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CHAPTER II
INSTRUCTIONAL MEDIA

INTRODUCTION

Instructional media play a key role in the design and use of systematic instruction. A medium broadly conceived is any person, material or event that establishes conditions which enable the learner to acquire knowledge, skills, and attitudes. In this sense, the teacher, the text book, and the school environment are media. In this context media will be defined as "the graphic, photographic, electronic, or mechanical means for arresting, processing and reconstituting visual or verbal information.

According to Edgar Dale, "Teaching is a broad, vague, ill defined term and instruction is purposeful, orderly, controlled sequencing of experiences to reach a specified goal". All instruction involves teaching, but all teaching cannot be instruction.

INSTRUCTIONAL MEDIA

Every medium is a means to an end or to a goal. An orderly analysis of the instructional media spectrum includes a description of (1) the characteristics of each medium (eg.) motion, colour, etc. (2) the ways in which each medium can be presented (eg.) still pictures can be displayed on bulletin board, projected with a opaque projector, or copied photographically in a slide format for use in a slide projector (3) the ways in which each medium can be used effectively.

When considering the instructional media, we must distinguish between the materials and the equipment. Since, both are usually implied when media are discussed. The material itself can exist in several formats (eg.) a still picture, may be printed in a text book; it may appear in a film strip or on a slide; it may be transferred to an overhead transparency or placed on a bulletin board. The still picture is the material and the
A projector or a bulletin board is the equipment. The material and the equipment together constitute the medium.

The terms 'hardware' and 'software' have spread to the entire field of instructional media. Formally, these terms are originated with the computer manufacturers. Nowadays, in the field of media, any machine is referred to as 'hardware' and any material which is used on the machine as software. That is, the materials and equipment which store and/or transmit instructional stimuli or content constitute hardware. Examples: Motion pictures and motion picture projectors, overhead transparencies and overhead projectors, video tapes and video tape playback units with television receivers. The stimuli (content) which are stored and transmitted are software. Examples: the information and concepts in a motion picture are the software.

**PROPERTIES OF INSTRUCTIONAL MEDIA**

Good teachers have been using instructional media for centuries. As new inventions brought about technologies the educational community derives benefits from the new developments *viz.*, printing, recording, photography, cinematography, radio, television and the computer, all contributed to the vast array of resources now available to nearly every teacher.

The instructional media have three properties. These properties help to indicate why they are used and what they can accomplish that teachers alone cannot accomplish. These properties affect the ways in which each medium is used.

**a) The fixative property:** The fixative property permits the capture, preservation, and reconstitution of an object or event. The photographic film, audio tape, and videotape are raw materials for fixing these objects and events. Once the photographs are made or a
voice recorded, the information has been "saved" and is then available for reproduction at any time.

The object or events which have been "fixed" in some media format are available for use at any time. Events which occur only once in history can be recorded and reconstituted. The performance of an individual or group can be analysed and criticized by the individual or group after the performance and as often as necessary. Hence, the fixative property is important from the teacher's point of view.

b) Manipulation property: This permits the transformation of an object or events in many ways. The event can be speeded up as in the opening of a flower bud which is recorded by time-lapse photography with a motion picture camera or an event may be slowed down by replaying a motion picture film or video tape at slower speed than that at which it was recorded.

The advantages of the manipulative property of media is editing of real objects or events. The special motion picture effects such as time-lapse photography or high speed filming can show events that would otherwise be unavailable to the human eye. Complex details may be simplified by highlighting important components of an object.

c) The Distributive Property: "The distribution property permits us to transport an event through space, simultaneously presenting each of potentially millions of viewers with virtually identical experience of an event".

The advantages of the distributive property are as follows: once the information is recorded in any medium it is available for reproduction as often as necessary and in almost any location. It is available for simultaneous use in many locations or for repeated
use in one location. Once the information is recorded in any medium it can be used and reused and reproduction will be exactly the same as the original. The potential for the same content to be transmitted to different audience is enhanced.

MANAGEMENT OF INSTRUCTION

The instruction is used in the classroom setting. The instruction used for the classroom purposes should be well prepared. Here, we have to use the term classroom management, which is the process of planning, organizing, coordinating and evaluating the instruction. It is a systematic process in which the events are ordered over time.

(i) Planning instruction

Planning is the procedure which is very essential to present the effective instruction. The teaching strategies, the content, time duration etc. should be already planned. The method of presentation is also planned. In the time of teaching both expository and inquiry strategies are adopted. Expository strategies will be necessary to provide a context for the instruction which will occur later.

(ii) Organizing Instruction

The purpose of organizing is to increase efficiency in the process of instruction. The efficiency is accomplished by developing an appropriate sequence for presentation of information and programming relevant experiences. Organization requires some written plan or guide to follow. In every organization the lesson plan is the key point, which determines the type of charts to be used, arrangement for audio visual equipments and materials and preparation of the test to be administrated at the end of the segment of the unit. In the organization the communication channels play a vital role. The formal and nonformal channels must be used to send and receive information. Formal channels serve
well for making assignments, providing feedback on performance and for general announcements. Informal level channels tend to work better for increasing motivation.

(iii) Coordinating instruction

Coordinating or monitoring refers to the communication of the things that we have planned and organized. The things organized should be communicated to the students effectively and the outcome should be noted. The help of the media experts, specialist in field trips and support personnel may be used for this purpose.

Communication is a two-way process. i.e., we should speak (present) as well as listen. The environment which is open to send and receive the messages without threat should be maintained. This is difficult but essential to optimum learning. Monitoring refers to the regular assessment of the performance of individuals to insure that the program is moving in the desired direction. Monitoring involves both the learning which is taking place and the feeling of the pupils as they move through the instructional sequence. Some time the use of self evaluation helps the learners and teams to help each learner know where progress has been made and where the attention is needed. Coordination may also include gaining entry for team members or in other ways altering the people they will contact. Internally, coordination among subunits is necessary to ensure prompt, efficient delivery of services. Here again, routine operations such as circulating equipment and materials may require little attention once procedures are well established.

THE ROLE OF INSTRUCTIONAL MEDIA

Media are concerned with the form or mode into which the message is placed. The media used for the education purpose are known as educational media. For the systematic presentation of the instruction we use 'Instructional Media'.
The term instructional media includes a wide range of materials, equipment, and techniques; chalkboard, bulletin boards, filmstrips, slides, motion pictures, charts, maps, books and combination of these. Each of these materials and their associated techniques, equipments, have a unique set of physical characteristics that can be classified on the types of media. Some of the classified media to be discussed here are video, audio, slides and posters.

VIDEO MEDIA IN EDUCATION

Erickson and Curl (1972) suggested the following seven roles played by audio visual technology.

1. Extend human experience
2. Provide meaningful information
3. Stimulate interest
4. Guide student response
5. Overcome physical limitations
6. Stimulate problem limitations
7. Provide diagnostic and remedial tools

If video is to be effective, we can mention in addition to the above cited seven roles, three more roles as stated below.

1. Develop stored understanding
2. Increase commitment
3. Achieve outcomes

The different roles played by the audio visual technology are described as follows highlighting the benefits and implications of using video in particular.
1. Extending human experience

Some materials are not familiar to the learner. Some other materials relate to experiences which are unusable, time consuming, dangerous or unsafe founder go. The video should include all such human experiences and materials so as to increase the learners motivation. This extension of human experience should be combined with the learning objectives where ever possible.

In the context of creating AIDS awareness and AIDS education, the video leads to have stronger and more effective justification than providing entertainment values to the viewer. The video programmes should include sorrowful experiences of HIV patient. They should also include the narrative part of this patient, in which they recall how they caught infected by the HIV virus.

2. Providing meaningful information

The information passed on to the viewers by the video programmes can mean differentially to different persons. This depends upon ones outlook, perspective and level of understanding. The term meaningful information has more critical interpretation in AIDS education than it has in normal views. The target groups of viewers of these programmes are not of the same age, they do not have the same educational background; they belong to different strata in society. So the content of these programmes, their presentation and the compilation of information are very difficult to consult values and more difficult to present. This is a challenging team work and the creative brains in the team should device better ways of providing meaningful information to the heterogeneous group.
3. Stimulate interest

All kinds of media in general, the video medium in particular have engaging appeal for the viewers to stimulate an interest. The power of a medium becomes greater if it is able to sustain the interest of the listeners and the viewers in the topic it presents. Difficulty in following a video programme makes the viewers lose interest very quickly. Then, the programme context is not followed. If the presentation centres round a theme for a longer duration, then also the viewers lose interest in it. If any entertainment video programme makes the viewers at home bored, they can simply change the channel or switch off the T.V. But in a learning situation using video, sustained interest on the part of the learners is an obligatory element so that they become active participant in the teaching learning process.

The video programmes can stimulate interest by means of various camera and editing techniques and throw impressive dialogue and settings. Even though these programmes are designed for learning purposes, they need not be diadic. They should confirm to realism and the element of drama should be built even in a documentary video so as to stimulate interest in the viewers.

4. Guiding learner responses

Discussion and question answer modes help the instructor or material writer to be very effective guide of learner response. Interactive video and similar computer programmes can also be very effective in this regard.

Under learner or computer control, interactive video has advantage of being able to deliver interactive responses. The interactive video disc is perhaps identified with the computer multi media system. The present state of interactive videos are characterized by high viewer involvement with targeted audiences.
5. Overcoming physical limitations

The creditability of a learning programme increases when it is properly designed and well produced. If the confidence of the group or the individual viewer is achieved, the programme becomes a successful one.

The strength of the video programme is in its presentation of a concrete experience in a realistic manner. A carefully designed and produced programme can make the viewers learn concepts and operations which they cannot understand without the help of video media.

Some evidence or experiences are very complex or even dangerous. The viewers cannot think of performing or reducing themselves. These evidence and experiences can become easily learnable, if they are presented in video format.

6. Stimulating problem solving

The viewers progress from initiate enjoyment and partial understanding of the video's message through problem solving activity. Besides this, a concrete representation of the world around is provided by the video programmes.

The viewers should be able to break through the continuity of presentation and understand interrelationships and over all meaning. They should be able to appreciate a few selected shortest and also the programme in full form. By viewing a video programme alone, the viewers cannot develop a full comprehension of the message. There is every need for the accompaniment of discussion exercise, and problem solving task, all of which a long way in creating a depth of understanding. If a video programme is used properly, it can play an important role in motivating the viewers to think more deeply about the issue raised in the video programme.
7. Provide diagnostic and remedial tools

With the help of video, it is possible to provide effective simulations that can assist the learners and the instructor to diagnose difficulties or problems. By showing how events will unfold if certain contingencies occur, video can also give remedial help.

The effectiveness of the video presentation will be partly dependent on the video's utility to help the learners accept viewpoints and perspectives to make the sense of the audiovisual information. By making use of carefully constructed exercises and tasks in worksheets or workbooks accompanying the video materials, we can use the video to be maximally effective in diagnosis and remediation.

Video is a tool to be used within an overall strategy for achieving the learning objectives. Analysing the general issues with regard to the diagnosing and remedial purposes, video will be used to provide diagnosis to remedial learning.

8. Develop shared understanding

Video being a powerful means of developing better understanding within a group of learners, facilitates their understanding of the learning content. The development of shared understanding means that the learners have to meet together face-to-face on several occasions during the learning programme since much of the effect of the video depends upon the instructor's and group's ability to listen and share the individual ideas. The success of discussion about a video depends jointly on the skill of the instructor in simulating and conducting the session and upon the ability of the group to relate one another.

The sharing of individual ideas can be improved by dividing the discussion as follows:
i) creativity sessions, brainstorming, ideas sharing
ii) informal and formal presentations
iii) evaluation and
iv) planning future strategy and behaviour

The video can play a vital role in conveying the information and stimulating the learners into thinking and action. Hence, the development of shared understanding will be much useful in the context of effective learning.

9. Increase commitment

Learning from video has to be set in a longer term education and organizational context; otherwise its effects will decrease rapidly with time. If the role of the video is emphasized and reaffirmed towards the end of the session, then the learners appreciation of the video will be higher. The instructor should be aware of his position as a role model and this will often involve being seen to support and believe in the key messages that the video is trying to convey. The group may identify any lack of commitment and insincerity on the part of the instructor, if he goes contrary to his instructions.

The instructor should know how the video be set up, viewed and reviewed efficiently with no unnecessary delays during group discussions. The instructor should also devise strategies which enable small groups and individuals to interrogate and learn from the video during hands on use. The best techniques for learning from video are the responsibility of the people in the room; they control and decide how they will receive and process the message.

The level of difficulty of the video and associated learning exercises sets the degree of challenge that faces the learners and greatly influences motivation and
commitment. Any learning programmes first aims at raising the degree of knowledge and skills of the learners to a minimum level. Later it may enable them to perform and learn to their highest potential.

The degree of challenge in learning can be defined as the extent that individuals must improve on their existing level of knowledge and skill to reach up to and beyond the minimum level of achievement.

The video material should be assessed for the appropriateness to the target group. Before showing a video to a group the structure and content of the video must be considered. The level of difficulty of the video and its accompanying learning activities and tasks should be a central part of the instructor's discussion on how the use of the video can increase commitment.

10. Achieve outcomes

The instructor must be able to formulate the use of video that can assist the learners to achieve outcomes. The learner should be sufficiently informed of the outcomes of the video instruction. The instructor should be able to state how the learning activities are facilitated through use of the medium, and how outcomes will be achieved. The relationship between the use of video and the achievement of learning outcome is often not obvious, and this relationship needs to be made explicit.

AUDIO MEDIA

The audio media is considered as recording mode on magnetic tape, on disc, or on motion picture's sound tracks. These are reproduction of actual sound effects. Sounds are genuine and are presented in the sequence in which they actually happen unless the recording is edited. One of the most important type of audio recording is verbal material.
Audio recording may be used by individuals or played directly to an audience or over radio or central sound system. Most people can learn the basic skills needed to produce the audio materials. The skilled person is able to perform every function in audio writing, presenting, recording, editing. Audio is also accessible as far as listener is concerned. The finished product can be transferred to a cassette. Audio is relatively easy to produce so is relatively inexpensive, and an ideal medium for delivering the message to any one, any where. Audio involves just four components. Speech, sound effects, music, silence. The above components create mental pictures for the listener. One person with basic recording equipments and skills, can transport the listener into an unlimited number of situations, create different modes, take the listener any where in the world, and beyond. Audio is direct. It's delivered on a one to one basis. It reaches out to engage the interest of the listener. The listener can't put his mind in neutral and watch the petty pictures fed to him on a screen. He has to make his own, and that creates involvement. To make the audio programme well, the speaker must speak with confidence, fluency, and clarity and with enthusiasm. The script must be crisp, concise, and conversational with flair and imagination.

Audio can be used in so many ways. For direct teaching, using a recording of an expert's lecture.

For providing support materials to individual students, such as recording of language students and their tutor.

As acoustic wall paper for giving a broad view of a subject.

As a complete package of structural learning, using all our techniques to help the learning process. It can also be used as pure audio resource supplying sound effects.
The students can also listen the audio package in so many places not only in the classrooms. The students can also stop the audio tap whenever he wants. He may want to retape on a particular point or forward the tape to appropriate points. By timing various points on the tape or noting the counter number, this can be done with ease. Sometimes the students fail to understand the point when first heard. Their ability to play a tape is of prime importance in the use of audio learning materials.

The audio materials give the clear acoustics. Many teachers/lecturers/instructors have little idea of using their voices properly when speaking to the audience. With audio the listener has the opportunity to hear the message clearly put on a one to one basis, and easy to listen. The presenter plays an important role in the audio. He can also call upon the other voice, dramatisation, interviews, sound effects, and music to illustrate the materials. All this make the listener to concentrate on and understand the facts being presented.

**Writing script to the audio**

Writing the script to the audio materials, the presenter should think two key points 1) before writing, 2) writing for audio.

**Before writing**

**Target audience**

Starting to prepare the audio package must be aimed at fixing the target audience to put the message across in the form of an audio package so that the message will enter the listener brain and memory via his ears. The presenter must write down all the points which need to be made.
Running order

Every audio package has running order, "beginning", a middle, and an end. The message must be put across in a logical way.

Writing for audio

The audio differs in many ways from writing essays, reports, or articles for written pages.

The presenter should adopt an intimate and personal style. The presenter must speak with the script. The script must be abbreviated. Scripting for audio enables the presenter to be perfectly conversational. The audio script should be conversational at its best. A good presenter will make use of most things by use of expression or pauses, but he may have to read the script several times to make sense of it. If the script is not good, the listener will soon lose interest in learning.

Language

There is no merit in using obscure and complicated words or jargons when simple, direct speech will suffice. The audio script must be easy to read. It must be easy to follow. There is a room for the presenter to make minor changes to suit his style. Leave enough space between each word and in between each line. Double spacing is the minimum between the lines. Layout the script to make it as easy as possible for the person who is going to present it. Put separate section on separate sheets so any shuffling of paper is easy to edit out and so the presenter can scan the section page by page to get a feel of the overall meaning. When the audio script is ready, the script must be read loud, exactly. The audio material never come across as full or boring. Fortunately audio lends itself making even the driest subject come alive. The writer for audio has a number of device which can call on to gain and maintain the listener's interest.
Interviews can add dimension to any audio feature. The interview can be done in the studio or at the relevant outside venue. It can feature an expert or an employee or a member of public.

Sound effects and music are important. These used in variety of ways from starting to finishing of each section of the package. This can be used to our own right which is relevant. The problem is to know exactly how, when and where to use them. Over using of sound effects and music will lead to a number of problems. They should be used to complement and enhance the materials. If the sound effects are unsuitable, it will have a damaging effects on the listeners. Inevitably the listener is half listening to the words of songs and half listening to the presenter.

**Audio presentation**: In the audio presentation, we have to bear four points in mind. They are 1) PACE, 2) PITCH, 3) PAUSE, 4) BREATHING

**Pace**: In the audio work the listener can only hear the presenter. He has to speak slightly slower and more clearly. It means moving his mouth slightly more and ensuring that every word is clear. The audio presenter imagines that the listener is four to six feet away from him and project his voice accordingly. It's like speaking to someone across a large dining table.

**Pitch**: Most of the people use less than fifty per cent of their voice. The voice is stuck in a very narrow band and sounds dull. The good presenter is one who speaks in tune, has hundreds of different notes in his range and use them all at right time. The good presenter is easy to listen to.
Pause: Pause is an essential part of good speech. In the audio presentation, the presenter is frightened of leaving any pause. He rushes because he is nervous. The pause can be useful in the following ways:
- It gives time to take a breadth
- It gives time to scan the script
- It gives more time to think
- It allows the presenter change pace and mood

Breathing: In the audio presentation work, breathing must be a problem. Good speech, like good singing, depends on good breathing. At the time of presentation, the presenter should take a good deep breath. Whenever he needs breadth, he should stop and take one. Marking in the script will help the presenter to know where he can pause for breath without losing the meaning.

Writing links: Links are the bits of script that make the transition from one area of the subject to another. Links are important as any other part of the audio package.

Time: The time is important in the audio package. Maximum of two, five or ten minutes will govern the way in which the writer approaches the exercise.

SLIDES
Slide is a film transparency contained in a frame or mount. There are several slides format, but by far the most common is the two inches by two inches slide. Slides are used with either a slide project or a viewer.

Slides are a versatile medium. It is to arrange and rearrange them to meet variety of instructional needs. Slides can be projected without total room darkening; or they can
be viewed without any room darkening whatsoever by an individual using a slide viewer. Slides and cassette tape is a very popular combination. The teachers find the slide/tape medium useful and easy to produce locally.

**Advantage of slides**

The advantages of the slides are as follows:

- The sequence of slides can be altered to meet scientific needs.
- Slides are easily made without much expense.
- The larger image area of slides permits a better picture and more detail than a film strip does.
- Many people have owned slide collections and local materials are freely available.
- Slides are easy to store in trays.
- Pictures can be held on the screen for class discussion as long as they are needed.

**Limitations of slides**

The limitations of the slides are as follows:

- Because the sequence is not fixed, slides may become disordered, particularly if the students use them for independent study.
- Projection equipment can be relatively expensive. Two or more adequate film strip projectors often can be purchased for the cost of one slide projector.
- Compared with film strips, commercial sound/slides instructional programmes are quite expensive and the selection is much more limited.

**POSTERS**

Posters have existed in primitive form almost since the invention of movable type printing. The modern poster was born in 1867 in Paris, when Jules Cheret, the first of the great modern poster artists was commissioned by Sarah Bernard to prepare a poster
announcing her appearance in the play Le Biche Au Bios. The use of color, design, and bold lettering was superb, and the poster strated a new trend in graphic communication. Its role is to implant very quickly in viewer's mind, or to make him recall, a single important idea. The poster must have strong eye appeal if it is to attract attention and have enough holding power to put its message across. The poster is therefore defined as a "Visual combination of bold design, color, and message which is intended to catch and hold the attention of the passer by long enough to implant or to reinforce a significant idea in his mind".

Characteristics of posters

Good posters must have a dynamic, impelling quality. They must be essentially simple, for there is no time to involve the viewer in detailed study.

Dramatic simplicity

The poster must stand out sharply. These features may be a photography, a drawing, or striking design. The piercing eyes and pointing forefinger seem to follow and to hold the observer from any angle. The drawing is vivid and striking enough to reach out and command attention, and the eye travels quickly from the drawing to the printed message below it.

Self-contained message

Having caught the viewer's attention, the message must be transmitted clearly and quickly. This is usually achieved by combining the illustrative picture with a brief text printed in bold type. The meaning must be clear and succinct and able to be grasped at a glance.
Attractiveness

Effective posters are usually pleasing to the eye. All posters must embody good design, good lettering, and attractive color. The other type of posters such as used in schools need to be attractive in order to be appropriate. The attractive poster is inherently pleasing which will result in effective communication.

Design and colour

Good composition, colour and techniques are the principal element in preparing effective posters. Each medium has certain unique characteristics. So does it have certain unique design and colour requirements.

Like a photographic or painting, a good poster requires a centre of interest. But in a poster, this centre must be particularly strong and commanding. For this reason, subtlety is usually avoided in favour of unmistakable contrast and emphasis.

Colour provides meaning and expression as well as beauty in a good painting. It provides force and contrast as well as attractiveness in good poster. Although both are essential, these use of colour are not the same. Other posters use a complete photographic background for their principal theme or even a combination of scenes. In such instances the photographic background is normally subdued so that the message carried by the poster will stand out clearly.

Suggested use of posters

The first uses may be called "motivational" or "Stimulative". The good poster can be used effectively in arousing curiosity and interest.
Reminders

A poster may also be used as a reminder or to create awareness of a subject. It is to remember that the remarkable ability of human mind to become accustomed and adopted to its surroundings. Like bulletin board which is seldom changed, the poster that is seen too often trends to become simply a part of the environment.

Atmosphere

The poster may continue to be valuable after its initial impact has passed. This may be called the "atmosphere" or "environmental" use. Good posters as well as pictures, paintings, and exhibits assist in creating a atmosphere or feeling. Attractive poster materials enhance this atmosphere, particularly if they are artistic.

CONCLUSION

Instructional materials often require some introduction by the user to the learners. The introduction should be in such a way that the learners' attention can be directed to the essential points of the materials which will also include extensive motivation to increase learners' participation in the teaching learning process. It is to understand that mildly increasing learner anxiety about the fourth coming presentation will also result in increased participation of the learner in the teaching-learning process. Some media materials are designed in such a way as to provide information needed by the user. Such information may provide additional reinforcement and examples tailored to the learning situation. It is the duty of the media user to evaluate both the instructional materials and the learners so as to determine what is required.