

Comparative study on anatomy lecture system chalk and board versus power point presentation to the first medical professional students

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Abstract

Aim: Aimed to study the effective role of traditional chalk and board and Power point presentation as a Anatomy lecture delivery methods and analyses the preference of teaching aids to the 1st medical professional students. **Materials and Methods:** 120 out of 150 1st MBBS medical students of Tirunelveli Medical College were asked to fill anonymously a questionnaire about their perception of chalk and board and Power point presentation lecture delivery methods. The results were compared to see the preference of students for either chalk and board or power point presentation. **Results and Discussion:** Students perspectives for chalk –board and power point presentation, to deliver Anatomy lectures was tabulated based on grading of ten pre structured questions (Table-1). The post lecture test performance of students was also assessed and compared based on retention of lecture information in memory, understanding and reproducibility of diagrams (Table-2). More than 2/3rd (80%) of them opined that the traditional chalk and board lecture method is more useful than the Power point presentation (20%). **Conclusion:** Power point presentation should not replace the traditional chalk and board lecture method but be used as a supplementary to enhance the efficacy of teaching as combined method as per need of the lecture topic.

Key Words: Lectures, chalk and board, PowerPoint, Questionnaire.

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INTRODUCTION

Lecture have been the most common form of teaching and learning since ancient times (Brown G *et al* 1988, Vikas Seth *et al* 2010).The traditional didactic lecture have been the most popular mode of teaching anatomy, where a teacher delivers a well prepared lecture orally using chalk and board as a medium of class room instruction, to draw the diagram and important points and tries to explain the complex concepts. A chalk and board

is uniquely effective and universally accepted way of teaching adopted by all universities including medical ones (Estes A *et al* 2010). Moreover the time spent on learning anatomy has been decreased from 1.5 years to 1 year, the teacher of anatomy constantly needs to upgrade him or herself with technology oriented method like microsoft power point presentation which should not replace chalk and board but be used as a supplementary to enhance the efficacy of teaching (Prasad S, *et al* 2000, Sugand K *et al* 2010, Rokade SA *et al* 2013).

MATERIALS AND METHODS

- Study design :Cross sectional study
- Study population :150 students of first year MBBS 2015 - 2016 batch
- Study duration : 25 anatomy lecture classes
- Sample size :120 students (60 girls and 60 boys)
- Sampling technique: Stratified random sampling method

Students were randomly selected for study with equal proportion of girls (60) and boys (60) from 150 students of 1st year MBBS of 2015-2016 batch.

Data collection Method: Anatomy lecture delivery methods: chalk and board and Power Point Presentation.

Medium of instruction: English

Inclusion criteria for students: Students were selected based on

1. Age group : 17 -19 years
2. Basic qualification : 12th Std
3. Members : Girls and boys in equal proportion
4. Class duration: 45 minutes of each anatomy lecture class.

Inclusion criteria for lectures and faculty:

1. The teacher was: well versed of both teaching tools.
2. Account of Lectures conducted based on
 - Set induction,
 - Student teacher interaction
 - Content, summarization etc
 - Same region of lectures with same difficulty level
3. Assessment of students Preferred lecture method by

- perspectives of students about chalk and board and power point presentation (ten prestructured questions)
- Post lecture theory exam performance (three parameters).
- Post lecture test corrected by same teacher.

RESULTS AND DISCUSSIONS

Preference of anatomy lecture method by Ist medical professional students for chalk and board or power point presentation was assessed and tabulated. Table -1 shown the students perspectives for chalk –board and power point presentation based on ten pre structured questions (Nusrat Jabeen *et al*) (Rokade SA *et al.*). Post lecture theory exam performance of students shown in Table -2 (Rokade SA *et al.*) Retention of lecture information in memory, conceptual understanding and reproducibility of diagrams were three parameters of post lecture theory exams. The memory was assessed for obvious facts and minute details and understanding for simple and complex concepts. The diagrams were assessed for their content, accuracy and proportion.

Table 1: Students perspectives for chalk –board and power point presentation by Grading to deliver Anatomy lectures

Sr. No	Parameters	No of students grading to Chalk and black board lecture method	No of students grading to Power point presentation lecture method	Grading to to Power point presentation
1.	Understand the concept	79(A)	41(B)	41(B)
2.	Memorise the topic	75(A)	45(B)	45(B)
3.	Reproducibility of text information during exams(theory and viva)	73(A)	47(B)	47(B)
4.	Reproducibility of diagrams in theory exams	76(A)	44(B)	44(B)
5.	Able to take notes/diagrams more easily	86(A)	33(B)	33(B)
6.	Coverage of all aspects of topic	79(A)	41(B)	41(B)
7.	Able to integrate text with figure	73(A)	44(B)	56(B)
8.	Interest stimulating	67(A)	53(B)	
9.	Continuity of lecture (while power failure)	86(A)	34(B)	
10.	Overall effectiveness of presentation	74(A)	46(B)	
	Average of overall grading	A	B	

Table 2: Post lecture theory exam performance of students (Maximum score=10 for each question)

Sr. No	Parameters	No of students scored 5 and above in Chalk-black board lecture method	No of students scored 5 and above in Power point presentation lecture method
1.	Retention of lecture information in memory	85(70.83%)	35(29.16%)
2.	Understanding	79(65.83%)	41(34.16%)
3.	Reproducibility of diagrams	96(80%)	24(20%)

In the present study, 80% of the students opined that the conventional chalk and board is more interest stimulating and helpful for conceptual understanding than Power Point Presentation. With all the above parameters studied that the chalk and board lecture method also enhances the

students memorization and reproducibility of text information and diagrams, while appearing for exams both in theory and viva, than power point presentation (20%). The difference being significant statistically shown in Table 1 and 2, that coincides with Thomas and

Appala *et al.* Present research work also noted that as per students opinion, the explanations, clarity of concepts and learning to draw diagrams are better done on chalk and board than power point presentation (Thomas and Appala *et al.*). The lectures are not interrupted due to power failure but contain natural pauses (during cleaning of the board which provides sufficient time to the students to grasp the new concepts (Seth V *et al* 2010c). Creed T *et al* stated that the chalk and board teaching lecture method is more students centred while Power point presentation is more teacher centred and teacher student interaction is better in chalk and board than Power Point Presentation. It allows spontaneity, flexibility and non linearity (Estes A *et al*), supported the present study. Conceptual understanding is better with chalk and board method than Power point presentation which is correlated with Brown G *et al* 2001, who stated that, the teacher through series of statements written/diagrams drawn sequentially, tries to explain a process/procedure on a chalk and board. With Power point Presentation method, the students may become a passive observer rather than the active participant (Thomas and Appala *et al*). Garg *et al.*, 2004 noted that AV aids though preferred by teachers to be included in lecture, it was not certain whether it increases their understanding and post examination performance. Present article claimed that, board drawing still remains the most useful of visual aids in medical education in the course of formal lectures (A.BARABAS 1965)

CONCLUSIONS

The present study clearly highlights, the traditional chalk and board lecture method is more interesting with better student-teacher interaction than Power Point presentation. It also integrate text with figures in a better way than Power Point Presentation and encourages taking down notes and diagrams, as the students follow the hands of the teacher, with natural pauses and without interruption by power failure. Therefore present study and previous studies does support the superiority of conventional chalk and board as preferred lecture method over power point

presentation to deliver the anatomy lectures for first medical professional students.

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