

# Perception of medical students about learnability through different teaching aids

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## Abstract

**Background:** Didactic lectures are the most commonly used form for teaching students. The traditional mode of teaching was using blackboard in earlier days but recently use of different audiovisual aids like overhead projection, PPT has become common now. **Aims and objectives:** To obtain the students opinion regarding the use of blackboard/ppt/both as a better teaching aid. **Materials and methods:** The study included 153 first year medical students from a rural medical college in department of physiology. A questionnaire was provided to the students to get the opinion regarding use of teaching aids. The data obtained is entered in Microsoft excel and analyzed using SPSS. The association between categorical variables is identified using chi-square test and quantitative variables are compared using T-test. **Results:** Majority of the students have given highest scores of 2097(52.7%) for combined chalk board and power point method, 1469(37%) for power point method and 1270(32%) for chalk board method with  $p < 0.001$  which was significant. **Conclusion:** Students preferred using combined audiovisual aids like chalk board and power point method for understanding of subject rather than using chalk board or power point alone. Medical teaching has to be reformed with newer innovative methods of teaching for better learning by students.

**Key Word:** Lectures, chalk board, power point, teaching aid.

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Received Date: 10/01/2019 Revised Date: 02/02/2019 Accepted Date: 25/02/2019

DOI: <https://doi.org/10.26611/103922>

## Access this article online

Quick Response Code:



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Accessed Date:  
28 February 2019

## INTRODUCTION

Teaching is an interactive process and provides opportunities for the students to learn facts, procedures, skills, ideas and values. The goals of teaching may be in the form of gaining knowledge and skills, deepening of understanding, problem solving or changes in perceptions, attitudes, values and behavior. Lectures have been the most common form of teaching and learning<sup>1</sup>. The traditional didactic lecture is more passive in nature and less effective as a teaching tool. Lectures in physiology can be made

more effective by incorporating active learning activities involving the students<sup>2</sup>. Medical education is in the midst of major transformation that will require medical educators to reassess standard teaching practices and develop innovative strategies to maximize student learning<sup>3</sup>. Teaching medicine is an ever-evolving process which requires that both students and teachers need to be continuously updated<sup>4</sup>. The use of electronic presentations like powerpoint has become common recently and popular now a days<sup>5</sup>. There are controversial studies regarding use of better method of teaching. One study done showed that blackboard teaching as a better method compared to using powerpoint<sup>6</sup>. Many studies stated that power point is a better method over blackboard teaching<sup>7,8,9,10</sup>. There are very few studies done to know the effectiveness of combined teaching with chalk board and powerpoint<sup>11,12</sup>. Also there are very few studies to know the opinion of students regarding the better method of teaching in Physiology. This study intends to know the better teaching aid among blackboard or PPT or combining both blackboard and PPT by obtaining students opinion so that lectures can be made more receptive.

## MATERIALS AND METHODS

This is a questionnaire based cross sectional study. It included 153 first year medical students from a rural medical college. They were exposed to all kinds of lecture like conventional chalk and board method, power point and combining both chalk board and power point by various lecturers in the department of Physiology. The participants were explained about the study and consent was taken. The questionnaire containing 13 questions (parameters) was distributed among students. They were asked to fill their general demographic data like age, gender, year of studying MBBS. The students were instructed to give scores about each parameter under all the three methods of teaching as per likert scale. The scores were 2(strongly agree), 1(agree), 0(no opinion), -1(disagree), -2(totally disagree). The questionnaire was obtained from the previous study<sup>6</sup>. The data obtained was tabulated in

Microsoft excel. The total score of all the students was calculated for each method of teaching. Statistical analysis was done using one-way ANOVA test. The association between categorical variables (questions) was identified using chi-square test.

## OBSERVATIONS AND RESULTS

In this study, out of 153 1<sup>st</sup> year MBBS students who participated 72 students were males and 81 students were females. Majority of the students have given highest scores for combined chalk board and power point method. The maximum total score that can be obtained for each method of teaching is 3978 of which students gave the total score of 1270 for chalk board method, 1469 for power point method and 2097 for combined method. (Table 1 and Figure 1)

Table 1:

Teaching aid	Total score
Chalk board	1270
PPT	1469
Chalk and PPT	2097

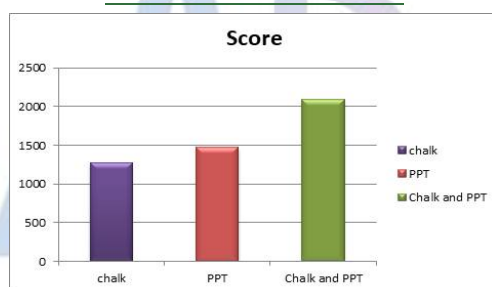


Figure 1

The mean and standard deviation was calculated for each of the groups. One way anova test was carried out and was found that p-value was <0.001 and it was significant. (Table 2 and Figure 2)

Table 2:

Questions	Chalk board	PPT	Chalk and power point
Q1	76	114	202
Q2	99	105	187
Q3	64	136	151
Q4	141	124	155
Q5	86	71	122
Q6	94	92	133
Q7	129	117	204
Q8	101	136	188
Q9	136	74	136
Q10	91	113	151
Q11	67	166	155
Q12	61	151	153
Q13	125	70	160
Total	1270	1469	2097
Mean	97.69	113	161.3
SD	27.64	30.39	26.14

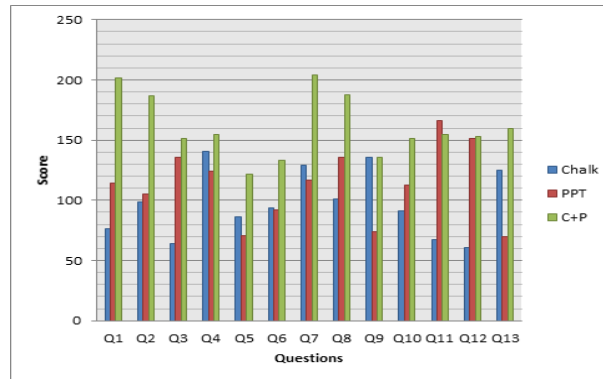


Figure 2:

Chi square test was applied to know the significance of individual question (or parameter) among various teaching aids. It was found that regarding few questions like well-organized lecture, understanding the subject, ability to stimulate interest, problem solving, flow of thought, summarization, to recall important points and student teacher interaction, scores were higher in combined method of teaching and p value was <0.001 which is significant. (Table 3)

Table 3:

Questions	Chalk board	PPT	Chalk and power point	p-value
Q1	76	114	202	<0.001
Q2	99	105	187	<0.001
Q3	64	136	151	<0.001
Q7	129	117	204	<0.001
Q8	101	136	188	<0.001
Q9	136	74	136	<0.001
Q11	67	166	155	<0.001
Q12	61	151	153	<0.001
Q13	125	70	160	<0.001

## DISCUSSION

Lectures have been the most common form of teaching and learning since ancient times<sup>1</sup>. This study was done in a rural medical college in south India to know the better teaching aid among first year medical students in Physiology. It was found that students preferred combined method of teaching than either blackboard or powerpoint alone. A study done in Physiology also concluded that majority of students felt that the use of LCD projector along with chalk and board is the best method of lectures<sup>13</sup>. Similarly, a study done by Giri *et al.*, also demonstrated that lecture delivered using combination of audiovisual aids was much preferred by the students and were interested in taking notes during lectures<sup>11</sup>. Sultan Ayoub Meo *et al.*,<sup>12</sup> studied in undergraduate medical school and concluded that integrated (PowerPoint and chalkboard) method of teaching is more suitable tool of teaching and learning. Many studies have been done to know the better teaching aid among powerpoint alone and blackboard. In a study done by Nusrat Jabeen<sup>7</sup> compared the traditional and conventional chalk and board method with power point presentation and majority of students preferred use of PPT presentations over conventional chalk and board method for delivering lectures while teaching gross anatomy.

Another study by Mishra<sup>8</sup> also suggested that students preferred PPT teaching over the other teaching aids and PPT is helpful for revision in the class room by teachers and students, but not by chalkboard method of teaching. A study done in pharmacology<sup>10</sup> stated that students preferred lectures with PPT presentations and it was rated highest average score. In our study students preferred combined chalk board and power point method with regard to like well-organization of lecture, understanding the subject, ability to stimulate interest, problem solving, flow of thought, summarization, to recall important points and student teacher interaction than any other teaching aid like chalk board alone or only powerpoint. Similarly, a study done in pharmacology by Mohan L *et al.*<sup>14</sup> also found that using combination of teaching aid was best accepted over the use of a particular visual aid alone for understanding a particular topic. There are also few controversial studies in which they have found that black board teaching as the better mode. One such study is done by Petimani MS where students selected blackboard teaching as the best teaching aid when compared to PPT teaching method<sup>6</sup>. Sushama K. Chavan *et al.*,<sup>15</sup> conducted the survey among MBBS students of different phases and revealed that

blackboard is the most preferred teaching aid by the study participants.

## CONCLUSION

Physiology is a basic medical science for first year medical students. The understanding of physiology becomes very important to know the context of any disease etiology. Many methods of teaching are being followed to make the students understand the concepts like chalk board and powerpoint. This study was done to know the perception of medical students about various teaching aids so that teaching can be made more effective. Students preferred use of combined method of teaching using both chalk board and power point instead of using them singly. This emphasizes the need to transform our method of teaching by adopting newer technologies so that the students can understand the subject and apply the knowledge appropriately.

## ACKNOWLEDGEMENT

we are very thankful to all the students who participated in this study. Also we thank Mr.Suresh, statistician who guided us in doing all the statistical work efficiently.

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Source of Support: None Declared  
Conflict of Interest: None Declared