

Lecture delivery methods in medical curriculum – Students' opinion

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Abstract

Introduction: Choice of teaching method has a major impact on a student's learning and understanding of the subject, so it is important to assess their opinion about various lecture delivery method. This study was designed with aim of assessing a student's response to three commonly used lecture delivery method i.e. Chalk and Board, Transparency overhead projector and Power point presentations. The study was conducted among undergraduate medical students of Himalayan Institute of Medical Sciences using a pre-structured questionnaire. The students were required to fill in their responses on a scale of 1 to 5, 1 for unsatisfactory and 5 for excellent. A total of 316 students from all professionals participated in the study. The mean total scores for Chalk and Board, Transparency overhead projector and PowerPoint were 34.34 ± 11.94 , 23.26 ± 9.28 and 33.02 ± 11.21 respectively. In conclusion, it was seen that students preferred chalk and board method the most followed by power point for lecture delivery while transparency and overhead projector was least preferred method for lecture delivery by medical undergraduates.

Keywords: Lecture delivery, teaching methods, chalk and board, PowerPoint, transparency overhead projector.

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INTRODUCTION

The aim of undergraduate medical teaching is to impart knowledge, attitude and skills to the student. Hence, choice of teaching strategy plays a major role on these parameters. Various methods for teaching undergraduate medical students include lectures, tutorials, demonstrations, experimental exercises, case discussions, etc. The Medical Council of India (MCI) has made it clear in its regulations that teaching methods should be student centric and should comprise of small group discussions, case based studies and lectures. Use of modern educational technology while teaching the undergraduate students is also encouraged by the

guidelines¹. However, lecture delivery remains one of the major methods for undergraduate teaching. It is important for a teacher to ensure effective teaching strategy and incorporation of innovative approach to teach medical graduates. Traditionally, chalk and board method was used for lecture delivery but with innovation in information technology, teachers are now equipped with modern methods such as power point presentations for teaching². Lecture delivery has impact on students understanding and retention of concept³. The teacher should also ensure that the lecture evoke interest in the topic. The most common methods used for lecture delivery in medical colleges at present are the conventional chalk and board method, transparency overhead projector and PowerPoint presentations. Each method has their own pros and cons regarding understanding and retention of concepts by the student^{2,4,5}. Students have different opinion regarding lecture delivery methods. It is important to assess a student's perspective regarding choice of lecture delivery method as they are on the receiving end. So, this study was designed to assess their perception on these three lecture delivery methods.

MATERIAL AND METHODS

This study was conducted in the department of Pharmacology of Himalayan Institute of Medical Sciences, Dehradun. The study was conducted after obtaining permissions by Research committee of the institute. Medical students from all the four professional years who had completed at least six month of the course and familiar with all three teaching methods (Chalk and Board, Transparency overhead projector and Power point presentations) were eligible to participate in the study. This was a questionnaire based cross sectional study. The students were given a pre structured questionnaire comprising of 11 questions. Out of these 11 questions, three questions each were to assess attention, understanding, retention of concept and two were to assess general perception about lecture method. Students

were given ample time to read and understand the questionnaire before filling in their responses. They were asked to rank the questions on a scale of 1 to 5, with 1 indicating unsatisfactory and 5 indicating excellent response. Data was analyzed using SPSS software ver.19. Statistical analysis of the obtained data was done using descriptive statistics.

OBSERVATIONS AND RESULTS

A total of 316 undergraduate medical students from all professional years participated in the study. 82 students from I professional, 83 students from II professional, 72 and 79 students from final professional part I and part II respectively participated in the study. Percentage of responses for each lecture delivery method was determined and is shown in Figure 1.

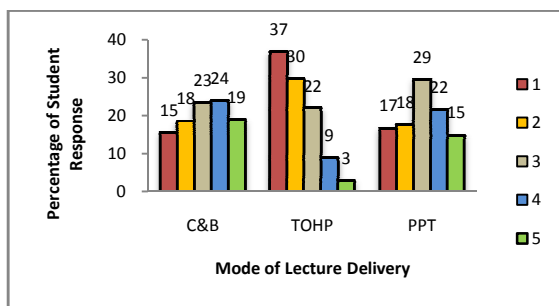


Figure 1: Percentage of responses for each lecture delivery method

The mean score and standard deviation for each lecture delivery method is shown in table 1.

Table 1: Mean total score for each lecture delivery method

	Chalk and Board method	Overhead projector method	Power point method
Mean	34.34	23.26	33.12
SD	11.94	9.28	11.21

The questions were divided into four groups namely attention, perception, understanding and retention. The mean score for each parameter of all the three lecture delivery method are shown in table 2 and figure 2. The mean score for all the four parameters was highest for chalk and board method followed by PowerPoint. The scores were least for transparency overhead projector method.

Table 2: Mean score for each parameter of lecture delivery method

Teaching Method	Score	Attention	Understanding	Retention	Perception
Chalk and Board	Mean	9.30	9.46	9.29	6.29
	SD	3.43	3.46	3.42	2.37
Transparency overhead projector	Mean	6.26	6.43	6.38	4.19
	SD	2.81	2.79	2.80	1.78
Powerpoint presentations	Mean	9.15	8.84	9.00	6.13
	SD	3.37	3.21	3.29	2.25

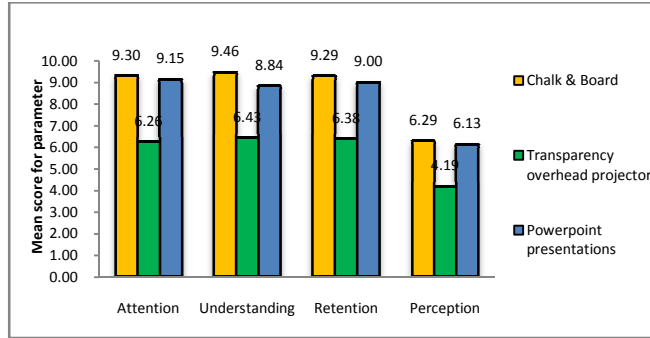


Figure 2: Mean score for each parameter of lecture delivery method

The percentage of responses to each parameter for all the three lecture delivery method is shown in figures 3, 4 and 5. Transparency and overhead projector obtained maximum responses as unsatisfactory for all the four parameter assessed.

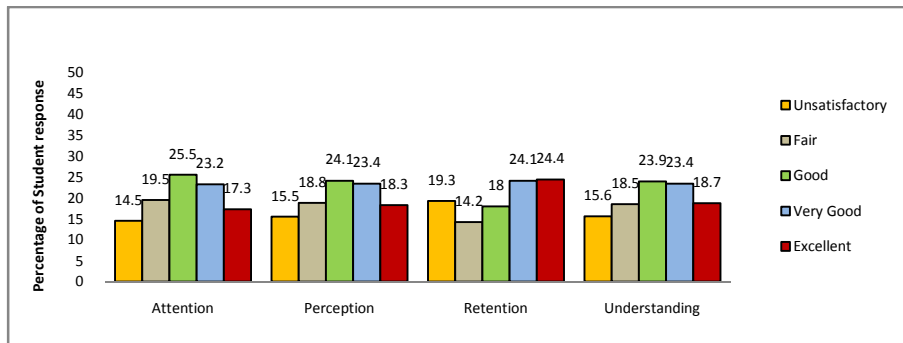


Figure 3: Percentage of student response to the four parameters for Chalk and Board method

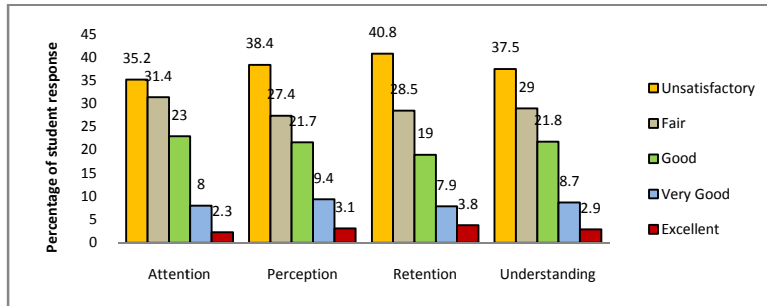


Figure 4: Percentage of student response to the four parameters for transparency overhead projector method

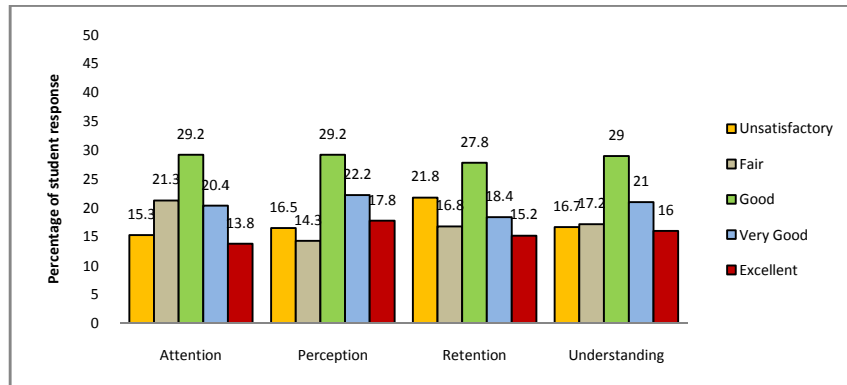


Figure 5: Percentage of student response to the four parameters for Powerpoint method

DISCUSSION

The present study was undertaken to assess student perception regarding lecture delivery methods. The overall scores of the lecture delivery methods were Chalk and Board > Power point > Transparency overhead Projector This was in accordance to study conducted by Novelli and Fernandez, in which Chalk and Board was preferred over PowerPoint presentations and Transparency overhead projector by students³. Higher scores were given to attention, understanding and retention of concepts for chalk and board method. This could be most likely due to the fact that chalk and board based lecture delivery can be modified during the course of lecture and important points in the lecture can be emphasized. Teacher can take a pause during lecture delivery to emphasize or explain an important point or concept. This method allows better student –teacher interaction time which could be the reason for better understanding of concepts. Lecture delivered by PowerPoint presentations were assessed better than Transparency overhead projector, the results matched with a study conducted by Seth and colleagues among medical students⁵. Students rated Power point presentations higher for questions involving use of illustrative material and use of multimedia aids for improvement in understanding of concepts. The format of lecture was also found fresh and appealing by the students. This could be due to use of three dimensional images, animations and other multimedia objects in the lecture which draws attention and aids in understanding and retention of concepts. Use of colored background and dimly lit room during the course of lecture delivery might serve as a source of distraction in this lecture delivery method. There lack of student teacher interaction time and lack of scope to take a pause to emphasize on important concept. These could be possible reasons for rating this method inferior to chalk and board method. Transparency overhead projector was given least ratings

by the students; this is in conjunction to previous studies^{5,6}. This could be attributed to its less use after introduction of better audiovisual lecture delivery methods. Another reason for lower scores could be because of dull presentations and dimly lit lecture theaters during lecture delivery which lead to reduced attention span towards lecture. A limitation of the present study was that it mainly focused on student’s perception about a lecture delivery method. An extensive study to evaluate the impact of lecture delivery on their performance is warranted.

CONCLUSIONS

The Medical students preferred Chalk and board over PowerPoint and Transparency overhead projector lecture delivery methods. Transparencies were clearly disliked by the students. However, an extensive study to assess the impact of these methods on student performance is required to be done.

REFERENCES

1. Regulations on Graduate Medical Education, 2012, MCI. New Delhi;2012.
2. Dallmann-Jones, Anthony S. The Expert Educator: A Reference Manual of Teaching Strategies for Quality Education. Fond du Lac, WI: Three Blue Herons Publications; 1994.
3. Novelli E, Angelica A, Fernandez H. Students'Preferred Teaching Techniques for Biochemistry in Biomedicine and Medicine Courses. Biochemistry and Molecular Biology Education. 2007;35(4):263-6.
4. Shah HK. Overhead Projector - A Versatile Teaching Tool. Indian Journal of Community Medicine. 2006;31(2):108.
5. Seth V, Upadhyaya P, Ahmad M, Kumar V. Impact of Various Lecture Delivery Methods in Pharmacology. EXCLI Journal. 2010;9:96-101.
6. Bartsch RA, Corben KM. Effectiveness of Power Point presentations in lectures. Comput Educ. 2003;41:77-86.

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