

AUDIO- VISUAL AIDS IN TEACHING- LEARNING PROCESS OF HEALTH SCIENCE STUDENTS AND PROFESSIONALS

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ABSTRACT

Essence and necessity to make the teaching-learning process more innovative, scientific and students' centred have become main aim and objective of present day education system. A large number of methods are being used in teaching-learning process. The audio visual aids are being increasingly used since these involve both audio (verbal) as well as visual way of teaching. Several researches have been proved that the ability to recall is high with teaching using audio visual aids. Selection of appropriate media of teaching is one of the smart and important steps of teaching students of different levels and domains. Several media of audio visual aids are being practisized such as overhead projector (OHP), power point presentation (PPT), white or black board teaching and flip charts etc. These media have merits as well as demerits. There are key techniques to make them more effective. The audio visual aids help in consolidation of long term memories of learnt information. Logical use of different types of media simultaneously during teaching can be more beneficial for the learners in many ways.

KEYWORDS: Audio-visual aids; Media; Teaching method; PPT; OHP; Brain storming

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INTRODUCTION

There are different methods for teaching health science students and professionals. Out of them audio-visual aids are being used increasingly and widely to make the teaching learning process effective, interesting and impactable. Visual aid is anything which either helps the students to see better using diagrams or pictures to explain an idea. Media are the teaching aids by which knowledge, information and ideas are communicated^{1,2}. There are 3 different types of media which are used in teaching learning process, viz.

1. Visual materials: slides, overhead projectors, epidiascope, chalk boards, maps, models, posters, photographs etc.
2. Audio-visuals: television, video tape, computer, films etc.
3. Audio materials: radio, tape, language laboratory, sound distribution system sets etc.

Of these media, audio visuals aids are being used increasingly and widely to make the teaching learning process effective, interesting and impactful. Audio visual aids are instructional materials. Audio literally means 'hearing' and visual means that which is found by seeing. So, all such aids which endeavor to make the knowledge clear to us though our sense are called audio visual aids^{1,2,3,4}.

Specialties of using audio-visual aids^{5,6}

Audio-visual aids help to:

- a) Draw attention of the participants
- b) Secure interest in the information being discussed
- c) Transmit information quickly and efficiently to large number of people
- d) Explain facts, ideas and processes more clearly, illustratively and elaborately
- e) Facilitate the learnt information to be retained as memory
- f) Present information systemically in an organized way
- g) Enhance the confidence level and enthusiasm of the presenter

Table: Learning recall based on different type of presentation^{3,6}

Type of presentation	Ability to recall	
	After 3hrs	After 3 days
Verbal lecture	25%	10-20%
Written	72%	10%
Visual and verbal	80%	65%
Participatory	90%	70%

The above table shows that the visual and verbal i.e. audio visual and participatory method of teaching are associated with better recall ability in the participants. The audio visual along with participatory methods of teaching, therefore, would have the best outcome out of all other methods.

Criteria of selecting appropriate media of teaching⁷

As mentioned earlier, there are many media of audio visual aids but the presenter or teacher has to select those, whichever support the presentation well. So, before selection of media one should take the following points into consideration.

- a) Feasibility of the media
- b) Nature of the audience
- c) Accessibility of the materials
- d) Audience attitude and belief about media and method.

DESCRIPTIONS

Commonly used media of audio visual aids are described here under

A. OVERHEAD PROJECTOR (OHP) AND TRANSPARENCY^{2,3,6}

The OHP is an electrically operated instrument used for projecting written information or drawn images onto a screen. It is one of the most commonly used versatile types of audio-visual aids. Transparency is a plastic or acetate sheet whereon information can be written with CD marker pens of the different colors.

Designing of transparency sheet

To make transparency sheet attractive and knowledge worthy, the following key points should be followed:

- a) Letter size 5 mm to 1cm
- b) Margins 3 cm both side
- c) Line spacing twice of the height of the letter size
- d) Lines per sheet 6 to 15
- e) Colors bright and contrasting
- f) Organization of the information each transparency would have one main idea
- g) Better to apply "the rule of 6" i. e. 6 lines per transparency, 6 words per line, and 6 mm size for smallest letter.

Handling and use of OHP

- a) Prepare the transparency sheet and check for working conditions of OHP
- b) Position the OHP and screen properly
- c) Focus the image on the screen after keeping the transparency sheet on the OHP
- d) Stand on the side of OHP
- e) Use pointer or pencil on transparency to focus attention on a specific information

Advantages

- a) Simple and comfortable to use
- b) Transparency can be prepared easily and quickly
- c) Transparency can be used repeatedly

D. FLIP CHARTS

The flip chart is one of the simplest and most reliable tools of teaching. Especially, during participatory activities as well as training session use of flip chart is effective way of boosting up visual impact in participants. Different diagrams, photograph, charts and graphs can be used as flip charts^{6,12,13}.

Advantages

- a) Portable, easy and convenient to use and store
- b) Excellent way to record trainees and/or trainer's suggestions, ideas and opinion
- c) Key point of presentation can be displayed
- d) Results of group discussion can be captured on the chart to summarize the discussion

Disadvantages

- a) Flip chart can accommodate only limited information, for lecture it is not only sufficient enough
- b) Information on flip chart may not be well visible to large groups
- c) Corrections, if required, are difficult to make

Tips of using flip chart effectively

1. Use appropriate and good diagrams, photographs and graphs
2. Place the flip chart on board or wall properly so that it will be visible to all
3. Use different colors to make the information attractive and clear
4. Size of the letter should be at least 2 cm.

CONCLUSION AND RECOMMENDATION

The main aim and objective of teaching students and health professionals, as such, can be achieved only when the appropriate methods of teaching-learning process will be used. The audio visual aids help consolidation of information into long term memories. During teaching learning process, the use of different media help in perception of visual, auditory and other sensory as well as motor information, and utilizing different parts of brain to consolidate these information into long term memory. Furthermore, the participatory activities like role play, case study etc. and microteaching involve different area of memory centers, so that the perceived memories can be transformed into long term memories by repeated rehearsals.

It is, therefore, recommended to use different methods of teaching simultaneously so that students/participants can understand better. For example during lecture, use of PPT and board teaching to explain complex matter of PPT, meanwhile involving students in brain storming activities would be highly affective and fruitful rather than use of any single medium.

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- d) It covers large group of audiences
- e) Constant eye contact with the audiences can be maintained
- f) It can attract proper attention of the audiences

Disadvantages

- a) Information from the printed pages cannot be projected
- b) Adequate electric voltage is required for proper visualization
- c) Transparency sheet and marker pen may be expensive

B. POWERPOINT PRESENTATION (PPT)^{6,8,9}

The PPT presentation is the most widely used method of teaching students as well as conducting seminars, workshop and conferences in recent years. The presenter should have only basic knowledge of computer in order to prepare PPT. It can be made attractive with proper animation, downloaded photographs, graphs, tables and videos.

Tips and suggestions to make PPT effective

1. Know your topic : first of all do the research to know your topic better
2. Use key phrases about your topic: try to include one of the most important information as key phrases.
3. Avoid using too much text on slide: 8 to 10 lines per slide is ideal for presentation write in bullet point form on the slide.
4. Limit the number of slide: Limit the number of slides so that during presentation the presenter could get enough times to describe the key phrases in detail.
5. Lay out the slide properly: Make your slide easy to follow. Put the title on the top and phrases with bullets.
6. Avoid fancy fonts: Chose a font that is simple and easy to be read such as 'Arial' or 'Verdana'. Better to use two fonts one for heading and another for content.
7. Use contrasting color for text and background: The Combination of dark text on a light background offers the most visibility. Keep your color scheme consistent throughout the presentation.
8. Try a slide design template to keep the look consistent: When you use a design template, choose one that will not distract the presentation.
9. Use animation and transition sparingly: Apply appropriate animation to make matter easier to understand but not for entertainment.
10. Use high quality graphics and photographs to make PPT attractive.
11. Use appropriate charts, diagram and other materials to mate the presentation illustrative and effective.

Advantages

- a) Easy to create colorful, attractive design using standard templates and themes
- b) Easy to modify whenever required, compared to other

visual aids.

- c) Easy to present and maintain eye contact with large audience by simply advancing the slide key stroke.
- d) Low cost, assuming projection facilities are available.

Disadvantages

- a) Basic equipments like computer and projector are required for presentation
- b) Need of electricity
- c) Linear nature of power point slides sometime forces the presenter to reduce complex subject to set a bullet items which are to weak to support decision making or show the complexity of an issue.
- d) Lack of interactivity: Teacher most of the time do not interact with the media which promote passive learning.
- e) Feature abundance: More animation, too many flying letters, sound effect etc. distract attention of audiences if not utilized properly.

C. BLACK BOARD OR WHITE BOARD TEACHING^{6,11}

Black board or white board is powerful educational tools but making good use of them is much more complicated than merely writing on them. It can be used more effectively for discussing brain storming session and note taking rather than taking lecture.

Advantages

- a) Easily available
- b) Easy to use
- c) Less expensive
- d) Excellent use for participatory activities like brain storming, problem solving, making list etc.

Disadvantages

- a) Making always eye contact to the spectators is not possible
- b) Talking and writing at the same time is quite difficult
- c) Time consuming
- d) Difficult to hold adequate amount of materials in stipulated duration
- e) Messy and blurred hand writing may create problem for participants.

Tips to make black or white board teaching effective

1. Writing board should be clean and clear
2. Use contrast color chalks or board markers to make information more visible
3. Underline the heading to emphasize
4. Letters should be large enough and clear
5. Prepare complex drawing in advance
6. Face the class: don't stand with your back to the class, doing this is an opportunity for them to tune out and start talking
7. Provide time for participants to take down the important information in order to make the session attentive