

Comparison on perception of teaching aids among medical versus dental students

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ABSTRACT

Background: Lecture still remains the most common mode of instruction in higher education. Students learn from lectures by listening, observing, summarizing, and note taking. Lectures can be supplemented with audiovisual aids for better illustrations, clarity, and learning. **Aims and Objective:** To assess student's perceptions of the impact of different teaching aids and to analyze the preferences for teaching aids of medical versus dental students. **Materials and Methods:** Medical and dental undergraduates were asked to fill in 10-item questionnaire about their perceptions on three lecture delivery methods used in our college. The results were analyzed separately for medical and dental students to see any difference in their perceptions. **Result:** Majority of the medical students (66.05%) preferred PowerPoint (PPT) presentation, whereas 22.21% preferred the use of blackboard (BB) and 11.1% preferred overhead projector transparency (OHPT) for teaching ($P < 0.001$). Of the dental students, 61.2% preferred PPT presentation, 26.5% preferred BB, and 12.2% preferred OHPT during lectures ($P < 0.001$). **Conclusion:** Majority of both the medical and the dental students clearly preferred the use of PPT presentation in lectures over the other two methods. Visual aids such as PPT will motivate the students to learn their subjects, thus making the learning process an enjoyable experience.

KEY WORDS: Lecture Delivery Methods; PowerPoint Presentation, Overhead Projector Transparency; Blackboard


INTRODUCTION

Lecture still remains the most common mode of instruction in higher education. Students learn from lectures by listening, observing, summarizing, and note taking. Lectures can be supplemented with audiovisual aids for better illustrations, clarity, and learning.^[1,2] The use of electronic media has become common in medical colleges and universities. At present, the common ways of lecture delivery include lectures using PowerPoint (PPT) presentations, overhead projector transparency (OHPT) besides traditional chalk and talk method. Microsoft PowerPoint is now the most popular package used

out of all electronic presentations.^[3,4] There is no conclusive study stating the superiority of one method over the other. There is a mixture of views based on recent studies. This study was undertaken to find out the students' perception of the impact of various lecture delivery methods used in our college.

MATERIALS AND METHODS

A questionnaire-based survey was conducted among first-year medical and dental students after they are being exposed to various lecture delivery methods such as PPT presentation, OHPT, and lecture using blackboard (BB) for 1 year. The annual intakes of the medical and dental students are 100 and 50, respectively. After explaining the purpose of the study, the questionnaire was circulated to all first-year medical students (100) and dental students (50). A total of 90 medical students and 49 dental students completed the questionnaire. The students were asked to fill in the structured questionnaire about their views and perceptions of the three methods of lecture delivery, namely PPT presentation, BB, and OHPT. They were

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asked to express their opinion by encircling which lecture delivery method (BB/OHPT/PPT) they feel the lectures

- were well organized
- clear and understandable
- stress on important points
- taking notes easier
- copying diagrams easier
- better understanding of the topic
- problems solving better
- flow of thought better
- best mode to recall tough points
- mixed mode of lecture delivery should be used or not

Consent was taken to be implied as filled questionnaires were returned and separate written consent was not requested. The sum of all the students' answers for each parameter was used to calculate the final weighted score. The results were analyzed separately for medical and dental students to see if there is any difference in their perception. Statistical analysis was carried out using one-way analysis of variance.

RESULT

The majority of the medical students rated PPT-based teaching higher in terms of all the parameters studied as compared to BB- or OHPT-based teaching (Figure 1). The medical students' preferences for each teaching aid are as follows: PPT, 66.05%; BB, 22.21%; and OHPT, 11.1%. The preference for PPT is significantly higher than the other two teaching methods ($P < 0.001$). The dental students also showed similar order of preferences as PPT, 61.2%; OHPT, 12.2%; and BB, 26.5%. The preference for PPT is significantly higher than that for OHPT

Table 1: Preference of teaching aids by medical students

Methods of lecture delivery	Mean difference	q-value	P-value
BB vs. OHPT	11.900	6.006	<0.001
BB vs. PPT	-29.900	15.092	<0.001
OHPT vs. PPT	-41.800	21.098	<0.001

BB, blackboard; OHPT, overhead projector transparency; PPT, Power-Point presentation.

Table 2: Preference of teaching aids by dental students

Methods of lecture delivery	Mean difference	q-value	P-value
BB vs. OHPT	11.600	4.800	<0.01
BB vs. PPT	-4.500	1.862	>0.05
OHPT vs. PPT	-16.100	6.663	<0.001

BB, blackboard; OHPT, overhead projector transparency; PPT, Power-Point presentation.

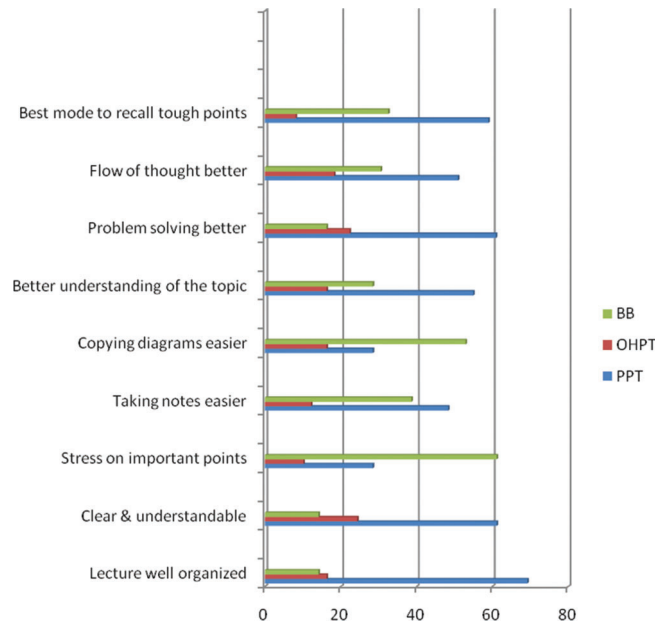


Figure 1: Medical students' opinions of the lectures using different teaching aids (weighted score)

($P < 0.001$); the preference for PPT against BB is not significant ($P < 0.05$). The dental students rated PPT-based teaching higher in terms of almost all the parameters except that stress on important points and copying the diagrams is better with BB (Figure 2 and Tables 1 and 2).

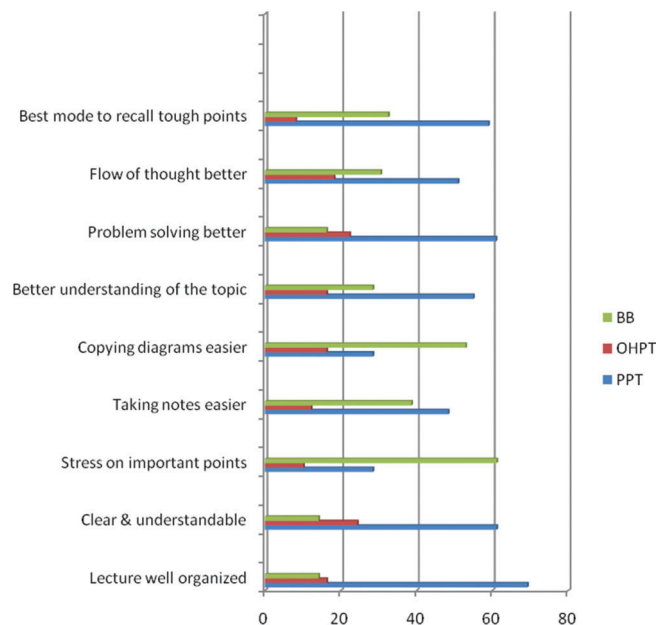


Figure 2: Dentals students' opinion of lectures using different teaching aids (weighted score)

The medical students as well as the dental students clearly preferred the use of PPT-based teaching in lectures (66.5% vs. 61.2%). However, 26.5% dental students preferred the use of BB against 22.21% medical students. Lectures using OHPT was the least preferred method of lecture delivery by both dental and medical students.

The study also observed that majority of the medical students (75.5%) preferred mixed PPT and BB teaching; however, this was not much appreciated by the dental students (10.2%).

DISCUSSION

This study highlighted the preferences of the students to various methods of lecture delivery in our institution. The observed preferences of teaching aid for the medical students as PPT > BB > OHPT, similar order of preference was also observed among the dental students. The majority of medical students as well as dental students prefer PPT presentations mainly because PPT presentations avoid the issue of poor handwriting and dirty BB. Lectures could be delivered in an organized, clear, and understandable way. A study has pointed out that in PPT, the ability to integrate the text, the pictures, and images is a great advantage and improves the educative value of the subject. One disadvantage of PPT seems to be that the student becomes a passive observer rather than an active participant.^[5,6] However, 22.21% medical students and 26.5% dental students preferred the use of BB teaching because it gives better teacher and student interaction. In their interview, both said that they could take down diagrams and notes easily and could understand the topic better. A BB lecture allows the student to follow the hands of the teacher and copy the diagrams, conceptualize the information. Structures and procedures linked through visualization are likely to be retained in the long-term memory.^[1]

Majority of the medical students (75.5%) and 10% dental students feel that both PPT and BB teaching should be used in all the classes. PPT should be used preferably only for illustration of points, which is not possible with the use of BB,

and for highlighting important points as well as summarizations.^[7] Audiovisual aids should be used to enhance and complement the lectures. The whole exercise should motivate, enthuse, and encourage the students to think and not overload them.^[5]

CONCLUSION

Lectures using different teaching aid are common phenomena. Majority of the medical and dental students preferred PPT-based teaching as evidenced by our assessment. There need to be appropriate and discrete mix of both PPT and BB teaching in the classroom for optimum benefit to the students.

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