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RESEARCH ARTICLE

EFFECTIVENESS OF CHALKBOARD BASED LECTURES IN PREFERENCE TO POWER POINT PRESENTATION FROM THE STUDENT PERSPECTIVE

¹Jayanta Kumar Poddar, ²Pradip Kumar Das and ^{3,*}Jayanta Debnath

¹Associate Professor, Department, of Pediatrics, Tripura Medical College & Dr. BR Ambedkar Memorial Teaching Hospital, Agartala, Tripura, India, Pin 799014

²Associate Professor, Department of Microbiology, Tripura Medical College & Dr. BR Ambedkar Memorial Teaching Hospital, Agartala, Tripura, India, Pin 799014

^{3,*}Assistant Professor, Department of Microbiology, Tripura Medical College & Dr. BR Ambedkar Memorial Teaching Hospital, Agartala, Tripura, India, Pin 799014

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ABSTRACT

In this study we investigated students' opinion of the impact of electronic presentations (PowerPoint) in lectures of undergraduate level compared to chalk and talk which is a traditional and nonelectronic approach. Students who were about to complete their second year MBBS course were included in the study. A questionnaire pertaining to different aspects of lecture and overall satisfaction of the students with the method of lecture delivery was circulated to all the students of that particular batch. 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. Out of 107 students present in the class, 100 questionnaire forms were included which were properly and duly filled up without any error according to our specifications. The results of the present study suggest that chalkboard teaching has the advantage of a better recall besides being the most preferred aid among second year medical students. Students place greater value on lecturing skills in their learning experience than on whether or not technology is intensively used in the classroom.

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INTRODUCTION

Once students enter University, it is almost inevitable that they will experience lectures, irrespective of the chosen subject. It is often impossible, given the limited number of academics in any University Department, to provide small group classes to cover a particular course or module when the number of students attending is so large. Lectures can be traced as far back as the Greeks of the fifth century BC, and in medieval times, when lectures were the most common form of teaching. (Brown and Atkins, 1988) Cannon in 1988 noted that research comparing lecturing with other teaching methods provides insufficient evidence to favour one method over another. However, he also noted that discussion methods in small groups appear to be a superior method of attaining higher-level intellectual learning.

*Corresponding author: Jayanta Debnath,

Associate Professor, Department of Micro Biology, Tripura Medical College & Dr. BR Ambedkar Memorial Teaching Hospital, Agartala, Tripura, India, Pin 799014.

For many decades the traditional didactic lectures have been the most popular mode of teaching, where a teacher delivers a well prepared lecture orally using black board and chalk to draw the diagram and important points and tries to explain the complex concepts. It has been a universally accepted way of teaching, and adopted in almost all universities. Although discussion methods in small groups appear to be a superior method, but in India, as the number of students attending medical colleges is too large in comparison to the teaching staff available, the lecture remains the mainstay of the teaching method and hence it is immensely important that it should be as effective as possible (Bartsch *et al.*, 2003). Power point (PPT)-based lectures are increasingly being delivered in medical colleges as in other colleges and universities. 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. 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 and availability are important considerations (Susskind, 2005).

In this study we investigated students’ opinion of the impact of electronic presentations (PowerPoint) in lectures of undergraduate level compared to chalk and talk which is a traditional and nonelectronic approach.

MATERIALS AND METHODS

Tripura Medical College is the second Medical college of the state of Tripura under Tripura University, admitting 100 undergraduate students in MBBS course apart from postgraduate courses. Our students experience technology intensive lectures as well as lectures in which traditional chalk and talk pedagogy is exclusively used. Students who were about to complete their second year MBBS course were included in the study.

After a short briefing in the class about the study, verbal consent was obtained from students to ensure their volunteered participation. A 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. For each of these methods in the questionnaire, the students were asked to write one mark for their preferred method of lecture delivery, as depicted in the Table below. Each aspect will carry one mark.

RESULTS AND DISCUSSION

The strength of the participating batch was 111, out of which 107 students were present in the class. We could include 100 questionnaire forms properly and duly filled up without any error according to our specifications. Figure cited below indicates the response of the students to the questionnaire.

Table. Sample Questionnaire

S. No.	Questionaire	Chalk & Board	Power point
1.	Is Power point presentation (PPT) a better & effective tool to explain the subject efficiently when compared to chalk and talk?		
2.	Lecture by which method was organized and structural?		
3.	Which method of presentation creates more interest in the subject?		
4.	Which teaching tool makes you actively participate and involve in the class?		
5.	In which method you were able to take notes/diagrams more easily?		
6.	Which method had better continuity of lecture?		
7.	Which method was more understandable and better reproducible?		
8.	Which teaching tool according to you has the components “Inspire, influence and inform” in a better way with respect to the subject matter?		
9.	Do you feel that power point presentation improves public speaking & presentation skills when compared to chalk and talk?		
10.	Do you feel that power point presentation should replace chalk and talk?		

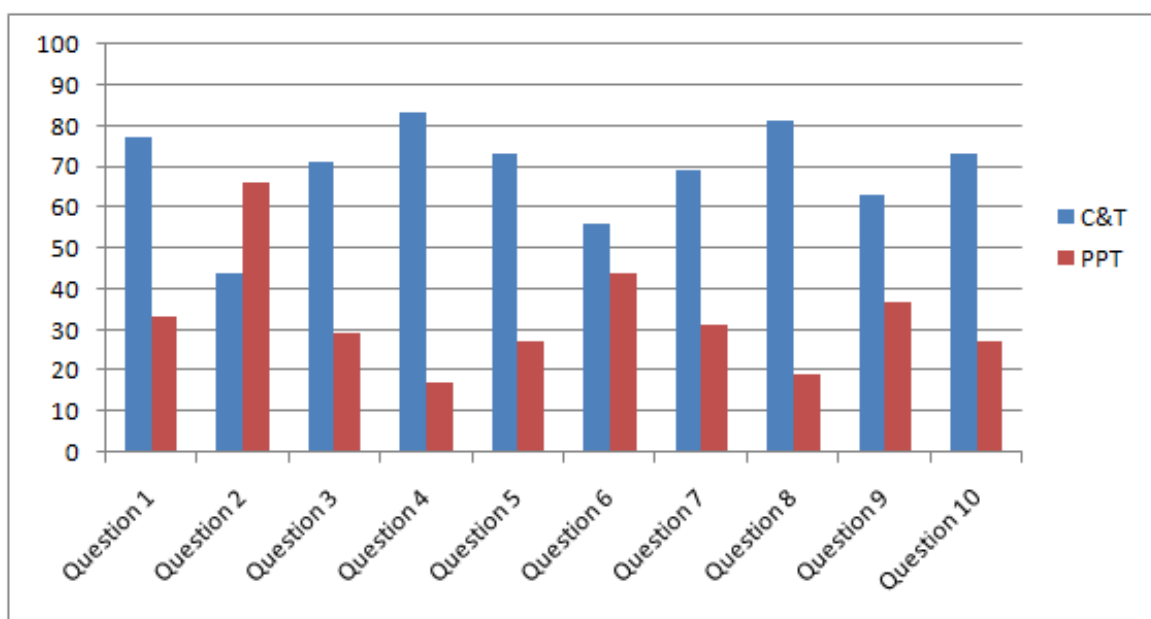


Figure. Indicates the positive response of the students to the questionnaire

Some unexpected results were obtained from the surveys which are mentioned as follows.

- 77 students voted chalk and talk as better and effective tool to explain the subject efficiently.
- 66 students mentioned Power point presentation to be more organized and structural.
- 71 students chose chalk and talk as more creative than PowerPoint to create interest in the subject.
- 83 students voted for chalk and talk method for active participation in class.
- 73 students chose chalk and talk method as better means of note taking.
- 56 students preferred chalk and talk method for better continuity of lecture.
- 69 students preferred chalk and talk method as better means to understand and reproduce the lectures.
- 81 students accepted chalk and talk has the basic teaching components like “Inspire, influence and inform” in a better way than PowerPoint presentation.
- 63 students chose chalk and talk as a better teaching tool to improve public speaking and presentation skills.
- 73 wanted to retain chalk and talk for teaching their subject instead of replacing it with Power Point presentation.

One of the limitations of our study is that our sample was drawn from one institution only and deals with the experience of one particular group of individuals, i.e, a batch of undergraduate students. 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.

Some previous studies have found that students preferred PowerPoint presentation, while in others the students preferred traditional blackboard teaching to Transparencies and Overhead Projector or PowerPoint presentation. One extensive study has suggested that the efficacy of PowerPoint presentation is case specific rather than universal (Shallcross, 2007).

Advantages of chalkboard 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-centered while PowerPoint presentation is more teacher-centered (Shallcross, 2007).

Thomas and Appala in 2007 noted that as per students’ opinion, the explanations, clarity of concepts and learning to draw diagrams are better done on blackboard teaching than PowerPoint presentation.

Teacher student interaction is better in blackboard teaching method. Thus students are active learners.

Disadvantage of chalk board method: To draw exact and accurate diagram on black board with chalk is not easy for all teachers and can be more time consuming. For a large group of students in a class, and voice of every teacher may not reach effectively to all the students, hence visualization along with lecture can be more effective. 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 which is better done by PowerPoint presentation. Moreover with chalk and board, in many cases the hand writing of many teachers is not legible and more time is required to present the same information as compared to Power Point presentation.

Disadvantages of PowerPoint presentation: It is suggested that PowerPoint presentation reduces 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 PowerPoint presentation method the students may become a passive observer rather than an active participant (Thomas *et al.*, 2007). In developing countries like India where factors such as limited infrastructure and an irregular power supply need to be taken into account, blackboard teaching is the better option. Moreover student will not be able to take notes easily, through Power Point presentation.

Advantages of PowerPoint presentation: The power point presentations attract the listeners. The diagrams in the Power Point presentation can be clearly seen than the chalk and board method. A study has pointed out that in Power Point presentation the ability to integrate text, pictures, and images is a great advantage which improves the educative value of the subject. By integrating text, pictures, videos and animation especially 3-D will be as close to the real anatomy as possible, which is almost impossible with the conventional method. Power Point presentation encourages an active learning environment, increase the effectiveness of lectures, and lend clarity to the subject (Shallcross, 2007). A study by Seth *et al.* reveals contradictory opinions of students of different branches of medicine. In their study, Majority of medical students preferred Power Point presentation while the Dental students opted for traditional chalk board method (Seth *et al.*, 2010).

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. A student is not only to understand the subject but also to reproduce it in the exams to gain marks. Any teaching aid would be appropriate and effective if a teacher is adequately trained. The effectiveness of the lecture depends upon the teacher, regardless of the teaching aid used.

Conclusion

In this survey, both goals of increased student engagement and achievement in undergraduate classes appear to be better served by traditional pedagogies like chalk and talk. According to our results, there is no correlation between the chalk and talk method and passive learning and student disengagement.

Moreover, students place greater value on lecturing skills in their learning experience than on whether or not technology is intensively used in the classroom. The results of the present study suggest that chalkboard teaching has the advantage of a better recall besides being the most preferred aid among second year medical students.

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