



A STUDY OF INSTRUMENT RELATION TO TEACHING AND LEARNING PROCESSES IN SECONDARY SCHOOLS

Dr. Mahantesh Hiremath

Principal Rural B.Ed. and V H Marad M.Ed. College, Sattur, Dharawad

ABSTRACT

Teaching method is one of the important elements of teaching learning process. A good teaching sometime fails due to non-suitable method of teaching. In this era not only the new methods of teaching have been developed but also the methods of teaching are greatly affected by the development of new technologies i.e., computers, computer assisted instructions, projector slides and multimedia Today we are enjoying the benefits of science. Science makes our life very comfortable. Science benefited us in agriculture, transportation, exploration and all other fields of life. Audio visual aids are instructional devices in which the message can be heard and seen simultaneously e.g, television, video films, documentary films, etc. Audio visual aids help in stimulating the ears and eyes. Hence, in the strict sense a teaching aid is any device that can be used to help reinforce new information or skills. Instructional aids are devices that assist an instructor in the teaching learning process. Instructional aids are not self-supporting - they are supplementary teaching devices.

Keywords: Instrument of teaching and learning

INTRODUCTION

Teaching aids are an integral component in any classroom. The many benefits of teaching aids include helping learners improve reading comprehension skills, illustrating or reinforcing a skill or concept, differentiating instruction and relieving anxiety or boredom by presenting information in a new and exciting way. Teaching aids also engage students' other senses since there are no limits in what aids can be utilized when supplementing a lesson.

As students are reading less and less on their own, teachers are finding reading comprehension skills very low among today's students.

Teaching aids help to make the learning environment interesting and engaging. As we move toward a more digital society, kids are being exposed to technology and digital devices at a younger age. Video games and iPods are now what's exciting to students, so when they come to school, they have little patience for lecture style teaching. Students are seeking constant excitement and simply have no tolerance for boredom. Teaching aids are improving the quality of education in today's schools while also providing students with the sense of excitement they desire. Teaching aids are becoming the norm in the classroom. As traditional classrooms with blackboard and chalk become a thing of the past, and smart classrooms become the norm, teaching aids are growing in popularity and advancement. Blackboards are being replaced with white and smart boards. TVs are being replaced with LCD projectors and screens. And educators are becoming more focused on students growing with technology and integrating it into the curriculum. Students are making podcasts, videos and even creating web quests All of which are sound teaching aids to incorporate into the classroom.

Audio-visual aids are those sensory objects or images which initiate or stimulate and reinforce learning. These are very useful for effective teaching. With its help, there is effective communication and appropriate learning outcomes. It helps for clear understanding, grasping and fixing teaching materials in the minds of the students. The visual aids are those aids which call upon the visual senses and then help the learners to learn through viewing. These aids may be further broken into two subcategories - Projective and Non-projective aids. Aids which help in their projection on the screen are called projective aids. When a projected aid is used, an enlarged image of the material (slide, filmstrips etc) is projected on a screen kept at a distance from the projector. The room is either totally or partially darkened.

METHODOLOGY

The present study is based entirely on both descriptive and analytical methods which were adopted through different experimental work and secondary data. The author conducted his research studies on the basis of secondary data sources, taking into account the availability of resources and the feasibility of the present Research paper. Secondary data were obtained from the different journals, academic papers, textbooks, various websites and theses, etc. The study's methodology also includes the thoughts and writings of different authors in the academic and research field's stream. Thus, the author used all available resources and carried out exhaustive Studies for this research paper.

MAIN BODY OF THE PAPER

Projected Teaching Aids

Audio-visual aids are those sensory objects or images which initiate or stimulate and reinforce learning. These are very useful for effective teaching. With its help, there is effective communication and appropriate learning outcomes. It helps for clear understanding, grasping and fixing teaching materials in the minds of the students.

The visual aids are those aids which call upon the visual senses and then help the learners to learn through viewing. These aids may be further broken into two sub-categories - Projective and Non-projective aids.

Aids which help in their projection on the screen are called projective aids. When a projected aid is used and enlarged image of the material (slide, filmstrips etc) is projected on a screen kept at a distance from the projector. The room is either totally or partially darkened.

Projected Materials and Projectors

It includes the following materials.

- ✓ Book diagrams, flat pictures etc.
- ✓ Slides.
- ✓ Film strips.
- ✓ Standard 8 mm. loop film cassette.
- ✓ OHP Transparency-single/or overlay acrylic sheet transparency.
- ✓ Microscope slides/small objects.
- ✓ 9. Epidiascope.
- ✓ 10. Slide projectors.
- ✓ 11. Filmstrip projector.
- ✓ 14. Overhead projector.

Kinds/Classification of sound motion picture Films

Motion picture films can be classified as entertainment films and educational films. Educational films may be further sub-divided into two parts.

1. General Educational Films. These are produced to provide general knowledge.
2. Classroom Films. These are on curricular subjects produced for promoting learning in a specific curricular subject

In another type of classification, these films can be kept in two sub- groups.

- a. Basic Teaching Films. These are usually made specifically for use in carefully designed curriculum area. These films are planned and produced to improve teaching.
- b. Supplementary Teaching Films. These films are invariably made for some purpose other than enriching and implementing the school curriculum. Because most films have educational values, untold number of those made for extra school purposes contain information, which is of value in improving regular school learning situation.

Supplementary teaching films originate from many sources. They may be grouped into three classes.

- Documentary films
- Sponsored films
- Entertainment films.

The documentary film can be an extremely useful teaching instrument, particularly in the social studies area. Good documentary film can show students how people live, think and act.

News reels are produced by the Govt. of India. Some important news of the country are made to reach the masses through such films. It may be on some current event of our own country or some other country etc. This type of films acquaints the people with the latest happenings.

Procedure/Method of showing a film in the classroom

The process involves three steps

1. The Preparation Stage. The teacher should have the knowledge of the sources from where educational films related to his subject may be borrowed or purchased. He should make himself trained in the operation of the motion picture alliance. All the material i.e., projector and screen etc, must be checked before use.

In this stage, teacher should get his students prepared educationally as well as psychologically for deriving the maximum educational benefit from these films.

2. The Presenting Stage. The Teacher should involve the students in this stage.

He should make them properly motivated, attentive and active while presenting useful information through films. He must see that the students should note down important points, reactions and doubts which need for more information. The teacher should present the film step by step by calling for the students' attention to all the important points of the film.

Educational Advantages of Films

1. It increases pupil's interest in learning. It is natural to learn by seeing and hearing.
2. Action gives impression of reality and promotes better understanding.
3. Motion films compel attention and as a result, help in permanent retention of observed events.
4. Many general topics can be covered and conveniently presented in an easily digestible form and in an interesting way to maintain attention.
5. It increases factual learning as compared to traditional learning.
6. Fast and slow motion can be shown to occur at normal speed, making analysis and appreciation possible.
7. These films present material that cannot be seen by the human eye or even by microscope and telescope. Technical animation involving animated drawing can effectively serve to explain things that are too abstracts, too large or too hidden.

Preparation of Simple Slides

A teacher can himself prepare slides for his use. Preparing a simple slide is not a difficult job. For it, he should adopt the following method.

1. Material like a plain glass, etched glass or translucent paper etc is selected as the base material for preparing slides.
2. A rough lay out is laid down. Then the basic illustration is sketched and other symbols or lettering is positioned according to plan.
3. Now, the glass or cellulose acetate on which slide is to be prepared is placed over the original sketch or lay out. By using a drawing pen or marked pencil, the figure is traced out.
4. For better illustration, colors may be added or some art work may be done.
5. Then, the transparent sheet is attached to the back of a cardboard mount with the help of pressure sensitive tape.

According to Haas and Packer, slides have the following educative values and advantages.

- Attractive attention.
- Arouse interest.
- Assist lesson development.
- Test student's understanding.
- Review instruction.
- Present next lesson or subject.
- Facilitate student-teacher participation.
- Details of the subjects or the diagram can be shown very nicely with the help of slides of layer size.
- Their handling and storing is not difficult.
- They can be procured easily and at low cost.

The smaller slides can be projected in the same machine that is used for film strip. Reproduction of large maps, complicated charts and diagrams, tables and other material, in which printing and fine detail are important, can be presented more effectively on the larger slides.

Overhead Projector and Its Advantages in the Field of Education

It is very useful and commonly used teaching aid in the field of education today. The name comes from the fact that the projected image is behind and over the head of the speaker. In overhead projection, a transparent visual is placed on a horizontal stage on top of light source. The light passes through this transparency and then is reflected at an angle on to the screen at the back of the speaker.

Using OHP is not a new concept. It dates back to World War II when the armed services employed this equipment for teaching recruits.

The Design of OHP

Overhead projectors are designed for direct or indirect projection. The projectors designed for direct projection usually uses Halogen lamps. While OHP designed on principle of indirect projection use the tubular projection lamps as in a film projector. OHP contains an area of vertical projection besides the straight horizontal path of the light available with the usual projectors. The path of the light is again changed to a horizontal one by a mirror placed at 45° angle and continues over the shoulder of the instructor to the screen. It contains a large aperture of the size 25 x 25 cms or 20 x 20 cms for placing the slides and other visual materials. In all the overhead projectors, the lamp enclosure is blower cooled. The projection lens is a combination of two lenses with their principal axis at right angles. There is a provision for the focusing of the image on the screen by vertical movements of the projection head.

Use of OHP: The general precaution to be observed for use of any projector should be observed when using the OHP.

The projector should not be subjected to mechanical vibrations. Provision for voltage fluctuation should be taken care of using a voltage stabilizer or by having a suitable choke in series.

The lamp should not be touched by hand. OHP should not be kept on continuously for long periods.

The Fresnel lens is protected by a glass plate on top. It is necessary to remove dust or dirt on the protecting glass and also from the outside lens surface by flat camel hair brush. Surface silvered or aluminized reflector should not be cleaned. Tri-acetate sheets are available in large rolls of 75 cms width which could be cut into sheets of dimensions 20 x 25 or 25 x 25 cms. They can be suitably mounted on suitable cardboard mounts.

Advantages of OHP

1. A very large projected image in a minimum of projection distance is obtainable. 2. It can work in an illuminated room. There is need of darkening the room.
3. The teacher can always face the class, maintaining eye contact with the pupils.
5. The comparative lighter weight of the equipment makes it portable.
7. There is no need of a projector operator accompanying the teacher. He can face the class and at the same time operate the machine himself.
8. The working of the projector is quite easy. Anybody can operate it at any time.
9. Large slides of the size 25 x 25 cms can be used easily. It may facilitate the preparation of art work for slides.

NON-PROJECTED TEACHING AIDS

The visual aids are those aids which call upon the visual senses and then help the learners to learn through viewing. These teaching aids may be further divided into two sub-categories;

Projective and Non-projective aids. Non-projected aids are those which do not help in their projection on the screen. There is a long list of projected aids being used in teaching learning process. It includes the following teaching aids.

1. Visual (Pictorial) Non-Projected Two dimensional.

- Black board writing and drawing
- Charts
- Posters
- Maps
- Diagrams
- Graphs
- Photographs
- Cartoons etc.

2. Visual Non-Projected Three Dimensional.

- Model
- Mock-up
- Diorama
- Globe
- Relief map
- Specimen
- Puppet
- Hologram etc.



Graphic teaching aids and their importance and uses in teaching-learning process.

Graphic aid material represents a particular type of visual aid material that involves the use of graphic presentation in the form of graphs, maps, charts, diagrams, posters and cartoons etc. These are the form of visuals that are represented on plane surface. The subject matter areas that are represented in graphic aids are in an abridged and easily understandable form. They convey meaning mainly through relatively conventionalized symbols that are nearer to reality perceptually than verbal symbols. Graphic aids secure the attention of the pupils by their attractive format and simplicity of layout. They convey the expected message by combination of visual and pictorial messages made meaningful by suitable captions.

Advantages: Graphics are only two dimensional. They are able to secure the attention and create interest of the pupils. Since the message to be conveyed pertains to a single concept and hence, brief the viewer will not get perplexed on being exposed to the visual but will try to read and understand what is implied.

Graphic aids could easily be prepared by any teacher using simple materials that are easily available and stored for future use. Making graphics should form an integral part of the teacher's preparation for teaching.

Important Graphic aids: Almost any material involving illustrations is basically graphic in nature. There can be an infinite variety of graphic material. It is difficult to give a rigid list of these materials. However, through common usage, the principal categories of graphic aids are described here.

1. Diagrams. A diagram is a drawing that shows arrangements and relations as of parts to the whole. It is a visual symbol made up of lines, curves and geometrical forms. Diagrams could be used to explain many facts easily using a variety of symbols and labels. These can explain facts more easily than charts. Technical fields like engineering rely heavily on diagrams to communicate detailed, precise information. But basically, a diagram explains rather represents a fact. It contains both pictorial and verbal part.

2. Graphs. A graph is a diagrammatic treatment or representation of numeric or quantitative data. The different types of graphical representations are Line, bar, pictorial and sector (pie) graphs. Line graph consists of portraying data with the help of lengths and shapes of lines. Bar graphs consist of bars arranged horizontally or vertically from a zero base. The pie graph consists of the sectors of a circle shown by different colors or types of shading. In pictorial graph, the visual presentation is made through pictures. The nature of variation of two dependent quantities could be very easily presented by graphical representations. Interpretation of graphs is easy and very quick. Correct inferences could be drawn with ease.

3. Maps. A map is a visual representation of the whole or part of the earth. It gives an accurate representation on a plane surface in the form of a diagram drawn on scale, the detail of boundaries of countries, continents etc. Geographical details like location of mountains, rivers, altitude of a place, contours of the earth surface and important locations can also be represented accurately with reference to a convenient scale with a suitable colour scheme.

So, map is drawn to a scale and maintains the directional relationship of the parts. As a teaching aid, maps are indispensable in teaching fundamental concepts such as size, distance, space, location and direction.

4. Posters. A poster is a bold and symbolic representation of a single idea. It aims for conveying the specific message teaching a particular thing, giving a general idea etc. A poster catches the eye and makes the viewer go through the message conveyed. The visual designs dramatic and hence dynamic in appeal. Posters are used widely in all walks of life, to convey, forcibly the desired information to a layman. Good posters are simple as well as striking.

5. Cartoons. A cartoon is a metaphorical presentation in the form of a picture or a sketch. It vigorously presents and dramatizes humor, satire, caricature or exaggeration about an idea, a person or a situation. A cartoon like the poster is universal in appeal and conveys only one idea. Many times, cartoons acquaint their viewer with

the hard realities and naked truths and thus may work as a source of behavior modification. They appeal to all ages equally in almost all the cultures of the world.

6. Illustrations (Flat pictures). Illustrations may be hand-drawn photo-graphic reproductions, lithographic reproductions which are self-Explanatory. They are complete by themselves and do not require any lengthy explanation. Flat pictures are used generally as illustrations. These are a still opaque representation of a scene or object.

7. Flash cards. Flash cards are pieces of cardboard or hard paper on which a word or words are written or some picture is drawn. These can be shown to the students at any time.

Flash cards can be successfully used for a number of purposes;

- i. Word recognition.
- ii. Team competition-By dividing the class into two parts, the flash cards are shown to the group one by one. They try to read out as quickly as possible.
- iii. Teaching writing-practice for good hand writing.
- iv. Training in speaking-students read out the flash cards.

These are handy and can be used very easily by the teacher.

8. Charts. A chart is a visual symbol for summarizing or comparing or contrasting or performing other helpful services in explaining subject matter. In its content and form, a chart overlaps heavily with a diagram. Hence a chart is also considered a diagrammatic representation.

Types of charts- charts are of different types.

- ❖ A time chart represents material in their chronological sequence of happening with suitable indication of time of Occurrence.
- ❖ Tabular chart presents information and date in a classified or categorized form arranged in tabular columns.
- ❖ A tree chart depicts growth and change by beginning with a single source which then spreads out into many branches as in the case of a tree.
- ❖ Stream chart depicts development, growth and change by beginning with many tributaries which then converge into a single channel.
- ❖ Organizational chart represents the functional relations within an organization.
- ❖ A process chart represents the stages of steps in a process. (vii) Sequence charts consist of more than one segment or chart and hence have to do with the representation than content.

Purposes of charts- The following are the specific objectives of using charts.

- ✓ To show relationship by means of facts, figures and statistics.
- ✓ To present material or content symbolically.
- ✓ To summaries information.
- ✓ To show continuity in process.
- ✓ To present abstract ideas in visual form.
- ✓ To motivate the students.
- ✓ To create problems and to stimulate thinking.

In the classroom, while teaching these charts may prove a big helping hand for the teachers. They save their time and energy which can be wasted otherwise in drawing figures and diagrams on the blackboard for classifying various facts and concepts. Readymade charts are available for use in teaching in almost all areas in all subjects.

But it is not difficult for any teacher to prepare a chart. In fact, a teacher would find a chart prepared by him incorporating his own ideas and lines of approach of the specific topic more useful to him.

- Concept or theme to be developed in the chart.
- Analysis of the main theme in various relationships which are to be developed.
- Visualization and illustration of ideas by sketches.
- Coloring and lettering.

Projection tracing is an easy way to make a large chart or diagram from a small illustration. A small picture can be enlarged by using opaque projector.

Use of Graphic Teaching Aids: Graphic

Teaching aids are quite effective visual aids that appeal to all, arouse interest, attract and hold attention and activate the teaching learning process. Ideas and relationships can be classified with their help. These save time and energy of teachers.

But, for its effective use- the teacher must try to select an appropriate graphic aid for realizing his teaching objectives.

- The aid must have the qualities like unity, simplicity, organization and visibility.
- The aid must have educational value. It should not be presented simply for admiration or entertainment.

3-D (Three Dimensional) teaching aids and 3-D aids and their educational advantages.

Here, some important 3-D teaching aids will be discussed.

1. Models. A model is usually the miniature structure of the original subject. It shows almost all the details of the original thing. It may be of the same size or larger or smaller than the original object that it represents. Model is three-dimensional teaching aid. It can be seen from different angles and so it is generally more interesting and instructive.

Purposes of Models in Instruction -

- i. Models simplify reality. As they are three dimensional, they evoke greater interest.
- ii. Models concretize abstract concepts.
- iii. A large process could be easily demonstrated by a model as they provide interior views of objects and machines.
- iv. Models are compact dimensions so that they can be used in the classroom for teaching.
- v. It may not be possible or practicable to make pupils see the whole of a large industrial unit, but a small-scale model will give the correct concept.
- vi. Preparation of models could form a topic for project work. A working model will secure immediate attention and will serve as motivational. Interest stimulated could be utilized for fullest advantage.

Types of Models

- Scale Models: These represent the things through exactness of scale.
- Simplified Models: This type of models shows roughly the external form of objects. For examples, models of animals, birds etc. are all simplified models.
- Cross-sectional Models or cut away Models: These models show the interior side of the object along with the exterior side. For example, model of an aero plane etc. These are also called working models.

Uses: Models are used for demonstrating the three-dimensional representation of real things like models of an eye or abstract things like model of solar system. They can be used in a wide range of instructional situations.

They are particularly used for three special purposes-

- ✓ As visual support material in instruction.
- ✓ As object for study or manipulation in individual learning; and
- ✓ As construction project for individuals, small groups or even the entire class.

Preparation: A teacher or student can prepare models in different ways. The standard technique is as follow

- Use the cheap material to prepare static models like models of dam or building etc.
- Use the materials like modeling clay and plastic lime to produce realistic models of living creatures, organs of a human body etc.
- Use the materials like plaster of Paris and paper Mache to produce a physical map of continent, or a country or landscape of a particular area.
- Thermoscope models are used for domestic purposes and could be used to prepare static, to a certain extent working models. Only poster colors, distemper could be used to paint thermoscopes.

Any pupil constructing a model will definitely learn more than what he will learn if exposed to a similar model by the teacher because of the direct experience involved.

2. Mock-ups. Mock-ups is a special form of model. It may not be similar to the original in appearance. It is an imitation of a thing in certain respects only. Here some element of original reality is highlighted to make it more meaningful to the students.

3. Maps and Globes. A map is a flat representation of some or the earth's entire surface. Globe is a spherical model of earth. It is a scale model of the earth in three dimensions. Relief maps are also three dimensional. Globes are the only kind of maps that can give pupils a true concept of geographical relationship. A good globe provides correct information about areas, distance, directions and geographical shapes. Maps and Globes are not merely fundamental to the study of Geography and other subjects but are essential for a whole range of human activities such as interpreting weather, travel, understanding current world events etc.

4. Diorama. A diorama is a still display system which combines a three-dimensional foreground picture, figures etc., with a two-dimensional painted background, thus creating a highly realistic effect. It is very useful media in the teaching of many subjects like history, geography and biography etc.

How to produce a diorama- Ellington (1985) mentions the following steps in the preparation of a diorama.

1. Make a semi-circular base of the required size out of cardboard/ hardboard.
2. Make up a strip of thin white card of a suitable height that is capable of extending all the way round the curved side of the base, draw and paint the required background scene in this and fix it to the base.
3. Build up any landscape required in the foreground using Plaster of Paris and paint this in the required colors.
4. Produce or acquire any material required for the foreground and set them in position. Such material can include model figures, model buildings, model trees, model ships, tanks or other vehicles; pieces of rock and any other required material.

The objects in a diorama are not made to scale for representation of depth. Objects kept at a background are made considerably smaller to create an illusion.

5. Puppets. Puppets are available in the market or can be prepared locally according to the requirements. It is a very useful media in the teaching of history, drama and literary topics.

6. Holograms. Holograms are three dimensional images of wonderful reality. These images are created on a holographic (lens less photography) plate without a camera. Holograms are less frequently used in schools, as preparing them requires lot of technical skills as well as equipment.

Display boards, its functions and useful in teaching-learning process with its different types

In well-designed modern school buildings, there are extensive display board spaces in classroom, display cases located at vantage points, 'teaching walls', made up of folded sliding panels which can be extended to form a partition between one classroom and another and at the same time provide a lot of display, space etc. All these, rather than the more Bulletin Boards come under the general head of 'Display Boards'. Varied and colorful displays which both communicate information and incite interest and involvement, impart to school and its classroom a vitality needed for motivated and purposeful learning.

Functions of Displays: Display (Board's) are used for the following.

- ✓ Motivation. In the course of a unit of work, a good display can attract and appeal to the learner, stimulate the curiosity and imagination of most of the people.
- ✓ Development. As the discussion proceeds, a display may add information for fixing up of ideas in the minds of the students. A development display actively involves the students both in planning and execution of the materials.
- ✓ Summary. At the end of the lesson, a display may be used for review and consolidation. A study display is an organised visual arrangement of learning materials on a vertical or horizontal surface and is usually designed to present significant information on a given topic.

Types of Display Boards

1. Bulletin Board. It is a board of soft wood or Cork. It is used for pasting papers, pictures of paintings. It displays announcements, records, news items, newspaper cuttings, illustration etc.
2. Flannel Board. As name indicates, it is a wooden board on which flannel is fixed. The different flash cards on the back of which flannel are fixed can be placed on the flannel board.
3. Pocket Board. It is a wooden board on which pockets are made with about 1/2-inch-wide cloth wrapped from one corner to the other parallel to the base of the board. The pockets are formed for holding the flash cards.
4. Peg Boards. Peg boards can be used for combining flat and three-dimensional materials, the latter being supported by specially made hooks and clips. Displays can also be positioned as desired points by pegs."
5. Hook and Loop Boards. These are intended to suspend heavy 3-D objects as well as flat materials. The surface of the board is made up of a special nylon fabric that consists of thousands of tiny but strong loops.
6. Magnetic Boards. These are useful to show the relative movement between elements of visuals. A magnetic chalk board becomes more versatile due to the additional facility of visuals that could be made using chalk.

Planning and Organizing Displays

It should be done as follows:

- ✓ Decide on a purpose-motivational, developmental or summary.
- ✓ Arrange and illustrate the contents use illustrative materials that are eye catching such as photographs, drawing, maps, graphs, 3-D objects etc.
- ✓ Use colours of various types-use warm and cool colour for contrast. Warm colours such as red appear closer to the observer than do cool colours such as blue.
- ✓ Arrange the display-Mount the picture and articles in pleasing colored background in harmony with the rest.

Limitations

1. Good displays take considerable time and energy of the teacher.
2. Like any other medium, display may be overdone and hence may lose their freshness and appeal.
3. Sometimes displays may become cluttered and lose their effectiveness.
4. It may distract the attention of the students while learning in the class.

Audio aids and their value in teaching learning process

Out of this Radio and tape-recording are very important teaching aids.

1. Radio. Radio is a very common type of audio teaching aid. It is an unparalleled vehicle for mass communication. It is now recognized as an education medium that reaches millions of interested listeners. The use of Radio for educational purposes was tested in England in 1924. Later on, Canada and Sweden tried it in 1926. In India, the first radio station was established in Mumbai in July 1927. School broadcasting was started in 1937 from Kolkata. Since then, the school broadcast has increased. At present, most, AIR stations broadcast educational programmes for schools and colleges.

Importance & Merits

The Radio medium is very exclusive for broadcast of lectures by eminent educationists, scientists, historical statements, etc. It is a rich, medium of drama, stories, commentary, sports news, educational news and educational programmes.

1. Radio programmes are prepared on topics which are more suitable to verbal communication, Sound, music and special audio effects can be used in audio programmes as to make them more effective. These techniques help create visual images through sound. Non-broadcast mode is specially produced audio cassettes is also useful in classroom instruction. Institutions such as central institute of educational technology, New Delhi, State Institute of Educational Technology, Educational Technology, Cells of SCERT produce need-based audio-pre-programmes for schoolchildren. Radio brings subject experts and other great men in the classroom. Lectures, talks and addresses of important personalities from any corner of the world can be heard. On the Radio broadcast, It can be heard and understood by a large number of students at a time. The cost precipitate of the listeners is very small. It also widened the general knowledge of the students. But the Radio broadcast is one way communication. The time of the broadcast does not always suit the school or class. There is no provision of correction work given by the radio for home assignments.

2. Audio Tape or Tape Recording. A Tap recorder is used to record sounds on magnetic tape which can be reproduced at will as many times as required. When a new recording is made, the recording already contained in the tape is automatically erased.

Importance and Educational value

- ✓ Audio tape is a more popular teaching tool. The teacher can make live recording of student and teacher conversation/dialogues etc' as it is much easier to prepare these tapes than a gramophone record. This is very useful in independent study situations.
- ✓ Tape recorder can be used to record music and other sound effects for use during staging of dramas in schools and cultural performances.
- ✓ Tape recorders are very largely used in language laboratories for giving speech training and for correction of pronunciation defects.
- ✓ Tape recorder can be used for appreciation of and for teaching music.
- ✓ Commentary to filmstrips can be suitably recorded on a tape recorder and the tape may be played back while the students view the filmstrip picture projected on the screen.
- ✓ In teacher training institutions, a tape recorder can be used effectively during the micro teaching sessions. It will provide the necessary feedback for improvement. A tape recorder is very simple to operate. It is very useful in teaching as well as in individualized learning. However, it is easy to erase a recording if care is not taken.

Advantages of Audio Aids:

1. Radio sets, tape recorders etc are not expensive in comparison to other electronic media.
2. These can be used with the help of battery sets. No electricity is required.
3. These are comparatively handy and quite portable.
4. Production of educational audio programmes is easy and does not require many technicalities.
5. Production cost of educational audio programmes is quite reasonable.
6. These recorders can play back tapes according to convenience of the learners.

Disadvantages:

1. Audio-programmes are only sound based and have no visuals. Hence, these programmes can be boring.
2. Radio is one way communication aid. It misses the personal touch.
3. Audio cassettes tapes are generally developed locally. So professional quality is often sacrificed.

For good results, in these aids sound being the only or the main medium, has to be supported by printed materials, posters, slides, pictures etc. There should be imaginative use of humour, elasticity suspension, curiosity etc in educational audio programmes. In order to make audio programmes effective, teachers should conduct audio discussion before, during and after the programmes and organize other follow up activities.

CONCLUSION

Media is a means that can help teachers transfer their knowledge to their students. There are many kinds of media which can choose to use. But when using media, it must be depended on some criteria, such as audiences (learners), materials, school equipment's, time allocated. Therefore, we as teachers have to know exactly what our student's needs. So, we can make them better and being success.

REFERENCE

Khalid T (1970). "Foundations of education ". Galgotia Publication New Delhi, p.2-50.

Mansoor N (2000). Guidelines to Teaching, Publication Cell Pakistan Educational Foundation, G-9 Markaz, Islamabad, p.14- 135.

Siddiqui M H (2005). Techniques of Classroom teaching, volume 1, APH Publishing corporation, offset printers, New Delhi-110002, p.1-54

<http://pascapbi3a.blogspot.com/2017/01/nonprojected-media-introduction.html>

