



Original Article

A Comparative Study on Evaluation of Chalk and Board Over Power Point Presentation (PPT) As Methods of Teaching Anatomy to First Year Medical Students in Skims Medical College, Bemina

Author

Dr Sajad Hamid

Assistant Professor, Anatomy Department, SKIMS Medical College ,Bemina

Corresponding Author

Dr Sajad Hamid

Email: drsajadk@rediffmail.com

Abstract

Background: *The Study of Anatomy for a medical student is the basic building block for studying other branches of Medical Science and traditionally it has been taught by chalk and talk method and cadaveric dissection. The rapid growth of information technology has also make a space in different modes of teaching of subjects of medicine. So, we have reached the position where there should be a debate over the most effective method of lecture delivery.*

Aim: *Thus the aim of this study was to compare overall satisfaction and effectiveness of chalk and board method versus power point presentation as a lecture delivering method for teaching gross anatomy so far as Student's perception are concerned. METHODS: This was a questionnaire based study where 100 first professional MBBS students of SKIMS Medical College Bemina, were asked to fill anonymously a questionnaire about their perceptions of these two lecture delivery methods. The comparative analysis was done on each selected question as well as on overall satisfaction of the two lecture delivery methods.*

Results: *The good majority of the first year medical students (62.92%) preferred the traditional method of teaching gross anatomy so far as overall satisfaction of lecture delivery is concerned. However on many questions, PPT was preferred over Chalk & Talk method.*

Conclusion: *A good majority of first year medical students clearly preferred the conventional board teaching for delivery method but also accepted the advantages of using PPT. So PPT mode of teaching gross anatomy should be carefully amalgamated with the Traditional method of chalk & Talk.*

Keywords: *Medical education, lecture delivery methods, PowerPoint presentations (PPT), anatomy teaching, chalk and board.*

INTRODUCTION

The basis for learning of all the clinical branches lies in learning of Anatomy. There are different

methods of teaching Anatomy to the medical students which include didactic lectures, dissection on cadavers, demonstrating Prosected

and dissected specimens, using models, computer assisted learning (including slides and videos), Multifunctional interactive Anatomy teaching tables, the use of living people and radiology, use of active demonstration in small groups etc.⁽¹⁾ Although discussion methods in small groups appear to be a superior method, but in India, the student teacher ratio viz-a-viz in Anatomy department after Reduction of staff strength required for recognition of Medical colleges by Medical Council of India falls . Hence, the conventional lecture remains the mainstay of the teaching method.⁽¹⁾ The traditional method of teaching by using “ Chalk and Talk” have been the most popular mode of teaching gross anatomy, where a teacher prepares a lecturer & then delivers the same orally using chalk and board and tries to explain the complex concepts & topics in allotted time. This method of teaching gained universal acceptance and adopted by very well reputed Medical universities. But, now for so many years a debate has emerged as Medical Council of India has reduced the time spent for learning this vast and basic subject from 18 months to 12 months without changing the quantum of syllabus. therefore an anatomist has to upgrade himself or herself with the changing rules of these times. ⁽²⁾ So delivering more in a single lecture is possible only when teaching method is made more technology oriented like Power point presentation. Power point (PPT)-based lectures are increasingly being delivered in medical colleges as in other colleges and universities. It is a powerful communication tool to present views and ideas effectively using diagrams, photos, clip arts, sounds, designs and animated special effects. However, educationists are divided on the superiority of PPT with respect to the traditional chalk and talk method. Various studies have been conducted to compare the effectiveness of lectures using power point (PPT) or overhead projector (OHP) with those using chalk and board. However there is a mixture of views based on the studies and it is not clear whether a particular lecture delivery method is superior to others. Moreover,

most of these studies have been conducted in the developed countries and the area has not really been explored in the developing countries where factors like power disruptions are important considerations.⁽³⁾ In our college the current existing practice of lecture delivery is by both conventional chalk and board method and power point presentations. Hence there is always a need to understand the actual perception of the students regarding their preferred method (Chalk and board and power point presentation) for lecture delivery and that is why we did this study to know students preferred lecture delivery method so that their preferred method can be adopted into routine teaching practice to make these lectures more effective. Therefore we conducted this study in SKIMS medical college, bemina, Srinagar to assess the students' perceptions and preference of the lecture delivery method, PPT presentations compared with the traditional chalk and talk method. Using an anonymous questionnaire to the first year MBBS professional students they were asked to compare these two methodologies, and then results were analysed and compiled accordingly.

MATERIALS AND METHODS

The routine lecture method for teaching anatomy varies from teacher to teacher in SKIMS Medical college. Some teachers give lectures by power point presentation and some by routine method i.e; chalk and talk. A pre-structured questionnaire was made and after a short briefing in the class about the study, verbal consent was obtained from students to ensure their volunteer participation and then the questionnaire was circulated to all the students of that particular batch. These questions were pertaining to different aspects of lecture and overall satisfaction of the students with the method of lecture delivery. Students were supposed to choose one of the two methods for each aspect of the lecture, to know their preference for a particular type of teaching methodology; chalk and board or power point.

SAMPLE QUESTIONNAIRE

Showing different aspects of lecture and the type of delivery method,

	PARAMETERS	BLACKBOARD	POWERPOINT
1	ORGANIZED & STRUCTURED LECTURES		
2	MORE CLARITY & BETTER UNDERSTANDING		
3	CLARITY OF NEW TERMS AND SPELLING		
4	GENERATES INTEREST		
5	HIGHLIGHTS IMPORTANT POINTS		
6	ABLE TO TAKE NOTES		
7	CLARITY OF DIAGRAMS/CHARTS		
8	BETTER UNDERSTANDING OF SUBJECT AS A WHOLE		
9	INFORMATIVE LECTURES		
10	PROBLEM SOLVING APPROACH		
11	FLOW OF THOUGHT BETTER IN		
12	BETTER SUMMARIZATION		
13	BEST MODE TO RECALL IMPORTANT POINTS		
14	COVERS TOPICS/LECTURES		
15	INTEGRATE TEXT WITH FIGURE IN A BETTER		
16	BETTER DEMONSTRATION OF CLINICAL CONDITIONS		
17	GOOD STUDENT TEACHER INTERACTION		
18	BETTER CONTINUITY OF LECTURE		
19	OVERALL SATISFACTION AND EFFECTIVENESS OF THE LECTURE		

A total of 100 medical students (50 males and 50 females) participated voluntarily in the study and completed the questionnaire. The result was tabulated and each aspect of lecture and its delivery method was compared.

RESULTS

A total of 100 first professional MBBS students, filled up voluntarily the study questionnaire. Out of 100 students 50 (50 %) students were males and 50 (50 %) students were females. The students' overall preferences for each lecture delivery method so far as gross anatomy is concerned is as follows: 62.92% of students preferred Blackboard & chalk method for overall effectiveness and satisfaction of the lecture

delivery & 27.08% of students prefer PPT. The first year medical students preferred Board & Chalk method for taking notes (52.5%), gives them better understanding of subject as a whole (59.5%), with flow of thoughts better in (60.76%) & having better continuity of lecture (58.54%). The students preferred Blackboard and Chalk method as a best method of Problem Solving Approach (82.06%) and having a good teacher student interaction (82.36%). In the opinion of the good number of students, with the PPT method, the lectures highlight important points very well (66.26%). With PPT the lectures were well-organized (57.14%) and having clarity of new terms & spelling (67.53%), pronunciation, clarity of diagrams (85.52%), better visibility and can integrate text with figures(79.48%) in a better way. The reasonable majority of the first year medical students rated Board & Chalk method higher in terms of overall satisfaction & effectiveness of the lecture.(62.92%)

DISCUSSION

Anatomy has been the fundamental backbone of medical education for hundreds of years. The study of basic concepts of Anatomy plays a vital role in proper understanding of any other branch of Medicine. The different methods of teaching anatomy include lectures through chalk and board method, then the cadaveric dissection method, power point presentation and ultrasound imaging method.⁽⁴⁾ Traditionally, the most frequent method used for teaching anatomy is the chalk and board method. During recent times due to change in duration of course of First MBBS professional from 18 months to 12 months resulting in time constrain and also due to rapid advances in information technology and change in the demand of medical professionals there has been a major change in terms of methodology of teaching anatomy. There has also been shift in medical education from passive didactic lectures to active clinical based and student interactive teaching. The use of transparencies with an overhead projector.⁽⁵⁾ has recently been replaced by the the

use of electronic presentations (PPT). So both students and teachers can take advantage of the use of modern information technology i.e; reason of use of power point presentation for classroom teachings in medical education has been increased recently. But, there remains controversy and debate over different teaching methods. Studies have been done to see the effectiveness of teaching tools (e.g.PPT) in different disciplines, like I.T., organic chemistry, chemistry, mathematics, Business and management.⁽⁶⁾ In medical Sciences, this area appears to be not fully explored as far as teaching in anatomy is concerned. Thus Present study was done to emphasize the role and effect of power point presentation as a mean of delivering lectures to anatomy students as compared to the traditional lecture delivery by chalk and board method.

The technology has been proved to be a boon for anatomists because transmission of visual information has a remarkable role in education of gross anatomy. Lecture can be delivered in more useful and constructive way.⁽⁷⁾ Some previous studies have found that students preferred PPT, while in others the students preferred traditional blackboard teaching to TOHP and PPT. One extensive study has suggested that the efficacy of PPT is case specific rather than universal.⁽⁸⁾ In a study it was noted that the main reasons for liking lectures using chalkboard was that these allow students to follow the material and take down their notes and draw diagram. A chalkboard may be said to be more student- centered while PPT is more teacher-cantered.⁽⁸⁾ Thomas and Appala,⁽⁹⁾ in a study noted that as per students' opinion, the explanations, clarity of concepts and learning to draw diagrams are better done on Chalk & Board than PPT. Teacher student interaction is better in Chalk &Board method. Thus students are active learners.

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. Use of various animation and other properties of PPT can make lectures more

interesting for students. Hence students can be more attentive with such methods of teaching. It becomes more eyes catching. PPT will also be of great help to teach students imaging anatomy including surface marking and gross and morbid anatomy. There are various well developed software available these days which can be easily used for teaching sectional, imaging anatomy. It will be of great help to learn exact relation of various structures to each other. It can leave a lasting impression on students mind. A study has pointed out that in PPT the ability to integrate text, pictures, and images is a great advantage which improves the educative value of the subject. PPT encourages an active learning environment, increase the effectiveness of lectures, and lend clarity to the subject. By integrating text, pictures, videos and animation especially 3-D will be as close to the real anatomy as possible.⁽⁸⁾ With PPT method the diagrams can be displayed explained more accurately, which is a very important aspect of teaching anatomy.

A study by Seth et al., 2010⁽⁶⁾, 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 Chalk &Board. A Similar study was done in Medical college, jammu by Dr. Nusrat where 90.7% of first year medical students preferred PPT for overall effectiveness and satisfaction of the lecture delivery method.⁽¹⁰⁾

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 majority of students. The effectiveness of the lecture depends upon the teacher, regardless of the teaching aid. 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. Hence the advanced teaching methodologies help in learning anatomy in a better and an easier way.

CONCLUSION

Anatomy is the basic building block of any branch of medical science. Hence learning of anatomy in a proper and effective way is very important for any medical student. There are various methods of teaching gross anatomy like traditional lecture using chalk and board methods, using overhead projector (OHP) and use of power point presentation (PPT).

In our study where we compare Chalk and Board method with power point presentation, reasonable majority of students clearly preferred use of Traditional method for teaching Anatomy i.e; Chalk & Board over the new alternatives although the PPT method is gaining superiority over traditional methods in many aspects. Therefore, the present study, contradicts many previous studies regarding the overall satisfaction and effectiveness of teaching method but does support PPT in many aspects as a lecture delivery method. Hence there is a need to upgrade and modernize our lecture halls and teachers to deliver lecture where we can incorporate the advantages of PPT in our Traditional method, so that the lectures become more effective. The study establishes and recommends that traditional method of lecture delivery in Anatomy has retained its importance as a primary mode of teaching Anatomy but at the same time the advantages of PPT should be utilised to its maximum and should be amalgamated into traditional method.

REFERENCES

1. Bartsch RA, Coburn KM; Effectiveness of PowerPoint presentations in lectures. *Comput Educ.*, 2003; 41 (1): 77-86.
2. Sugand K, Abrahams P, Khurana A. The anatomy of anatomy: a review for its modernization. *Anat Sci Educ.* 2010 Mar-Apr; 3 (2): 83-93.
3. Susskind J E. PowerPoint's power in the classroom: Enhancing Students' self-efficacy and attitudes. *Computers and Education* 2005; 45 (2): 203-215.
4. Shaffer K. Teaching anatomy in the digital world. *N Engl J Med.* 2004; 351: 1279-82. [Pub Med.]
5. Szabo A, Hastings N; Using IT in the undergraduate classroom: should we replace the blackboard with PowerPoint? *Comp Educ.*, 2000; 35 (3): 175-187.
6. Seth V, Upadhyaya P, Ahmad M; PowerPoint or chalk and talk: Perceptions of medical students Versus dental students in a medical college in India. *Advances in Medical Education and Practice*, 2010a; 1: 11 – 16.
7. Seth V, Upadhyaya P, Ahmad M, Kumar V; Impact of various lecture delivery methods in Pharmacology. *Exclaim Journal*, 2010b; 9: 96-101.
8. Shallcross DE, Harrison TG; Lectures: electronic Presentations versus chalk and talk – a chemist's View. *ChemEduc Res Pract.*, 2007; 8 (1): 73-79.
9. Thomas M, Appala Raju B; Are PowerPoint presentations fulfilling its purpose? *Southeast Asian Journal of Medical Education*, 2007; 1 (1): 38-41.
10. Nusrat Jabeen, Abdul Ghani; Comparison of the traditional chalk and board lecture system versus power point presentation as a teaching technique for teaching gross anatomy to the first professional medical students. *Journal of Evolution of Medical and Dental Sciences* 2015; Vol.4, Issue 11, February 05; Page: 1811-1817, DOI:10.14260/jemds/2015/25