

## Chalk & Board or Power Point Presentation – Students View towards Method of Teaching Anatomy

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### Original Research Article

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**Abstract:** Traditionally most of the lectures are taken with chalk and board in India. However with economic growth, the use of computer assisted techniques is inevitable. The use of power point presentations has been increasingly adopted by many of the medical colleges. Present study assesses the student's perspectives and preferences for chalk and board and power point methods of teaching. Twenty four lectures were delivered to First year M.B;B.S students. Students were given a questionnaire seeking their opinions about helpfulness of teaching tools. We feel that PPT should be used as supplementary to enhance the efficacy of teaching. As suggested by recognizable number of students, both methods should be used in a proper combination, as per need of the topic.

**Keywords:** Students, Teaching, Chalk and Board, PPT, Method

### INTRODUCTION

Lectures can be traced as far back as the Greeks of the fifth century BC, and in medieval times, lectures were the most common form of teaching[1]. Chalkboard aid is inexpensive; is easy to clean and reuse; allows students to keep pace with the teacher; and is not dependent on electricity. On the other hand PowerPoint (PPT) presentation has the advantage of using colors, fonts, diagrams, and animation. Its disadvantages are that dim light causes loss of eye contact; note taking is difficult; has the tendency to overload information; and needs electricity[2]. Even if in PPT slides, text and font size can be modified easily, and visibility is good. The majority of medical students who prefer PPT presentations is mainly because PPT presentations avoid the issue of poor handwriting and dirty blackboards[3].

One disadvantage of PPT seemed to be that the student became a passive observer, rather than an active participant[4]. Teaching and learning are active processes occurring simultaneously on a continuous basis[5]. Both teaching and learning are dependent on myriad contextual factors, including the teacher, the learner, the subject matter, the environment(s), and the teaching methods[6]. The responsibility lies on the teacher to ensure that the student is given the opportunity to think in the classroom[7].

### MATERIAL AND METHODS

A cross-sectional study was conducted at Government Medical College, Srinagar in J&K state of India. The data was obtained from first year MBBS students of the batch 2016-2017 after completion of one year of teaching anatomy. Twenty four lectures were delivered for teaching histology by a single teacher out of which 12 were delivered using PPT presentation and 12 were delivered using Chalk and Board method of

teaching. The students were made aware that the questionnaire will be only with regards to the anatomy department that too of only my lectures. This was done to avoid any sort of errors. A self-developed and revalidated questionnaire regarding teaching methods were used among undergraduate medical students. All the participants who were willing to participate in the study were enrolled. A briefing was given about the nature of study, and the procedure of completing the questionnaire was explained. The results were based upon the data obtained from 150 participants. Data were analyzed using MS Excel 2007. The survey was descriptive, and data were summarized as counts and percentages.

### RESULTS AND DISCUSSION

One of the limitations of our study is that our sample is drawn from one institution only and deals with the experience of one particular group of individuals, namely, undergraduate students and that

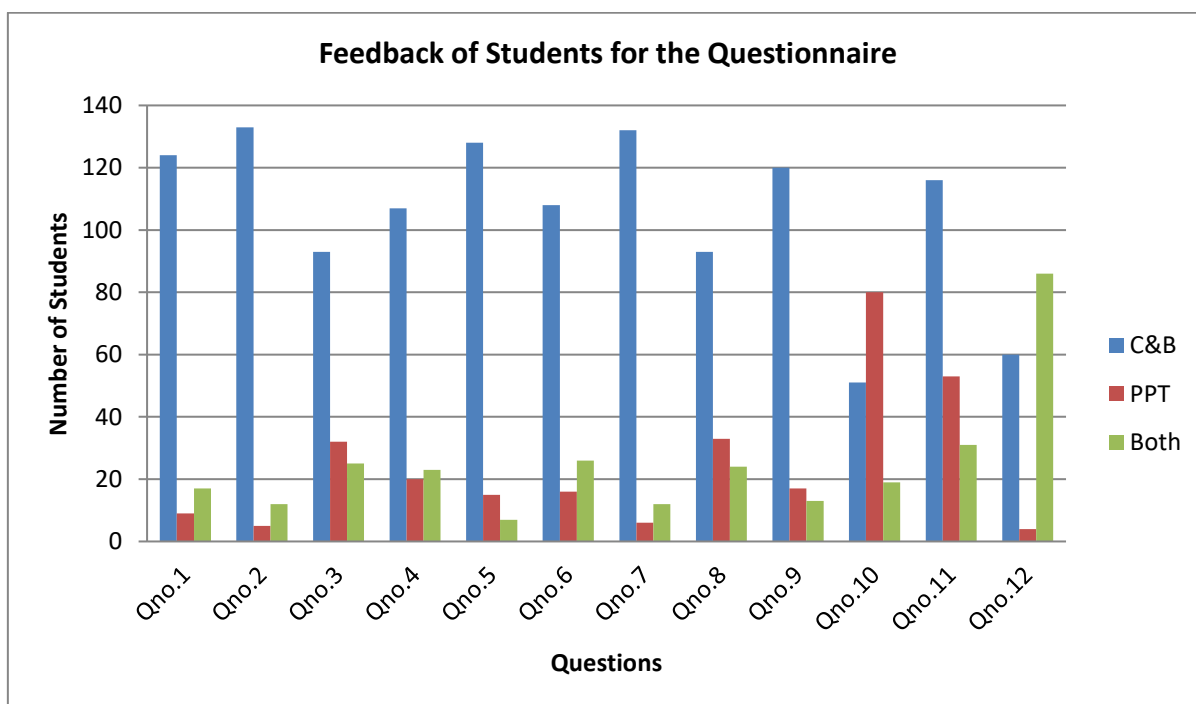
too by only a single teacher teaching a single medical subject i.e., Anatomy (Histology). Generalizations of our study results are justifiable to the extent to which we can assume that the selected sample of students is representative of the broader population. Other student groups could differ with regard to academic environment, subject matter, seniority (in college),

ethnic and family background and socioeconomic circumstances. These could alter survey findings and the scope of our study is restricted in this sense.

The results were compiled in a tabulated form as shown in Table 1 and depicted in Figure 1.

**Table-1: Showing the response of students to various questionnaire**

SNo.	Questionare	C&B	PPT	Both	None
1.	Which method helped to understand concept?	124(82.6%)	9(6%)	17(11.3%)	0
2.	Which method helped to memorize the topic?	133(88.6%)	5(3.3%)	12(8%)	0
3.	Which method had more reproducibility of text and diagram?	93(62%)	32(21.3%)	25(16.6%)	0
4.	Which method is interesting?	107(71.3%)	20(13.3%)	23(15.3%)	0
5.	Which teaching tool makes you actively participate and involve in the class?	128(85.3%)	15(10%)	7(4.6%)	0
6.	Which teaching tool according to you has the components “Inspire, influence and inform” in a better way with respect to the subject matter?	108(72%)	16(10.6%)	26(17.3%)	0
7.	In which method you were able to take my notes/diagrams more easily?	132(88%)	6(4%)	12(8%)	0
8.	Which method was able to integrate text with figure in a better way?	93(62%)	33(22%)	24(16%)	0
9.	Which method was clearer regarding the lecture contents?	120(80%)	17(11.3%)	13(8.6%)	0
10.	Clarity of new terms and spelling was better with which method?	51(34%)	80(53.3%)	19(12.6%)	0
11.	Clarity of diagram was better with which method?	116(77.3%)	53(35.3%)	31(20.6%)	0
12.	Which method should be used?	60(40%)	4(2.6%)	86(57.3%)	0



**Fig-1: Shows the response of the students towards the various questions of the questionnaire**  
 PPT: Power Point Presentation; C&B: Chalk and Board

Based on this survey some shocking and unexpected results were revealed. Some of them were mentioned here. Out of 150 M.B; B.S students:

- **82.6%** voted Chalk and Board as the better method to understand a concept.
- **88.6%** opted Chalk and Board as the method of choice to memorize the topic.
- **62%** of students had opted Chalk and Board method as beneficial for reproducibility of text and diagrams.
- **71.3%** of students experienced Chalk and Board as more interesting way of teaching.
- **85.3%** selected Chalk and Board method as the method which makes them actively participate and involve in the class.
- **72%** of students had an opinion that Chalk and Board method of teaching has the components “Inspire, influence and inform” in a better way with respect to the subject matter.
- **88%** felt that it was Chalk and Board method of teaching in which we were able to take my notes and draw diagrams more easily.
- **62%** of students opted the Chalk and Board method as the method of teaching in which they were able to integrate text with figures in a better way.
- **80%** of students agreed and accepted Chalk and Board as the method in which the lecture content was more clear and understandable.
- **53.3%** of students opted PPT method of teaching as a better way for understanding newer terms and their spellings.
- **77.3%** of students stated that clarity of diagrams was better with Chalk and Board method of teaching.
- **57.3%** of students recommended both Chalk and Board and PPT methods in proper proportions as the best way of teaching.

There are various methods of teaching anatomy include lectures through chalk and board method, then the cadaveric dissection method, power point presentation and ultrasound imaging method[8]. The traditional and the most frequent method used for teaching anatomy is the chalk and board method. While taking lecture the important terminology and sentences are noted down on the board and necessary diagrams are also drawn using chalk or marker pen on the board. But, during recent times there has been a major change in terms of methodology of teaching anatomy, due to time constrain and also due to rapid advances in information technology and change in the demand of medical professionals. But, there remains controversy and debate over teaching methods and about which mode of teaching anatomy will be preferred by students. Some previous studies have found that

students preferred PPT, while in others the students preferred traditional blackboard teaching to PPT. One extensive study has suggested that the efficacy of PPT is case specific rather than universal [9].

#### **Advantages of PPT**

The power point presentations attract the listeners make them more active in listening. The diagrams in the PPT can be clearly seen than the chalk method.

#### **Disadvantages of PPT**

It is suggested that although PPT has some positive effects, however it does reduce the interactive discussion between teacher and students. In a study, one of the reasons that students preferred chalkboard teaching is that it gives better student-teacher interaction. With PPT method the students may become a passive observer rather than an active participant. Also PPT system can get adversely affected by power loss. This is important, especially in developing countries, where factors such as limited infrastructure and an irregular power supply need to be taken into account (in contrast to the studies carried out in developed countries). Moreover student will not be able to take notes easily, through PPT.

#### **Advantages of Chalk and Board method**

In a study it was noted that the main reasons for liking lectures using chalkboard was that these contained natural pauses and breaks (e.g., during writing or rubbing out the blackboard) allowing students to follow the material and take down their notes and draw diagram, provided the handwriting is legible. A chalkboard may be said to be more student-cantered while PPT is more teacher-cantered. Thomas and Appala [10] in a study noted that as per students’ opinion, the explanations, clarity of concepts and learning to draw diagrams are better done on C&B than PPT. Teacher student interaction is better in C&B method. Thus students are active learners.

#### **Disadvantages of Chalk and Board method**

To draw exact and accurate diagram on black board with chalk is not easy for most of teachers and it can obviously be more time consuming. At times there may be few terms which are not easily transmitted to the students because of pronunciation or spelling problem and because of poor visibility, so with PPT, this problem can be taken care off.

#### **The most common abuses**

The most common abuses in PowerPoint use for teaching and learning include:

- Excessive detail so that students need not be active (or even present if files are made available) during delivery.
- Slides are visually poor and/or boring or even over the top – this is particularly the case when reds and greens dominate
- Too much text is put on a slide detracting from its legibility.
- Excessive use of graphics– just because you can!
- Irritating noises and slide transitions.
- Inappropriate use of multimedia options.
- Content often unmodified from an earlier non-PowerPoint presentation thus failing to make use of the advantages offered – the 50 slides of text-only presentation are doomed to fail.
- Tendency to go too fast is common simply because of the ease of delivery of the material.
- Not making plans for coping in event of technological failure e.g. backup overheads (expensive) or alternative activities, etc

These negative aspects are easily avoided by training and reflecting upon your approach to teaching and learning. Science subjects still tend to be dominated by the information transmission mode of teaching but this is in need of re-thinking if we are to develop the types of student skills that tertiary education claims to foster e.g. making presentations more interactive and problem-solving orientated.

A study by Seth *et al.* [3], reveals contradictory opinions of students of different branches of medicine. In their study, Majority of medical students preferred PPT while the Dental students opted for traditional C&B. Each student will have different learning style or technique. Liking or disliking of any method of teaching by the students is dependent upon whether it is fulfilling their requisite or not, and the requirement student is not only to understand the subject but also to reproduce it in the exams to gain marks.

Though in the hands of a trained teacher any teaching aid would be appropriate and effective. But a method which should be reproducible for the majority of teachers so that it can meet the aspirations of students and to combat the disadvantages of the traditional methods. The effectiveness of the lecture depends upon the teacher, regardless of the teaching aid used. Present study reflects the views of students regarding misuse of multimedia in teaching Anatomy. Majority of students preferred Chalk and Board as the mode of lecture delivery. Similar finding were also reported in various previous studies as well. Hence the educational value of the class can be enhanced by proper and intelligent use of both audio-visual aid and chalk board. Proper utilization of newer technologies along with the traditional teaching methods will certainly lead to better

understanding of gross anatomy and will eventually improve students' performance.

## CONCLUSION

The results of the present study suggest that blackboard has the advantages of better recall besides being the most preferred aid among medical students. There is a need to discuss as to why a traditional method has more preference over a new method. This study should be considered as a guide by all streams of medical sciences to improve the uses of black board teaching and to consider it a supplement to the PPT or PPT as a supplement to blackboard.

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## Conflict of Interest

None

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