructor's intended meaning.
3. Write items that require specific understanding or ability developed in that course, not just general intelligence or test-wiseness.
4. Do not suggest the answer to one question in the body of another question. This makes the test less useful, as the test-wise student will have an advantage over the student who has an equal grasp of the material, but who has less skill at taking tests.
5. Do not write questions in the negative. If you must use negatives, highlight them, as they may mislead students into answering incorrectly.
6. Specify the units and precision of answers. For example, will you accept numerical answers that are rounded to the nearest integer?

Multiple Choice Questions

The most commonly used type of question is the multiple-choice question. Multiple-choice questions are more easily and objectively graded than essay questions and are more difficult to answer correctly without the required knowledge than true-false questions. Multiple-choice questions, however, are probably the most difficult type of question to construct. The following are a few guidelines for multiple-choice question construction.

1. State clearly in the instructions whether you require the correct answer or the best answer to each item.
2. Instead of repeating words in each alternative, include these words in the main body of the question. This will make the question easier to read and the options easier to compare. The grammar or structure of the main part of the question must not contain clues to the correct response, however.
3. Make incorrect alternatives attractive to students who have not achieved the targeted learning objectives.
4. Vary randomly the placement of correct responses.
5. Make all choices exactly parallel. Novice test writers tend to make the correct answer longer and more carefully worded and, by doing so, may provide a clue to the correct answer.
6. Never offer "all of the above" or "none of the above" as an alternative in a best-response multiple-choice question. Whether "none of the above" is chosen as a better response than one of the other options may depend on what evidence the student considers rather than how well he or she understands the material.

7. Control the difficulty of a question by making the alternatives more or less similar or by making the main part of the question more or less specific. If the alternatives are more similar, the student will have to make finer distinctions among them. If the main part is more specific, the student will be required to draw on more detailed knowledge.

STEP 3. FINAL CHECK

Finally, review the test. Are the instructions straightforward? Are the selected learning objectives represented in appropriate proportions? Are the questions carefully and clearly worded? Special care must be taken not to provide clues to the test-wise student. Poorly constructed questions may actually measure not knowledge, but test-taking ability. For example, if two options on a multiple choice question are redundant, a test-wise student will realize that neither can be the correct answer. By eliminating two choices the student increases his or her chances of answering the question correctly.

INTERPRETING THE TEST RESULTS

If you have carefully constructed an achievement test using the above principles, you can be confident that the test will provide useful information about the students' knowledge of the learning objectives. Considering the questions relating to the various learning objectives as separate subtests, you can develop a profile of each student's knowledge of or skill in the objectives. The scores of the subtests can be a useful supplement to the overall test score, as they can help you identify specific areas which may need attention. A carefully-constructed achievement test can, by helping you know what your students are learning, help you to teach more effectively and, ultimately, help the students to master more of the objectives.

Diagnostic Assessment

Even though the words “assessment” and “evaluation” are commonly used interchangeably in our everyday speech, there are subtle differences between them. They differ in terms of scope, purpose, findings and the uses thereof.

Evaluation of individual performance is often accomplished by grading or rating. Evaluation is typically a broader concept than assessment as it attempts to deal with all aspects of a performance. For example, the NIC interpreter evaluation tests knowledge of a range of subject matter related to interpreting, ethical practice and skills performance in several settings.

Assessment is typically used to analyze a particular process associated with performance. For example, how accurately someone interprets or how interpreting performance changes with a change in conditions. Assessment is an ongoing process aimed at improving performance over time, more so than evaluation, which is usually a final (or summative) result. Improving performance from assessment typically occurs incrementally and through planned activities determined from the assessment data.

Diagnostic assessments (also known as pre-assessments) provide instructors with information about student's prior knowledge and misconceptions before beginning a learning activity. They also provide a baseline for understanding how much learning has taken place after the learning activity is completed. Instructors usually build concepts sequentially throughout a course. For example, the Coriolis effect may be taught prior to a unit on ocean currents. A diagnostic pre-assessment given

after the Coriolis effect activity but before the Ocean current activity will provide an opportunity to determine if students remember the concepts they need. If some students don't remember, then a refresher will make the Ocean current activity more meaningful to your students. Diagnostic assessment data may be gleaned from:

- Summative assessments of the previous learning activity.
- Short assessments that focus on key knowledge and concepts such as ConcepTests and Minute Papers

SADBTHK

DIAGNOSTIC TESTING : MEANING

- In general, after completing a particular unit/topic you conduct a test to assess the achievements of learners. After evaluation you draw some conclusions and you find that some of the students have fared very well and a particular group of students have achieved below your expectations. Now you will have to find out the causes for this low achievement or slow learning. There would be certain reasons for this low achievement. Now it is very essential to find out the particular area where the difficulty lies or the particular concept where the learner commits errors. To locate and identify the areas of learning difficulties leads to Diagnostic Testing.
- After identifying the areas where the error lies, you have to find out the reasons due to which the particular child/group of students have not responded well. At this stage you have to play the role of a doctor. If a patient visits the doctor's clinic he suggests different tests relevant to the symptoms observed by him. After getting reports he is in a position to identify and diagnose the disease and then prescribe the medicine for it.
- Likewise, as a teacher, you have to first identify and locate the area where the error lies. The process adopted for this purpose in educational situations is known as **Diagnostic Testing**.

SADU

IN DIAGNOSTIC TESTING THE FOLLOWING POINTS MUST BE KEPT IN MIND:

- i) Who are the pupils who need help?**
- ii) Where are the errors located ?**
- iii) Why did the error occur ?**

Evaluation of individual performance is often accomplished by grading or rating. Evaluation is typically a broader concept than assessment as it attempts to deal with all aspects of a performance. For example, the NIC interpreter evaluation tests knowledge of a range of subject matter related to interpreting, ethical practice and skills performance in several settings.

Assessment is typically used to analyze a particular process associated with performance. For example, how accurately someone interprets or how interpreting performance changes with a change in conditions. Assessment is an ongoing process aimed at improving performance over time, more so than evaluation, which is usually a final (or summative) result. Improving performance from

assessment typically occurs incrementally and through planned activities determined from the assessment data.

One type of assessment—diagnostic assessment—provides a detailed analysis of performance which can be used for professional development planning and job placement. *The overarching goal of diagnostic assessment is to improve the overall quality and accuracy of interpretation between American Sign Language and English through the collection of performance data.* It is a system that yields more than the general feedback that might be exchanged based on an observation of an interpreter while they are working. It is a complex and comprehensive process of analysis designed to reveal the current state of linguistic and cognitive competence of interpreter practitioners for the purpose of guiding professional development activities.

Diagnostic assessment also provides a deeper level of insight than a surface level observation. It yields insight into how an individual thinks and uses language while engaged in interpreting. It uses a system of error analysis as the cornerstone for the process which can reveal patterns that exist in an interpreter's work. The results can be used to guide skill development by examining the impact of various patterns on the overall quality and accuracy of the interpretation and determining priorities accordingly. And, when serious gaps in skills are noted, a plan for remediation can be developed.

The overall impact of diagnostic assessment is that it provides a data-driven assessment of what is currently happening within the work of an interpreter, while simultaneously providing specific guidance regarding how to improve the quality and accuracy of the work. When the recommendations for improvement are followed, the outcome is a more effective and reliable interpretation.

USES OF DIAGNOSTICS TESTS

Typical uses:

- Identifying the needs and prior knowledge of participants for the purpose of directing them to the most appropriate learning experience
- Determining knowledge and identifying skills gaps and needs
- Placing learners in appropriate courses and tailor instruction to their needs
- Providing instructors and mentors information on a student's abilities
- Giving feedback to participants and providing recommendations for products, services and/or learning activities
- Setting benchmarks for comparison with post-course tests
- Analyzing personality traits in order to predict behaviors
- Creating intrigue about the content of a learning activity, which can in turn actually enhance the learning experience

Types:

- Pre-tests
- Placement tests
- Self-diagnostic tools
- Personality assessments

Remedial Teaching

Students who have temporarily fallen behind in their studies or otherwise need short-term support in their learning have the right to get remedial teaching.

Remedial teaching should be started immediately when the difficulties in learning or school attendance have been noticed, so that the students would not stay behind permanently in their studies. Remedial teaching can counteract difficulties beforehand. Remedial teaching should be organized according to a plan and as often as is necessary.

Characteristic to remedial teaching are individually planned

- tasks,
- time management
- and guidance.

Diverse methods and materials are used in remedial teaching, with which new ways can be found to approach the subject that is to be learned. In proactive remedial teaching the new things that are to be learned are introduced beforehand. Remedial teaching can also answer the need for support that arises from absences.

Schoolwork is planned in such a way that every student has a possibility to participate in remedial teaching if need be. Remedial teaching is given either

- during the lessons to which the need for support is connected, or
- outside lessons.

Various flexible groups are used in remedial teaching.

The initiative about giving remedial teaching is primarily done by the teacher. It can also be done by the student or guardian. The task of each teacher is to monitor the learning and growth of the student and the possible needs for support that may arise. Remedial teaching is organized in mutual understanding with the student and the guardian. They will be given information about the forms of remedial support

and its importance to learning and school attendance. Students are obligated to participate in the remedial teaching that has been organized for them.

Remedial teaching is given at all levels of support.

UNIT-IV: PROFESSIONAL DEVELOPMENT OF TEACHER

ROLE OF SEMINAR, WORKSHOPS AND PROJECTS IN PROFESSIONAL DEVELOPMENT OF TEACHER

SADBHANA

STRATEGIES FOR PROFESSIONAL DEVELOPMENT OF TEACHERS THROUGH WORKSHOP AND SEMINAR :-

INTRODUCTION

According to the thesaurus of the education resources information center (ERIC) database professional development refers to enhance professional career growth. Such activities may include individual development, continuing education and in-service education

Definition :-

Process of improving and increasing capabilities of staff through access to education and training opportunities in the workplace, through outside organization or through watching others perform the job.

The sum total of formal and informal learning experiences throughout one's career from pre-service teacher education to retirement

Meaning :-

Professional development goes beyond the term training with its implication of learning skills and encompasses a definition that includes formal and informal means of helping teachers not only learn new skills but also develop new insights into pedagogy and their own practice and explore new or advanced understanding of content and resources.

Professional development includes support for teachers as they encounter the challenges that come with putting into practice their evolving understanding about the use of technology to support inquiry based learning.

Objectives of Professional Development

- To update individual's knowledge of a subject in the light of recent advances in the area.
- To update individual's skills, attitudes and approaches in light of the development of new teaching techniques, objectives, new circumstances and new educational research.
- To enable schools to develop and apply new strategies concerning the curriculum and other aspects of teaching practice.
- To enable individual to apply changes made to curriculum or other aspects of teaching practice.
- To help weaker teacher to become more effective.
- To exchange information and advice among teachers and others.

Five Forms of Professional Development

- Individually Guided
- Observation / Assessment
- Involvement in a development/ improvement
- Training
- Inquiry

Models of Professional Development

- Workshops
- Seminar
- Panel discussions
- Self study
- Orientation
- Refresher course

Workshop

Meaning :-Workshop are conducted with a clear set of objectives or learner outcomes.

The outcome will often increase awareness about a topic or learning a new skill

In workshop the behavior's and techniques are replicated by teachers and teachers can learn behaviors and strategies

Objectives of workshop

It helps teachers to develop sense of ownership in the school reform program where they begin to share responsibility for all students achievement.

By attending sessions a teachers, will be able to help their staff implement what they have learned in training sessions.

It also helps to foresee some of the concerns that arise among staff members

Methods of conducting a workshop:-

- Define the workshop objective
- Plan carefully
- Arrive early
- Welcome everyone and begin introductions
- Create opportunities for interaction
- Allow regular breaks
- Ask the participants to fill out an evaluation form at the end of the session
- Follow up with the participants after the workshop

Why workshop should be conducted (need):-

- **Getting over the fear of creativity:** In order to channel creativity and maximize its potential, many individuals first need to overcome such obstacles as self-criticism. Workshop helps the teacher to get over the hindrances that make them afraid to express themselves. It develops critical analytical skill in teacher
- **TEAM WORK:** We believe that by sharing work in intimate groups, we can learn to develop and feel secure in their professional academic. It helps a teacher to be respectful in listening towards other.
- **MAP MAKING:** Every creative and analytical project has a process or way. A workshop shows educators how they can make their teacher to illustrate the process and progress of their work
- **Story telling:**Story telling be it visual or literary , is vital to how we perceiving and share our perceptions of the world. It helps a teacher to be more express no matter dealing with any subject. It helps to develop technique to be more expressive

- **Using your Environment:** It teaches a teacher how to use their natural surrounding to generate ideas
- **Changing Perceptions :** Through workshop a teacher can learn variety of techniques aimed at altering perceptions physically and emotionally. It assist the teacher in broadening their sense of the world they live in.
- **Time Management :** In our busy academic schedule most teachers feel they don't have enough time to be creative because its waste of time . The teachers be under pressure to complete syllabus .
- **Self Nurturing :** Teacher spend so much of their time encouraging and supporting their students. At times, teachers forget to nurture themselves. Workshop devotes time to the importance of self nurturing. Thus workshop offer tools and techniques that educators can implement to help students develop their creative, collaborative artistic, writing skills, self confidence, leadership and respect others

Advantages of workshop:-

- Users are usually very motivated
- This platform will provide insights and strategies for future
- Have flexibility over length and frequency of sessions
- A wealth of knowledge usually presented by speaker or many speaker at one time in one place

Disadvantages of workshop :-

- Users attending it may have broad range of skills
- If the space is small, it creates problems
- Availability of participants
- False impression of completeness
- Intimidation

SEMINAR

Seminars are basically arranged to discuss current issues and problems or to share ideas

A seminar is a small groups discussion in a formal setting with clear agenda.

Seminar are an interactive method of group teaching which usually enables.

Audience interaction with the seminar tutor allows for debate and discussion based on new ideas generated from listeners

It leads to more proactive, interesting session in which both the audience and tutor have learning

Seminars can be of 2 types paid and free

Seminars purpose can be to promote a brand or simply discuss a topic

Objectives of seminar :-

- Awareness of how to use values in improving your own professionalism
- Learning about personal and communication styles for team building
- Increase knowledge about emotional intelligence
- It develops an appreciation for diversity

- It helps in exploring new ideas

Methods of conducting a seminar:-

- Usually it is conducted in a small room, sometimes a classroom
- Seminar can have 5 to 30 or more participants depending on the topic
- The audiences to be invited for a seminar differ depending on the subject
- If the seminar is educational and informational it is open to all that are interested
- The method in which a seminar is conducted has a huge impact on the result
- It can commence with a presentation comprised of discussion as a whole or it can comprise a presentation followed by separate, small groups which discuss and work out solutions

Education /Academic Seminar :-

In a seminar teachers can discuss problems regarding admission, staff, development, evaluation, new ideas of teaching or relevant innovations

In a seminar a teacher may contribute a paper or an idea, constructively criticize or review a conventional approach

Needs of seminar

- It plays a significant role in simulating the thought process
- It induces people to exchange new information that would not have been available otherwise
- When a seminar is conducted at its best the purpose of the gatherings is fully met
- Confidence and listening skills are developed
- A teacher learns about time management

Advantages of Seminar

- A sense of camaraderie where individuals can meet others with the same interest/problems/concerns that they may have in their chosen field
- A sense of renewed hope and inspiration is developed. Being with others that understand individual problems or concerns
- It improves knowledge of a specific subject

Disadvantages of Seminar :-

- Sometimes it can be costly because the teacher has to attend it at his own cost. The printouts, slides for presenting can be costly
- The chances that the speaker may be sharing incorrect knowledge, or not at all knowledgeable
- It is time consuming
- The chance that topics may not help you
- The chance that attendants will expect too much

Conclusion

The workshop and seminar can improve many skills in education. Therefore, we must immerse ourselves in what is new and current to better the lives and education of our students

CONCEPT AND IMPORTANCE OF INTERENSHIP IN COMMERCE

Definition

An internship is:

- A structured work experience related to a student's major and/or career goal
- An experience that should enhance a student's academic, career, and personal development
- Supervised by a professional in the field
- An experience that can be one academic term (summer, spring, fall) or multiple academic terms in length
- Paid or unpaid, part-time or full-time
- An experience that is mutually agreed upon by the student, supervisor and/or faculty member
- Meets registration requirements for 0 credit hour or academic internship course
- It's important to note that to qualify as an internship the position does not have to be labeled "internship". Many part time jobs, volunteer opportunities, or even summer jobs can qualify as an internship. Internships might also be called a practicum or co-op.



teacher education, there are special pre-service teacher education programmes like B.Ed special education, B.Ed Hindi; B.Ed Sanskrit etc are also prevalent in India.

There are number of institutions which provide pre-service teacher education for secondary level of school education. The institutions like College of Teacher Education, Institute of Advanced Studies in Education, Regional Institute of Education, Regional Institute of English, English Language Training Institute, All India Institute of Speech and hearing, National Institute of Hindi, Central Sanskrit University etc offers secondary teacher education.

One of the innovative teacher education programme for secondary level offered by Regional Institute of Education, Bhubaneswar is Two Year B.Ed consisting of four semester. The uniqueness of this programme is that it gives importance to field experience and practical exposure for trainees in form of multicultural placement, internship in teaching and field work with community. The internship in teaching is the core of the two year B.Ed, which is longer duration and spreads over two year.

2. CONCEPTUALIZATION OF INTERNSHIP IN TEACHING

Field experience occupies a place of importance in all professional courses. As a part of pre-service teacher training, the field experience usually known as practice teaching provides an opportunity for the student-teachers to tryout the methods and techniques of teaching which they will have learnt during the course earlier. Student teaching has been accepted as the most important and crucial activity in teacher training. Internship is even more broad based than student teaching. The Regional Institutes of Education, Bhubaneswar have some experience in organizing internship in teaching for their students.

Internship in teaching is an opportunity where the student teacher identifies himself with the school to which he/she is assigned. While practice teaching is an important component of the programme, the student-teacher participates in every activity of the school in the total school life. During this period, right attitudes, interests and abilities are developed shaping the student teacher as a teacher of tomorrow. Internship provides excellent opportunity for the prospective teacher to learn to teach, acquire all the necessary understandings, skills, attitudes and appreciations in a real school situation. During internship, he learns the art of communication, the ability to solve problems, the tact to handle situations however delicate and acquires the capacity to think and organize educative and useful programmes for the benefit of his students. All these are done under the supreme guidance of qualified and experienced teachers of the school. Positive correlation between the quality and scope of experiences during internship and success as a beginning teacher, on which there is a general agreement, stresses the importance of student teacher's participation in a wide range of school programmes. In short, internship is a period for the student-teacher in which he identifies himself with the school.

In any professional pre-service course, the theory learnt by the student has to be tried out in a real situation. Field experience provides this opportunity and thereby complements the course. Teaching, especially at the undergraduate level, is adequately challenging since it calls for the understanding of not only the content but also the pupil who is taught. 'In order to teach John, Psychology, one has to understand both John and Psychology'. In teacher training programmes, internship provides the opportunity where the student-teacher can find for himself the extent to which the methods and techniques of teaching he has learnt during the course, are useful in a real classroom situation. Internship is the period during which the student stays in the school for a certain extended period, mingles with the school community, gets the first hand knowledge of the school situation and the associated problems, participate in the programmes of the school, organizes new and productive programmes for the benefit of the school, develops in himself the right skills, attitudes, interests and appreciations and makes best use of the expertise and resources in the school to blossom himself as a good teacher who could be an asset to any school providing him vocation in future.

An intemee is like an apprentice working under the guidance of highly motivated and experienced teachers of the school. For the first time he faces a cross section of the students which is a mixture of different ability groups often having varied social backgrounds, in a real classroom. While he will have learnt techniques of teaching for different uniform ability groups, he will be called upon to tailor new techniques and methods to suit mixed ability groups and this real challenge gets the best in the internee. It is during the internship that he learns certain time honoured tenets and ethics of teaching profession and lives a simple and disciplined life. It is the period when he should adopt himself to the realistic situation, make the best use of whatever resources are available, adjust himself and his needs to whatever is available in his environment and carry on with his duties cheerfully. Internship is the valuable transition between his training and his vocation or career. To a great extent this transition helps him to be a successful future teacher. Internship experience is a factor which influences, in good measure, the way he shapes himself to be a teacher though this factor may not be decisive.

2.1: Objectives of Internship in Teaching

General Objectives

1. To bring about a real integration of theory and practice in the education and training of the student teacher.
2. To develop in him the ability to recall principles, relate them to practices, study them in operation and apply them. Enrich them with meaning, and develop them further to suit the needs and conditions of the changing situations.

3. To develop in him the interests, right attitudes and dispositions, including confidence, which are so important for effective teaching and professional growth and success, and
4. To develop in him all the desirable competencies of a good and successful teacher.

Specific Objectives

1. To develop the ability to define clearly the general and specific objectives of teaching the subject, the different units, and the individual lessons.
2. To develop the ability to select units and subject matter suitable to the class, and resource material and aids - readymade, improvised - suitable to the units.
3. To develop the ability to plan the lesson effectively with an understanding of the principles of learning and organize the subject matter suitably indicating the appropriate techniques and aids to be used at each stage and for each purpose.
4. To develop the ability to prepare the pupils adequately for each lesson and develop it in ways most suitable to the occasion and most appropriate for realizing the objectives set forth.
5. To develop the ability to motivate the pupils sufficiently and sustain their interest as well as maintain discipline in the class.
6. To develop the ability to adjust the programme to the varying needs interests and abilities of the pupils, while making for maximum group progress.
7. To develop the ability, to use different methods and techniques of teaching and use them effectively in appropriate situations.
8. To develop the ability to plan the details of the curriculum with the pupils (teacher-pupil planning) and work out resource units, spelling out the experiences, activities, aids, techniques, etc.
9. To develop the ability to develop and apply different techniques and tools for the continuous evaluation of the achievement and progress of the pupils, taken as individuals and as a group, especially the ability to construct and use oral, written and performance tests.
10. To develop the ability to judge the effectiveness of teaching and the success of each programme in relation to the goals, from the participation and performances of the pupils.
11. To develop the ability to diagnose the strengths and weaknesses and the achievements and failures of the individual pupils, in relation to the objectives and decide, plan and organize the reinforcement of remedial assistance needed by each.
12. To develop the ability to correlate his subject and its teaching with other subjects taught in the class, with other activities in the school with life, so that, the education of the child becomes an integrated programme.
13. To develop the ability to plan, organize and guide enrichment activities and field programmes related to the subjects taught.

14. To develop the ability to plan, organize and guide various co-curricular activities, which are considered as important constituents of a rich education for the citizens of tomorrow.
15. To develop the ability to see the school as organized centre of the community and relate the provisions and practices in the school to the needs and conditions of the pupils and of the community.

Internship in Teaching consists of three phases such as pre-internship, internship and post-internship spreading over two years.

2.2: Pre-Internship in Teaching: It started in the first year in form of practicing teaching skills under guidance of faculty. Total students are divided into small group of 10-12 members for working and practicing under guidance of a faculty. The purpose is to develop skills and competencies of teaching for becoming an effective teacher. The trainees are given a theoretical and practical orientation on different skills of teaching such as skills of writing instructional objectives, skills of developing concept map, skills of introduction, skills of questioning, skills of explanation, skills of blackboard writing, skills of classroom management etc. Each skill are practiced and supervised in the groups.

After developing theoretical and practical understanding on skills of teaching, trainees are sent for **Multicultural Placement** for 15 days, where they placed in rural, urban and tribal school. The main objectives is to develop understanding about the school activities with different culture, process of engaging students in classrooms through observing the process adopted by regular teachers, understanding to manage a substitute class, gain experience of engaging classroom activities and conduct case studies. Trainees conduct different activities such as observing lesson delivered by regular teacher, observing day to day activities of school, take substitute class etc.

2.3: Internship in Teaching: This is the real phase of internship. Trainees are placed in different schools outside Bhubaneswar for two months. The main objectives is to help trainees to acquire the competency and skills required for multi level teaching, class management, evaluation of learning, organization of curricular activities, develop professionalism and positive attitude etc.

Trainees are involved in lesson planning, teaching, observing class of peers, conducting action research, developing achievement test, recording school process and preparation of teaching aids etc.

2.4: Post- Internship in Teaching: It is held at the end of internship in teaching at the Institute. The purpose is to analyze the different aspects of internship in teaching and reflect on it for further improvement. It is helpful for Coordinator for better organization in future.

Benefits of an Internship

Internships are known for giving students the opportunity to apply their knowledge in real world environments. At the same time, they will also develop skills which will help them perform better at their jobs.

Internships greatly increase the chances that a student will gain full time employment after graduation. In this article, we will look at internships, and how they can assist students in performing well at their jobs.

One problem commonly cited by employers is that many graduates do not have the practical skills necessary to excel in the job market. They also feel that the professionalism of students is less than it should be. Even though there are a large number of theories on how to encourage employees and increase profits, it is apparent that enhanced levels of education are not enough to prepare students for a real world environment. Being able to improve these weaknesses will make graduates much more effective in their careers.

By using internships, students are provided with experience that will make them stronger. In addition to this, their work ethic will increase, and they will be confident in their abilities. Internships will also allow students to learn about time management, discipline, and effective communication skills. In the business world, critical thinking skills are very important. Graduates must be able to make quick decisions which are based on logic. Internships will teach students how to excel in a large number of different organizations and industries. When students use internships, they will bring benefits to themselves as well as their employers.

Because many employers feel that some students lack the practical experience to excel in the real world, internships have become more important than ever before. Those who choose to participate in internships will be granted credits towards their graduation by many colleges. There are a variety of different companies which offer internships to students. These include corporations, non-profit organizations, and other institutions. When looking at internships, it is important to understand what employers want. A number of studies have shown that there are six attributes that employers are looking for.

These attributes are motivation, leadership, oral communication skills, experience, and interpersonal skills. There are a number of employees who naturally have these skills. However, it should be noted that most employees don't have these traits, and they must be taught. When students go through mentoring programs, they must learn to problem solve and communicate effectively.

One of the recurring themes in any entry level job search is the lack of experience factor. "Where do I get experience if no one is willing to hire me?" The answer is simple: Get an internship!

Students planning to enter the permanent work force should complement their academic preparation with a range of other experiences, such as study abroad, community service, undergraduate research experiences, participation in sports and other student organizations, membership in pre-professional organizations, and internships.

An internship offers you the chance to learn by doing in a setting where you are supervised by a work-place professional, and have the opportunity to achieve your own learning goals, without the responsibilities of being a permanent employee.

An internship also offers you the opportunity to work with someone who can become a mentor for you - not only in the internship, but throughout your career.

Career Exploration

- Learn about a career field from the inside and decide if this is the right career field for you
- Work alongside a professional in your chosen career area
- Observe the work place and see if it matches expectations

Leadership and Skill Development

- Learn new skills and add to your knowledge base while gaining confidence in your abilities
- Opportunity to practice communication and teamwork skills
- Gain industry knowledge first hand from an organization and professionals
- Provide evidence that you have initiative, are reliable, and have a sense of responsibility
- Apply some of the ideas learned in school and provide a bridge between school and the professional world
- Achieve a sense of accomplishment by contributing to an organization

Networking and Establishing Mentors and References

- Meet new people and practice networking skills while establishing a network of professional contacts, mentors, and references
- Open to door to advice for the next steps to take on your career path

Resume Enhancements

- Gain valuable experience and accomplishments to add to your resume and/or enhance your application to Graduate School
- Create an advantage over other job or graduate school applicants
- Potential for a full time job offer at the end of the internship based on your performance

MULTIMEDIA IN LEARNING

***Definition:** Multimedia combines five basic types of media into the learning environment: text, video, sound, graphics and animation, thus providing a powerful new tool for education.*

Introduction

The world in which we live is changing rapidly and the field of education is experiencing these changes in particular as it applies to Media Services. The old days of an educational institution having an isolated audio-visual department are long gone! The growth in use of multimedia within the education sector has accelerated in recent years, and looks set for continued expansion in the future.

Teachers primarily require access to learning resources, which can support concept development by learners in a variety of ways to meet individual learning needs. The development of multimedia technologies for learning offers new ways in which learning can take place in schools and the home. Enabling teachers to have access to multimedia learning resources, which support constructive concept development, allows the teacher to focus more on being a facilitator of learning while working with individual students.

Extending the use of multimedia learning resources to the home represents an educational opportunity with the potential to improve student learning.

The elements used in multimedia have all existed before. Multimedia simply combines these elements into a powerful new tool, especially in the hands of teachers and students. Interactive multimedia weaves five basic types of media into the learning environment: text, video, sound, graphics and animation. Since the mode of learning is interactive and not linear, a student or teacher can choose what to investigate next. For example, one does not start on the first page of a linear document and read to the end. Interactive multimedia learning mode is more like constructing a spider's web, with one idea linked to another, allowing choices in the learner's path.

The multimedia technologies that have had the greatest impact in education are those that augment the existing curriculum, allowing both immediate enhancement and encouraging further curriculum development. For example, the WWW serves as a storehouse of information that individual learners can search for subject matter content that specifically fits their learning agendas. Multimedia applications for computers have been developed for single computing platforms such as the PC, Apple Mac and games machines.

Use of Radio Broadcast in Teaching of Commerce

The use of radio broadcast is quite important in teaching of commerce if it can be properly utilized. For its proper utilisation following points be kept in view.

- (i) Radio broadcast is simply an aid to teaching and not a substitute for it. It is just like a laboratory experiment, a trip etc.
- (ii) It is desirable to hear such a broadcast in class room instead of an auditorium or any other large room.

(iii) For making out best utilization it is essential to select the broadcast very carefully on the basis of probable value in furthering the pupil's learning.

(iv) Selection of the radio broad casts is done much in advance so that teachers get enough time to plan better preparatory and follow-up activities.

(v) The broadcast be evaluated keeping the following factors in mind

(a) Do the materials presented contribute to the attainment?

(b) Is it authentic and accurate in all details?

(c) Does it have unity?

(d) In the programme suitable for the grade level for which it is being considered ?

(e) Will the programme arouse interest and motivate the listener to read more about the subject presented?

(f) Does the programme summaries the main points and hence fix them in the students mind?

(g) Is the programme presented in an interesting way?

No programme will be equally suitable for all pupils from first to twelfth grade.

(vi) A Radio broadcast may be considered only an assignment for further study.

(vii) The teacher should make a sincere effort to assess the results of a broadcast.

(III) Motion Pictures

Motion pictures are also used as teaching aids for teaching of commerce. In their usual display they resemble the T.V. programme but they differ in the following respects.

- (a) T.V. programmes are available on a definite date and time where as films can be seen at any time.
- (b) Teacher has no control on T.V. programme but the film programme can be adjusted by the teacher.
- (c) Some good files helps in imparting certain factual information and developing performance skills.
- (d) Film may bring about a change in the attitude of the child.
- (e) Short single concept film has more advantage.
- (f) Film increase learning by repetition of key points.

(IV) Computer Assisted Instructions

Like, books, films, black-boards and laboratory equipments and maps, the computer assisted instruction also can serve the teacher to communicate to the students. But it is very sophisticated 'Monster' aid and requires careful preparation for use and higher prerequisite for understanding.

Such an instruction has two major levels of impact to the teacher:

- (i) The teacher's ability to work in an efficient way is increased.
- (ii) It makes the teacher more critical and active.

For students it provides immense opportunities for learning more and to rationalise thinking.

The most important factor is that computer is 'flexible' teacher and not a 'rigid' teacher. Computer offers many alternatives to the learner so that depending upon

learning capacity and imaginative power, different options are available to the students.

(V) Enrichment Resources from the Community

The community in general and the business community in particular have the capacity to provide a large number of teaching aids. It is for the teacher to locate such aids and evaluate them. The local newspaper, the national dailies, the economic and business dailies, the economic and business magazines are all full of enrichment material for teaching of commerce. A close contact with local business personnel way also provide rich resources and so it is desirable for the commerce teacher to interact with local business people and to welcome opportunities to widen his horizon beyond the class room by associating with the business leaders of the community. Foreign business magazines and periodicals are also potential sources of teaching aids for commerce education. Some of the famous business magazines are Journal of Business Education, the Business Education world, and The Balance-Sheet.

(VI) Use of Media

The conventional derives of teaching are lectures, seminars, tutorials, field work etc. Modern technology has given rise to news devices and aids.

Of such aid T.V. and Radio Broadcasts have already been discussed. The public address system, inter-class communication are becoming very popular for mass teaching purposes.

Site programmes are shown since 1975.

The programmed learning and computer aided instructions are other such aids.

"The accelerating and multiplying effect of new techniques of reproduction and communication is basic to the introduction of most educational innovations."

It is impossible to think of education today without the media, especially the technical media in the schools.

In respect to the learner the media:

- (a) Increases motivation.
- (b) Increases success.
- (c) Helps adapt the learning process to individual learning and speed.
- (d) Activates the learners.
- (e) Provides information and creates opportunities for exercise.
- (f) Promote the social behaviour through team-work.
- (g) Intensify the learning process.
- (h) Reinforces the processes of comprehension.
- (i) Promote critical use of the media.
- (g) Aid in adaptation to native speakers.
- (h) Create a background situation for verbal activity. For the teacher the media:
 - (a) Monitor the attainment of instructional objective,
 - (b) Offer a great variability in course of instructions,
 - (c) Make the instructions more topical,
 - (d) Rationalise the move to ring procedure,

- (e) Relieve the teacher for actual pedagogical activities,
- (f) Help in grasping problems, situations, reinforcement, and summarising lessons up and round off certain topics.

What is Telecasting?

The educational programmes produced by the SIET have won wide acclaim and appreciation from the student- teacher- parent community of the Kerala State. At present the SIET telecast educational programmes through Doordershan from 6.30 a.m to 7.00 a.m. in DDI on a daily basis. SIET Kerala now also telecasting educational programmes through the EDUSAT Channel of the dept. of Education, Govt. of Kerala from 7.00 am to 11.00 p.m everyday.

The institute has adopted itself to play a catalytic role in fostering as well as supporting and supplementing the educational movement in the state particularly in the arena of secondary and higher secondary education. Its area of operation covers the preparation of video/ audio programmes for the children of 5 to 17 years of age (class I to class 12) and the teachers in the regional language in the form of supportive materials for the conventional class room teaching.

Well equipped with a panel of technical personnel and programme producers, SIET is competent to produce world class digital learning materials to meet the needs of students. For the ETV productions topics are identified by the subject experts where the content outlines work as the guiding factor.

The major thrust of production enfolds curriculum (Science, Math, Language, Environment, Moral Education and Teachers' programmes) enrichment and educational entertainment. The brain storming efforts of the in – house and

outside script writers, producers, media experts, Lecturers – in production, and Research and evaluation wing collaborate in breeding a good programme.

Occasionally the SIET also organizes workshops where the subject experts, media experts, persons writing for TV & A.I.R., academicians/ Educationists, Doctors, state and national awardee teachers and other experts ponder over developing ideas and script for production. Keeping the quality enhancing inputs in view, the scripts are tabled at a Script Review Committee Consisting of the Head of production, the producers, Lecturers – in- production, Scriptwriters and the Research and Evaluation officer where the script receives a finer shape for production.

After the script is ready, the producer, as the co-ordinator of the production, sits across the table with other constituent wings such as the cameraman, the Set Designers, the Graphic Artist, Editors to chalk out the production strategy before the countdown starts. The planning meeting is important in view of the fact that all the concerned people in the programme are able to interact with the goal of contributing their best in the out-put. Then only the producer goes for recording of the programmes depending upon the design of script whether to be accomplished outdoors or indoors.

After the Audio and Video recording is over, certain refinement is achieved at the editing table to give a concrete and final shape to the programme.

The producer submits the completed programme before the in-house preview committee where a detailed discussion is taken up and necessary alteration suggested, if any.

Another programme preview meeting is held under the chairmanship of the Director of SIET once in every month.

The programmes, complete in all respects, are transmitted through Doordarshan Kendra at 6.00 A.M. on all days of the week excepting Saturday and Sunday.

All the constituent wings of production & Academics such as the Lecturers – in- production, the producers, Production Assistants, Script Writers, the Cameraman, the Scenic Designer, the Graphic Artists, Editors and the Floor Manager etc. are high up in their technical skill and experience.

The high professional excellence, technical quality and educational value of its programmes have earned the laurels of victory for its efforts in the different National Educational Video/film Festivals in different years.

Tele-conferencing

Tele-conferencing is a means of electronic communication. It helps for interacting with others at Remote places. Tele-conferencing provides scope for saving travel cost, time, energy and associated problems. In teleconferencing the participants must appoint a time which is convenient for all the participants. There are at present three basic types of teleconferencing systems:

1. Computer conferencing
2. Video conferencing
3. Audio conferencing

What is Video Conferencing?

Video conferencing is another real-time application through multimedia, a videoconference can be point-to-point between two locations (or) multipoint, which can include several conferences sites, depending on the systems capabilities. The introduction of CD – ROM technology, videodisks and video PCs has created opportunities for new applications in the office. Users in decentralized work groups are able to use multimedia to support collaborative projects. As one user modifies the document on-screen, the changes will appear on the copy of document in the user's computer. Multimedia plays an important part in software that supports such co-operative working known as groupware.

Video Conferencing in higher education

Being an effective communicator involves teaching and learning. In place of traditional learning methods, where students have to assemble at one place, interactive videoconferencing offers a classroom like environment to learn through remote teaching. It also cuts down the travel cost, students from any college of education are being provided on-the-site training from a centralized location using videoconference. Communication is an important process in the field of education. It takes place between two or more individuals. One is the teacher (sender & receiver) and the other is a student (receiver & sender). It can take place through sound, picture, written, film, radio, television etc., It aims in passing or giving message from one to another.

The paper explains basic components of a videoconferencing like a pan-tilt and zoom (PTZ) camera (to capture local video), a microphone (to capture local audio), a codec ("Composer/Decomposer"), a network interface for connectivity, video outputs and inputs. And also it narrates the advantages of

video conferencing for students in interactive learning are, Better Planning, interaction with experts, learn about cultural difference, address different learning styles, increase videoconferencing, tubes of video conferencing and interaction of videoconferencing. It covers the removal of the barriers to listening through video conferencing and what are the skills to develop the barriers to verbal communication through video-conferencing.

Effective communication is the case of successful education at all level and also helps in exchange of knowledge. The development like Educational technological devices. ICT, Video conferencing etc., helps in movement of this knowledge in such a way that the act of knowledge to bring about useful results changes in behaviors and desired goals.

Types of video conferencing

As the term indicates, in this system students can see the teacher or both the teacher and the students can see each other. Depending on the use of technology, there can be two types of video teleconferencing. They are:

1. Two – way video conferencing
2. One- way video conferencing

1. Two – way video conferencing

Two – way video conferencing is a teleconference where, as implied by the name, video or visual information is exchanged. In the two –

way video conferencing students can see and hear the teacher and fellow students located at different learning centres, and can learn in an interactive environment and exchange views/ideas. A primary advantage of the two – way video conferencing lies in its replication of a face – to – face meeting. Students can react to each other’s body language and visual clues in interpersonal transactions. A two – way video conferencing can accommodate a range of information, including graphics and possibly scanned documents.

The video conferencing can be either motion or non-motion operations. The term motion implies that teachers can appear on television screen in a lifelike manner. It can range from full motions, where movements may be jerky and there is deterioration in the picture quality. The non- motion or freeze-frame video conferencing, the second category, consists of a series of still images that appear on the screen. Even though the visual element is not lifelike, an audio hookup could support a conversation (Mirabito, 1994).

Two – way video conferencing is a costly affair. We need to create the necessary infrastructure to transmit and receive visual signals at both the learning and the teaching centres. Besides, we have to equip the teaching and the learning ends with camera crew and technical staff to manage the two – way video conferencing.

2. One – way video conferencing

In one-way video conferencing, the audio-video information can be a one – way information or can be a one-way stream from the institution/teaching end to its learning centres or schools. These centers or schools may communicate with the teaching end in turn, with a telephone or other audio-

based hookup. The connection can be used for question and answer sessions the discussion on relevant points and for the clarification of specific details.

The potential of one-way video conferencing (point-to-multi-points) has been demonstrated in India through various experiments conducted by some educational institutions. The system can be used for teaching different topics, including sciences. For example, dissection of frog or conduct of an experiment by the expert can be seen or understood by the students located in different schools or at homes. The transplant of heart and the specialized surgical procedures can be relayed for medical students to view and learn a valuable medical technique through the real-time meeting.

Conclusion

We discussed emerging communication and information technologies. Our discussion centered around one area of emerging technologies. This is telecommunication technology. It includes teleconferencing, it is also of three types: audio conferencing, video conferencing and computer conferencing. While implementation of video – conferencing, there are certain hindrances in the growth of conferences in the country. Important among them are;

- Lack of interconnectivity.
 - High costs of products
 - Slow growth in demand for the services.
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