

IMPACT OF POWERPOINT AND CHALKBOARD TEACHING IN PHYSIOTHERAPY UNDERGRADUATES

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ABSTRACT

Background: A teacher's basic tool for displaying lectures are through blackboards, pegboards, bulletin boards, transparencies with an overhead projector (TOHP), PowerPoint presentation and walk and talk. Nowadays PowerPoint presentation is commonly used as it has ability to present the information in a clear, organized and simpler manner. The present study was carried out to find out the best method of teaching amongst the undergraduate Physiotherapy students. **Objective:** To compare the impact of the PowerPoint multimedia presentation and chalkboard in teaching by assessing the knowledge based on the marks obtained in the pretest and posttest. **Methodology:** 40 students were divided into two groups and a selected content-based lecture in pharmacology was delivered. For one group lecture was delivered using PowerPoint presentation, for second group using Chalkboard. Single - best Multiple Choice Questions [MCQs] paper was used for assessing the knowledge gained. The differences in the marks obtained in the two groups were analyzed. **Results:** Students who attended the class on chalkboard obtained significantly higher score in single best MCQ examination compared to those students who attended the same content based lecture on the PowerPoint. **Conclusion:** The chalkboard method of teaching was found more suitable tool of teaching and learning than PowerPoint for small group.

Keywords: PowerPoint; Chalkboard; Teaching and learning; Teaching methods.

INTRODUCTION

The 21st century is the century of society's movement towards knowledge centeredness, knowledge sharing and evolution in basic concepts and dimensions of life, such as education and training [1]. Over the last four decades, small-group teaching and learning has achieved an admirable position in medical education and is well-liked as a means of encouraging students and enhances the process of deep learning. Small group learning is defined as a process of learning that takes place when students work together in groups of 8-10 members [2]. Small group teaching and learning sessions increase student interest, retention of knowledge, enhance transfer of concepts to novel issues, students' critical skills, teamwork ability, self-directed learning, communication skills, student-faculty and peer-peer interaction [3, 4]. Lectures have been the most common form of teaching and learning since ancient times. A lecture has its own advantages; otherwise this form of teaching would have ceased [5]. Teaching and learning are active processes occurring simultaneously on a continuous basis. Teaching is a mean of facilitating and supporting learning and involves contingent functions. However, learning is the cognitive processes whereby an individual acquires the professional and ethical values, the bio-medical, behavioural and clinical knowledge, reasoning and psychomotor skills necessary

for professional competence [6]. Now a day, the use of electronic presentations is common in medical colleges, as in other colleges and universities. Microsoft PowerPoint (PPT) is the most popular package used out of all electronic presentations. The traditional classes with blackboard presentation were the most favored by students in biomedicine and medicine courses. Each method has its own merits and demerits. Chalkboard aid is inexpensive method and is not dependent on electricity. Microsoft PowerPoint (PPT) has the advantage of using various colors, fonts, diagrams, videos and animation. Its disadvantage is that needs electricity and presentation may over-load with information.

METHODOLOGY

Study design: It is an analytical comparative study.

Ethics approval: The study was approved by the institutional ethics committee

Study place: Study was conducted in the Department of Pharmacology, MIMER Medical College, Talegaon Dabhade, Pune.

Sample size: A total of 40 students participated in this study.

Inclusion criteria: 2nd year Physiotherapy students of either sex & age between 19-20yr were included.

Exclusion criteria: Dull in subject, repeated in first year and second time learner of the topic were excluded.

Grouping: A selected content based lecture in Pharmacology was delivered in two different groups. Group 1: lecture was delivered by using PowerPoint [n = 20];



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Group2: by using the chalkboard [n = 20].

Method: Before (pretest) the lecture best multiple choice questions related to the to be taught topic (MCQs) paper consisting of 10 questions was distributed and students were asked to attempt all the ten MCQs within the required time. Each question carried a single mark. As per above mentioned in grouping for each group delivered lecture for equal time period. Post lecture (Posttest) the same questioner (MCQ) was distributed and asked to solve the MCQs.

Statistical analysis: Analysis was performed using Primer of Biostatistics software. Statistical analysis was done by using student's pair test. The sample was described by using mean \pm SEM for quantitative variables. A level of statistical significance was established at a value of $p < 0.05$.

RESULTS

Table 1 shows the comparison of marks obtained by the students using the two teaching methods. Significantly higher marks were obtained by students who were taught using chalkboard compared to PPT.

Table 1. Comparison of marks obtained by the students in the two groups.

Teaching Method	Pre test	Post test
Chalkboard	5.50 \pm 2.23	8.5 \pm 3.56*
PPT	4.5 \pm 1.98	6.5 \pm 2.98

* $p < 0.05$

DISCUSSION

The results of present study clearly showing that the chalkboard method of lecture delivery has better impact on students. In this method learner is active, interactive, encourages taking down the notes and contained natural pauses and breaks (e.g., during writing or rubbing out the blackboard). In the same method, teachers have to draw exact and accurate diagram on black board with chalk is not easy, time consuming and may not reach effectively to all students if number is large. The PowerPoint presentations depends mainly on the computer knowledge and ability how to prepare PowerPoint presentations in terms of not only physical structure but also the content [7]. The PowerPoint presentations include pictures, animations or videos related to content may be helpful to keep student attentive in lecture. According to students, clarity of words, illustrations, real pictures and summarizations were some of the attributes best deal with on PPT. It is suggested that although PPT has some positive effects, however it does reduce the interactive discussion between teacher and students. Also PPT system can get adversely affected by power loss [8]. A common fault of PowerPoint presentations is the use of slides with too many lines per slide, too many words per line, lines that extend too far inferiorly on the slide, spelling errors, distracting animation effects, too many graphs, and poor colour scheme [9]. In earlier study, it was reported that PowerPoint serves more as a mean of mapping and directing the flow of a classroom discussion on a topic than as a means of presenting the materials themselves [10]. In Sultan Meo et al [6] study, it was observed that the delivery of the knowledge with

PowerPoint only was suboptimal, and students got lower score than the integrated tool of teaching (PowerPoint and chalkboard). Teaching with chalkboard engages the learners actively and the learners always become attentive to that what the teacher is writing and providing knowledge on the board. In this traditional method, the teacher can easily engage the learners actively because students think on each written or discussed point on the board. However, there are few limitations of this tool. The teacher may avoid writing or drawing a figure or flow chart on the board. In medical teaching support of illustrations is very important to develop a concept of that organ/structure/system. Therefore, the students may face difficulty to understand the ideas/concept of the content on the chalkboard. Considering all these facts both the tools of teaching have some strength and weaknesses [6]. Some studies have been shown that contradictory views 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 [11]. In Sajad Hamid study there was comparison in 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 [12]. In Farah Ghaus study mentioned that PPT was found suitable for the visual content and presentation style, students preferred joint use of C&B and PPT for lecture delivery. The study establishes and recommends that chalk and board should be combined with PPT in order to increase the efficacy of teaching learning process in Anatomy [13].

CONCLUSION

In the present study, blackboard teaching is found to be effective teaching tool as compared to PowerPoint teaching for small group.

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REFERENCES

1. Mojgan Mohammadimehr, Sanaz Zargar Balaye Jam, Rahim Moradi, Comparison of E-learning and the Classroom Lecture in Microbiology Course Based on Gagne's Instructional Model. *Res Dev Med Educ*, 2016;5(1):42-6
2. Sultan Ayoub Meo Basic steps in establishing effective small group teaching sessions in medical schools, *Pak J Med Sci*. 2013; 29(4):1071-6
3. Norman GR, Schmidt HG. The psychological basis of problem-based learning: a review of the evidence. *Acad Med*. 1992; 67:557-65.
4. Euliano TY. Small group teaching: clinical correlation with a human patient simulator. *Adv Physiol Educ*. 2001;25(1-4):36-43.
5. Shrikrishna Nagorao Bamne, Avantika Shrikrishna Bamne, Comparative study of chalkboard teaching over PowerPoint teaching as a teaching tool in undergraduate medical teaching, *International Journal*

- of Medical Science and Public Health 2016;5 (12):2585-87.
6. Sultan Ayoub Meo. Comparison of the Impact of PowerPoint and Chalkboard in Undergraduate Medical Teaching: An Evidence Based Study. Journal of the College of Physicians and Sur Pakistan 2013;23(1):47-50.
 7. Tarpan Shah, Megha AP, Hiral Shah. A Comparative Study on the Teaching Effectiveness of Chalk & Talk Versus Microsoft Powerpoint Presentation- An Institution Based Pilot Study of Physiotherapy Students. Int J Cur Res Rev 2017;19(11):40- 43.
 8. Nusrat Jabeen, Abdul Ghani, Comparison of the traditional chalk and board lecture system versus power point presentation as a teaching technique for gross anatomy to the first professional medical students, JEMDS. 2015; 4(11):1811-17.
 9. Collins J, Mullan BF, Holbert JM. Evaluation of speakers at a national radiology continuing medical education course. Med Educ 2002; 7:17.
 10. David DK, James DW. A case for PowerPoint as a faculty authoring system. Cell Biol Educ 2004; 3:155-61.
 11. 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.
 12. Dr Sajad Hamid, 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. JMSCR. 2017;5(6):23161- 65.
 13. Ghaus F, Faruqi NA. Attitude of BDS Students towards Power Point Presentation and Chalk and Board in Anatomy –An Evaluative Study. Ann. Int. Med. Den. Res. 2017; 3(3):01-03.