

Research Article

Medical student's perceptions of different teaching aids from a tertiary care teaching institution

Inderjit Singh Bagga¹, Vipin Goyal², Abhishek Singh^{3*}, Hitesh Chawla⁴,
Shewtank Goel⁵, Pooja Goyal⁶

¹Department of Forensic Medicine, FH Medical College, NH-2, Tundla, Uttar Pradesh, India

²Department of Chest and TB, ³Department of Community Medicine, ⁴Department of Forensic Medicine, SHKM Government Medical College, Mewat, Haryana, India

⁵Department of Microbiology, Teerthanker Mahaveer Medical College and Research Centre, Moradabad, Uttar Pradesh, India

⁶Department of Community Medicine, ESIC Medical College, Faridabad, Haryana, India

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*Correspondence:

Dr. Abhishek Singh,

E-mail: abhishekparleg@gmail.com

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ABSTRACT

Background: In recent years there has been increasing interest and growing concern regarding the role of learning environment in undergraduate medical education. Student's feedback can play vital role in this regard. Aim of the study was conducted to access student's perception of different teaching aids in a medical college, with an aim to improve their use in didactic lectures.

Methods: In this cross-sectional study, all the medical undergraduate students currently studying in the second year were included in this study. A self-administered questionnaire served as study tool. The study population consisted of undergraduate medical students (MBBS) who were currently posted in the Department of Forensic Medicine for theory and practical classes. Questionnaire was handed out to 86 students. The inventory consisted of 25 items and each item scored on a five-point likert scale.

Results: Out of 86, 80 returned the completely filled questionnaires. 62 (77.5%) out of 80 had their schooling in English medium and the visual aid predominantly used in the schools. Study subjects preferred a combination of audio-visual aids during a didactic lecture. Blackboard teaching was preferred in the following areas: Facilitated interaction between student and teacher, Aroused interest in learning, Helped to hold attention in class, More helpful to grasp the content, Better able to cope with teaching speed of teacher, More useful in small group, Increased ability to think and understand.

Conclusions: Student's preferences and feedback need to be taken into consideration when using multimedia modalities to present lectures to students. Feasible student suggestions must be implemented for further improving the use of audio-visual aids during didactic lectures to make teaching learning environment better.

Keywords: Student, Perception, Feedback, Teaching aids, Medical college

INTRODUCTION

In recent years there has been increasing interest and growing concern regarding the role of learning

environment in undergraduate medical education. Student's feedback can play vital role in this regard. A well-organized lecture still remains an effective way to integrate and organize information from multiple sources

on complex topics.¹ Traditionally, formal lecturing of a subject has been the presentation of a large 'bolus' of knowledge in the form of a didactic, or authoritarian lecture.² Medical teachers have conventionally been using different teaching methods to educate medical students by black-board and slide projectors.

More recently audiovisual aids such as videotapes and multimedia have been introduced.³ Benefits of visual aids is attained in combination with a 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.⁶

Students favor teaching methods employing audiovisual aids over didactic lectures without using these aids.⁷ However, the optimum use of audiovisual aids is essential for deriving their benefits.⁸

On the other hand, didactic lecture may be interrupted by questions and some discussion, but usually they are a one-way delivery of information. Critics of multimedia feel that it is pricey, too time consuming, and isn't worth the time and effort.⁴

A learner's learning style is usually resistant to change.⁵ Hence it is likely that mismatches exist between the learning styles of medical students and the teaching styles of medical teachers.

Therefore this study was planned with an objective to access student's perception of different teaching aids in a medical college, with an aim to improve their use in didactic lectures. This is the first time a study of this kind is being undertaken in the college.

METHODS

The present study was planned and executed by the Department of Forensic Medicine in collaboration and consultation with the Medical Education Department of a tertiary care teaching institution of northern India. In this cross-sectional study, all the medical undergraduate students currently studying in the second year were included in this study. A self-administered questionnaire served as study tool.

The study population consisted of undergraduate medical students (MBBS) who were currently posted in the Department of Forensic Medicine for theory and practical classes.

These undergraduate students attended classroom lectures by different teachers using blackboard, transparency, 35-mm slides and multimedia (computer) teaching modalities.

Those students who could not be retrieved even after the third visit to classes were excluded from the study.

Students were explained about the nature and purpose of study and requested to fill the questionnaires which were distributed by authors in the classrooms just after the completion of classes. The students were informed that their participation in the study voluntary. Anonymity of the students was maintained. The study adhered to the tenets of the Declaration of Helsinki for research in humans.

Informed consent was obtained. Ethical committee approved the study. The inventory consisted of 25 items and each item scored on a five-point likert scale.

All the questionnaires were manually checked and edited for completeness and were then coded for computer entry. After compilation of collected data, analysis was done using Statistical Package for Social Sciences (SPSS), version 20 (IBM, Chicago, USA). The results were expressed using appropriate statistical methods.

RESULTS

Out of 90 students in the second year MBBS, the questionnaire was handed out to 86 students as remaining could not be contacted despite 3 visits.

Out of 86, 80 returned the completely filled questionnaires. Thus data of 80 students was analysed in this study. Regarding baseline information of study subjects, 62 (77.5%) out of 80 had their schooling in English medium and the visual aid predominantly used in the schools.

Study subjects preferred a combination of audio-visual aids during a didactic lecture.

Blackboard teaching was preferred in the following areas:

- Facilitated interaction between student and teacher, Aroused interest in learning,
- Helped to hold attention in class,
- More helpful to grasp the content,
- Better able to cope with teaching speed of teacher,
- More useful in small group (10 - 20),
- Increased ability to think and understand.

Multimedia teaching was preferred in the following areas:

- Allowed better inclusion of content,
- Enhanced visual quality of text and figure,
- Made better use of examples and illustrations,
- More useful in large group (50 - 100).

Blackboard and multimedia teaching scored equally in the following:

- Stresses relevant and important information,
- Best to summarise lecture,

- The overall preference of students was almost equal between blackboard teaching and multimedia teaching,
- Slide-projector teaching was the least preferred,
- Followed by the overhead projector

Table 1: Acceptance of instruction media by study subjects.

Variables	OHP	Black- board	Multimedia	Slide project	P value*
Understanding of topics is best with	15	46	33	13	<0.001
Best aid for Listening and understanding	12	44	36	17	<0.001
More useful in large group (50 - 100)	18	31	48	14	<0.001
More useful in small group (10 - 20)	17	47	40	13	<0.001
Facilitated interaction between student and teacher	17	51	31	18	<0.001
Best aid for taking notes	12	46	37	15	<0.001
Make better use of examples and illustrations	16	38	47	21	<0.001
Better perception of diagrams	13	44	35	14	<0.001
Better perception of flow charts	12	42	37	17	<0.001
Allowed better inclusion of content	14	30	54	22	<0.001
More helpful to grasp the content	14	45	34	14	<0.001
Aroused interest in learning	11	43	37	18	<0.001
Helped to hold attention in class	12	51	33	21	<0.001
Stresses relevant and important information	19	40	39	11	<0.001
Better able to cope with teaching speed of teacher	10	45	33	17	<0.001
Increased ability to think and understand	12	53	29	16	<0.001
Best aid to summarize the lecture	15	41	42	13	<0.001
Overall I prefer teaching aid X	13	38	41	7	<0.001

*Highly significant, <0.001

DISCUSSION

Learning environment in any medical school is found to be important in determining student's academic success and it becomes extremely important if medical school is in evolving stage. 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. In this study they accessed student's perception of different teaching aids in a medical college, with an aim to improve their use in didactic lectures. Finding the gaps and bridging them in an early stage would like to yield better results as far as teaching improvements are concerned.

In this study, it was observed that subjects preferred a combination of audio-visual aids during a didactic lecture. The overall preference of students was distributed equally between blackboard teaching and multimedia teaching. Another study from Bhavnagar is in concordance with our observations.³ This is surprising because another study by George G et al contradicts our findings. In his study he observed that students preferred computer-assisted teaching modalities.⁹

It was observed in this study that overall preference of students was almost equal between blackboard teaching and multimedia teaching. The result of this study is in agreement with previous study by Baxi SN et al.³

Outcome of usage of multimedia depends on how it is used in relation to instruction. When multimedia is used to supplement regular instruction, gain in achievement is consistent, but when it is substituted for traditional instruction achievement results are mixed. The inability to move away from the computer desk inhibits a teacher walking freely across the room.

Hence, when the faculty tends to focus on the technology the students feel ignored.³ It's important for a teacher to have control over whole class with eye to eye contact with them. It will be possible when he/she takes liberty to cover all the corners of the classroom.

They observed that students rated blackboard-based teaching better for 'facilitating interaction between teachers and students', 'coping with teaching speed of teacher', and 'arousing interest in learning' and 'holding attention in classes'.

It is observed that younger teachers prefer multimedia computer-based lecturing whereas older teacher tend to use blackboard teaching. The students also felt that blackboard teaching was 'more helpful in grasping the content' and facilitated an 'increased ability to think and understand'.

It could be due to the fact that blackboard-based delivery considerably reduces the speed of lecture delivery,

thereby facilitating understanding and grasping. On the other hand, as far as syllabus of a subject is concerned blackboard teaching lags behind multimedia computer-based teaching. Blackboard teaching may not cover up the whole syllabus thus carry this advantage. In this study, the students showed a preference for the use of a combination of visual aids during the didactic lectures. They were of the view that 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. One of evident limitation of lectures is that the listener passively receives the material and feels bored and sleepy. One of them is the use of visual aids which should be clear and understandable.¹⁰

Regarding teaching with overhead projections or 35-mm slide presentations, it easily puts much information on one page /slide. When a large volume of information is presented in this manner, working memory capacity may be overloaded and making notes becomes difficult.^{11,12} This could be one of the reason why the students did not prefer OHP and slide presentations, although both these aids share a few of the advantages of computer presentations such as proper illumination and better display of figures and graphics. This study has several strengths.

First, to the knowledge, assessment of student's perception of different teaching aids has not been extensively investigated in this evolving medical college. Very few similar studies are available in the literature. Feedback is cornerstone for improvement. Finding the gaps and bridging them in an early stage would like to yield better results as far as teaching improvements are concerned. The study has some limitations as well. This study was conducting among just ninety students. Study with bigger sample size and preferably involvement of other centres is warranted.

CONCLUSION

On the basis of findings of this study, it can be concluded that lecture delivered by using a combination of audio visual aids was more appreciated by the students. Student's preferences and feedback need to be taken into consideration when using multimedia modalities to present lectures to students. Feasible student suggestions must be implemented for further improving the use of

audio-visual aids during didactic lectures to make teaching learning environment better.

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