



# STUDENT'S VIEWS ON AUDIO VISUAL AIDS USED DURING DIDACTIC LECTURES IN A MEDICAL COLLEGE

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## ABSTRACT

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*"Lectures based on  
use of combination of  
teaching tools are  
more appreciated by  
students"*

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**Introduction:** Medical teachers have conventionally been using different teaching methods to educate medical students previously dominated by blackboard and slide projectors. Now day's audiovisual aids such as power point have been used. The optimum use of audiovisual aids is essential for deriving their benefits. This study was done to know the students' preference regarding the various audiovisual aids, with an aim to improve their use in didactic lectures.

**Material & Methods:** Two hundred and eighty six from first, second and third professional medical students were invited to participate in a questionnaire based study. Two hundred and thirteen (74.4%) students completed the questionnaire and their responses were analyzed. The first part of the questionnaire included demographic and educational details. The second part consisted of 12 statements regarding the preference of audiovisual aids for various aspects of learning.

**Results:** In this study, 90.1% of the respondents (first, second & third professional) were stimulated for further reading if they attended a lecture which was augmented by the use of visual aids.

The respondents preferred a combination of audiovisual aids during a didactic lecture. The perception of diagrams, flow charts and note taking was best accepted with a power point presentation by first and second professional students, whereas OHP preferred by third professional students. In understanding a particular topic, a combination of aids scored over the use of a particular visual aid alone. In listening and understanding a particular topic, power point presentation was the most preferred aid, with the blackboard being preferred by third professional students. About 62.4% of the respondents were interested in taking notes during class compare to handouts.

**Conclusion:** Our study demonstrates that lectures delivered by using a combination of audio visual aids are more appreciated by the students. Furthermore, the lecture should be constructed in a fashion so as to enable the students to gather factual information easily and in a concise manner. Teachers should note that the students preferred a combination of visual aids and were interested in taking notes during lectures.

**Key Words:** Audio-visual, Lecture, Medical Students

## INTRODUCTION

Traditionally, formal lecturing of a subject has been the presentation of a large 'bolus' of knowledge, swallowed and often only partially digested during the year of study. This formal instruction has often been in the form of a didactic, or authoritarian lecture. They may be interrupted by questions and perhaps even some discussion, but usually they are a one way delivery of information. They are powerful techniques for getting across a large amount of theoretical information and are especially useful when a large number of learners must be taught at one time. The other strength of lectures is the ability to support a complementary study of books or other material, by amplifying or explaining key points. Thus, a well-organized lecture remains one of the most effective ways to integrate and organize information from multiple sources on complex topics<sup>1</sup>.

Medical teachers are being used to educate medical students by different audio visual aids by emphasizing key points on a black board or white board, the projection of written or printed matter on transparencies via an overhead projector (OHP) or increasingly nowadays via a computer based system, notably Microsoft power point application and of course, the distribution of preprinted support material and handouts. Although the maximum benefit of visual aids is obtained only in conjunction with a well-structured lecture, comparison of the recall of visually and verbally presented lecture information has shown a clear superiority of visual information over verbal information for both immediate and long term recall<sup>2</sup>. Students favour teaching methods employing audiovisual aids over didactic lectures without using these aids<sup>3</sup>. However, the optimum use of audiovisual aids is essential for deriving their benefits<sup>4</sup>.

This study was done to know the students preference regarding the use of various audiovisual

aids, with an aim to improve their use in didactic lectures.

## MATERIALS AND METHODS

The study was carried out among the undergraduate (UG) medical students of first professional, second professional and third professional at Narayan Medical College, Jamuhar, during the month of December 2012, after the approval of the study from institutional ethics committee. The students of all professionals belong to India in which 68.5% from Bihar state. The students were asked to complete a questionnaire consisting of two parts. The first part collected demographic and other relevant information about the student respondents. The gender and nationality of the respondents were noted. The information as to whether the student had studied in a government/private school and medium of instruction at the school were recorded. The questionnaire used in the study is shown in the Appendix. The second part of the questionnaire consisted of 12 statements regarding audio visual aids. The students were asked to answer legibly and to encircle the appropriate answers wherever required. No personal identifying information will be obtained. The students were informed that their participation in the study voluntary. The questionnaire used in this study, based on the previous study<sup>5</sup>. The data was analyzed by using Microsoft Excel work sheet.

## RESULTS

In first professional 85 students (51 male & 34 female) , second professional 74 students (46 male & 28 female) and third professional 54 students (32 male & 22 female) were participated in the study.

Seventy five percent participants (first, second & third professional) had their schooling in English medium and the visual aid predominantly used in the schools, was a blackboard (64.2%). In our study

the respondents preferred a combination of audiovisual aids during a didactic lecture (Table.1, Table.2, Table.3). The perception of diagrams, flow charts and note taking was best accepted with a power point presentation by first and second professional students (Table.1, Table.2)., whereas OHP preferred by third professional students (Table.3). In understanding a particular topic, a combination of aids scored over the use of a particular visual aid alone (Table.1, Table.2, Table.3). In listening and understanding a particular topic, power point presentation (Table.1, Table.2) was the most preferred aid, with the black board being preferred by third professional students (Table.3). For a full description of the individual statements, kindly refer to the questionnaire in the appendix. 90.1% of the respondents (first, second & third professional) were stimulated for further reading if they attended a lecture which was augmented by the use of visual aids. About 62.4% of the respondents were interested in taking notes during class compare to handouts.

## DISCUSSIONS

There are different subjects ranging from basics like anatomy, physiology, biochemistry to paramedical subjects like pharmacology, pathology, forensic medicine, microbiology, community medicine to clinical subjects like ophthalmology, ENT, medicine, surgery, obstetrics and gynecology, pediatrics, orthopedics and psychiatry etc. taught during UG medical students in India<sup>6</sup>. The training program in UG teaching uses a judicious mixture of didactic lectures with audio visual aids and problems based learning methods, clinical teaching and practical experiments<sup>5</sup>. Questionnaires are being used commonly as a tool to evaluate the various aspects of teaching and learning among the students<sup>7</sup>. In this study, the questionnaire was distributed to study the students' opinion on the audio visual aids used during didactic lectures in a medical college.

Ninety percent (n=213) of the respondents (first, second & third professional) were stimulated for further reading if they attended a lecture which was augmented by the use of visual aids.. The students expressed the view that in such lectures, the elucidation of the concept was absolutely clear and that they were inspired for further in- depth reading.

The major limitation of lectures is that the listener passively receives the material and feels bored and sleepy. There are various techniques by which lectures can be made effective. One of them is the use of visual aids which should be clear and understandable<sup>8</sup>. In our study, the students showed a preference for the use of a combination of visual aids during the didactic lectures. The reasons given by them were that, the use of black board along with power point presentations made the students active participants. Certain concepts and diagrams were better perceived by using power point presentations.

Our study supported the use of power point presentations for a better perception of diagrams and flowcharts and was also helpful in taking notes. Students opined that in lectures using power point presentations, they did not miss any points which were related to the topic under discussion. They gave suggestions to improve the power point presentations by the use of more flow charts, diagrams, concise notes with necessary text and animation and wherever required, supplemented with narration carried out by the lecturer. Thus, there is scope to improve the power point presentations than it is used today. The problem lies, not with the power point presentations, but with how we make use of it<sup>4</sup>.

The perception of diagrams, flow charts and note taking was best accepted with a power point presentation by first and second professional students whereas OHP preferred by third professional students. While using an OHP, it is

Table 1. Students preference of visual aids for various aspects of learning of first professional

<b>Comments</b>	<b>Blackboard % (n)</b>	<b>OHP % (n)</b>	<b>Power point % (n)</b>	<b>Combination of aids % (n)</b>
Visual aid during didactic lectures.	2.3 (2)	10.5 (9)	28.2 (24)	58.8 (50)
Better perception of diagrams	12.9 (11)	23.5 (20)	47 (40)	16.4 (14)
Better perception of flow chart's	4.7 (4)	20 (17)	63.5 (54)	11.7 (10)
Understanding of topics is best with	17.6 (15)	9.4 (8)	31.7 (27)	41.1 (35)
Best aid for taking notes	5.8 (5)	10.5 (9)	50.5 (43)	32.9 (28)
Best aid for Listening & understanding	24.7 (21)	14.1 (12)	34.1 (29)	27 (23)

Table 2. Students preference of visual aids for various aspects of learning of second professional

<b>Comments</b>	<b>Blackboard % (n)</b>	<b>OHP % (n)</b>	<b>Power point % (n)</b>	<b>Combination of aids % (n)</b>
Visual aid during didactic lectures.	12.1 (9)	8.1 (6)	25.6 (19)	54.0 (40)
Better perception of diagrams	5.4 (4)	9.4 (7)	48.6 (36)	36.4 (27)
Better perception of flow chart's	5.4 (4)	6.7 (5)	67.5 (50)	20.2 (15)
Understanding of topics is best with	22.9 (17)	0 (0)	37.8 (28)	39.1 (29)
Best aid for taking notes	13.5 (10)	5.4 (4)	41.8 (31)	39.1 (29)
Best aid for Listening & understanding	28.3 (21)	1.3 (1)	41.1 (31)	28.3 (21)

Table 3. Students preference of visual aids for various aspects of learning of third professional

<b>Comments</b>	<b>Blackboard % (n)</b>	<b>OHP % (n)</b>	<b>Power point % (n)</b>	<b>Combination of aids % (n)</b>
Visual aid during didactic lectures.	35.1 (19)	5.5 (3)	12.9 (7)	46.2 (25)
Better perception of diagrams	25.9 (14)	29.6 (16)	22.2 (12)	22.2 (12)
Better perception of flow chart's	29.6 (16)	42.5 (23)	16.6 (9)	11.1 (6)
Understanding of topics is best with	18.5 (10)	5.5 (3)	1.8 (1)	74 (40)
Best aid for taking notes	33.3 (18)	27.7 (15)	11.1 (6)	27.7 (15)
Best aid for Listening & understanding	53.7 (29)	14.8 (8)	14.8 (8)	16.6 (9)

easy to put much information on one page/slide. Students gave the feedback that in lectures by using an OHP, good illumination is needed for proper visualization and the use of different colors on the plastic transparency sheet and depiction of the main points with good hand writing is beneficial in the elucidation of the topic under discussion. If we can use proper tips and rules, the OHP presentation can become more effective<sup>9</sup>. The students are eye to eye contacts with teachers, made more active participants during black-board

It motivates an interest in learning and helps in holding attention in the class<sup>10</sup>. This study revealed that the understanding of topics is best possible with a combination of audio visual aids (including a blackboard/whiteboard), while the second best option was power point presentations. It was found that when the students did not prefer to take notes during lectures, but were only interested in listening and understanding a particular topic, power point presentations preferred, whereas third professional students preferred blackboard.

## CONCLUSIONS

Our study demonstrated that lecture delivered by using a combination of audio visual aids was more appreciated by the students. Furthermore, teachers should note that the lecture should be constructed in a fashion to enable the students to gather factual information easily and in a concise manner and the students were able to make a notes from combination of visual aids of the black board and power point presentations. We plan to implement feasible student suggestions for further improving the use of audiovisual aids during didactic lectures in our institution.

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### Appendix

#### Student feedback on audio visual aids used during didactic lectures – a Questionnaire based study

This questionnaire is designed to help us understand your preferences regarding the various audiovisuals aids used in lecture classes. Participation depends on your willingness. No personal information should be written on the paper (name, registration number).

Please answer legibly and encircle the appropriate answers wherever required. Wherever answer is combination of aid ,specify it .

Questions

- Country:
- State:
- Gender:
- Medium of instruction at school:
- Govt. school/ Private school:
- Visual aids used in school  
A. Black board B. Over head projector C. Power point D. Combination of aids
- Which visual aid will you prefer for use during didactic lectures?  
A. Black board B. Over head projector C. Power point D. combination of aids  
Give reasons -----
- Media preferred for better perception of diagrams  
A. Black board B. Over head projector C. Power point D. Combination of aids
- Flow charts are better perceived while using  
A. Black board B. Over head projector C. Power point D. Combination of aids
- Understanding of topics is best with  
A. Black board B. Over head projector C. Power point D. Combination of aids  
Give reasons -----
- Are you interested in making notes during class?  
A. Yes B. No
- If yes, which teaching method do you find is the best for taking notes?  
A. Black board B. Over head projector C. Power point D. combination of aids
- If you do not prefer to take notes, which method do you find best for listening and understanding?  
A. Black board B. Over head projector C. Power point D. Combination of aids
- Which methods stimulate further reading?  
A. only listening to lecture B. listening with visual aids
- Do you prefer?  
A. Hand outs B. Notes taken by you during the lectures
- Mention THREE important ways in which you think the use of OHP as a visual aid can be improved:
- Mention THREE important ways in which you think the use of LCD projector as a visual aid can be improved