

## MEDICAL STUDENTS PERCEPTION ON CHALK BOARD AND POWER POINT TEACHING METHODS

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### **Abstract**

Teaching aids like chalkboard and power point (PPT) have commonly been used in medical teaching. With an increasing number of medical seats and introduction of competency-based curriculum, PPT is being preferred. Chalk board talk lecture is the oldest and most commonly used teaching method. After introduction of digitalized teaching in medical colleges Power point presentation Lecture method is commonly used. This study was to evaluate the feedback from MBBS students regarding opinion and preferences of chalk board and PPT lecture delivery aids. The present study was well planned, prospective and cross-sectional questionnaire-based study conducted on MBBS UG medical students in India. 200 students were selected from all years of MBBS. Google form Questionnaire was used to know advantages and drawbacks of Chalk Board and PPT lecture teaching method. In present study 52 % students preferred PPT lecture teaching, 26 % students preferred chalk board lecture teaching. 22% students preferred both PPT and Chalk board teaching methods. The results of the present study suggest that both the tools of teaching (PowerPoint or chalkboard) have some strengths and limitations. Therefore, integrated (PowerPoint and chalkboard) method of teaching is more suitable tool of teaching and learning at undergraduate medical schools

**Key words** : Chalk Board, Power Point, Teaching methods.

### **Introduction**

Lectures can be traced as far as back as the Greeks of fifth century BC and in medieval times, lectures were the most common form of teaching [1]. Chalk board aid is inexpensive, is easy to clean and reuse; allows students to keep pace with teacher and is not dependant on electricity. But it is time consuming, one cannot go back to what has been erased. PPT has advantage of using colours, fonts, diagrams, and animations. Its disadvantages are that dim light causes loss of eye contact, note taking is difficult, needs electricity and projector [2]. Educationists are divided on the superiority of chalk board teaching or PPT use for teaching. Technological advancements have revolutionized in every

field including teaching [3]. Use of electronic presentation has become very frequent, and Microsoft PPT is now the most popular teaching aid used of all electronic presentation even in medical education. Teaching and learning is active process occurring simultaneously on a continuous basis [4]. Both teaching and learning are dependent on teacher, learner, subject matter, environment and teaching methods [5]. 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. Furthermore, learning is relatively permanent change in the behaviour of the learner. This can be established when learners acquire the ability to express their gained insight, realization, facts and new skills. Teaching and learning are active processes occurring concurrently on a continuous basis. Teaching is an art of facilitating and supporting learning and involves contingent functions. Thomas Angelo has famously said that “Teaching in absence of learning is just talking” i.e. A teacher’s effectiveness is about student learning. During the past 15 to 20 years, the teaching method in the classrooms has changed from the traditional chalk and talk to more advance power point teaching (PPT). With the changing trends majority are getting acquainted with the latest teaching methods- like web based learning, problem based learning etc. Traditional classrooms are space bound and learning occurs within a physical boundary. Medical education is undergoing extensive and revolutionary changes in present times. With the advent of innovative teaching methodologies with the use of internet, electronic media, educative videos, conferences, CMEs etc, the traditional methods of teaching Anatomy are facing challenges. There is a need of the hour to address the true need of the students, assessing their problems in learning. Use of teaching aids in medical education technology is swiftly changing from blackboard to virtual simulations and teaching methods range from lectures to integrated teaching [6]. In traditional classrooms, a teacher’s basic instructional tools for displaying information are chalkboards, multipurpose boards, pegboards, bulletin boards and flip charts [7]. Introduction of technology to the education environment enables generation of effective learning environment [8]. With an increasing number of medical seats and an extensive syllabus, there has been a constant effort to use modern teaching aids in medical colleges. Audiovisual aids like PPT help to illustrate pathway and mechanism diagrams and impart clarity to the lectures. Chalkboard aid is inexpensive, easy to clean and reuse, allows students to keep pace with the teacher and methods is not dependent on electricity. However, it is time consuming; one cannot go back to what has been erased and is not so effective for a large number of students. PPT has the advantages of using colors, fonts, diagrams and animation [9]. Microsoft PPT slides revolutionized teaching methods in undergraduate medical students. Texts and audiovisual clips can be easily played on PPT slides [10]. The majority of medical students prefer PPT presentations, mainly because PPT presentations avoid the issue of poor handwriting and dirty blackboards [11]. The present study aimed at obtaining an insight into the views of medical students on the two common teaching aids – chalkboard and PPT. Our study will also be a platform for future study on comparison of teaching aids after implementation of new UG curriculum in India.

## **Material and Methods**

The present study was well planned, prospective and cross-sectional questionnaire-based study conducted on MBBS UG medical students in India. 200 students were selected from all years of MBBS. Questionnaire included following questions: Lectures were well organized and structured; Clarity of the contents/diagram; Clarity of relations of structures; Visibility of lecture; Reproducibility of text and diagram; stimulates interest in subject; Integration of text with figures; Ability to take notes and copy diagrams; Better understanding of topic; Overall satisfaction and effectiveness;

Demonstration of applied aspects; Student teacher interaction. Data was collected with help of Goggle forms. Results were expressed as frequency and percentage.

## Results

**Table 1: Medical students opinion on Black Board and PPT Teaching(n=200) .**

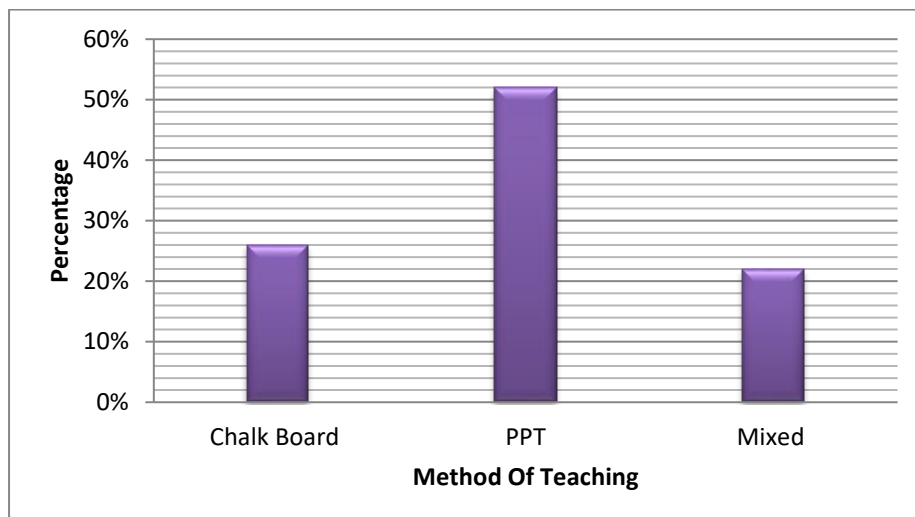
Students opinion	Chalk board Number of students	Percentage	PPT Number of students	Percentage
Visibility of Lecture contents	84	42 %	160	80 %
Able to copy notes, diagrams	120	60 %	80	40 %
Better understanding of topics	140	70 %	110	55 %
Lecture well organised	120	60 %	164	82 %
Clarity of Diagrams	80	40 %	180	90 %
Able to concentrate	150	75 %	110	55 %
Student- Teacher interaction	120	60 %	100	50 %
Involvement in Teaching	150	75 %	80	40 %
Clarity of words	100	50 %	160	80 %
Stress on important points	120	60 %	170	85 %

Visibility of Lecture contents was better in PPT lectures, clarity was better in PPT. Lectures were well organised in PPT, clarity of words was more in PPT, Stress on important points was better in PPT Lectures as compared to chalk board lectures. Able to copy notes, diagrams was better in chalk board lectures, Better understanding of topics was seen in chalk board lectures, students were able to concentrate more in chalk board lectures, Student- Teacher interaction was better in chalk board lectures.

**Table 2: Preferred Method of Teaching**

Preferred Method	Number of students	Percentage
Chalk Board	52	26 %
PPT	104	52 %
Mixed	44	22 %

**Figure 1: Preferred Method of Teaching**



52 % students preferred PPT lecture teaching, 26 % students preferred chalk board lecture teaching. 22% students preferred both PPT and Chalk board teaching methods.

## Discussion

The teaching learning process in medical professional is crucial; because this is the time when students are taught about pathophysiological concepts of diseases and their management and also they come in touch with patients in the hospitals. Moreover, the curriculum in medical education is changing continuously. Needs of learners are changing and role of teachers is being redefined at the same time. One has to keep pace with the ever changing needs of the learners and changing trends in education. Hence, if the needs of the learners are considered while during teaching, the process of teaching-learning can be made effective. In this study, we tried to find out the gaps, if any, by taking students' feedback, in the 1st year medical students about their teaching opinion in physiology subject. Learning and teaching are continuous processes which act simultaneously. This can be demonstrated when learners acquire the ability to express their gained insight, realization, facts, and new skills [12,13] A good teaching needs a good communication for exchanging ideas and information. It is a complex process and has five main components viz. source (teacher), receive (audience/students), message (content/lecture), channels (medium/traditional blackboard, OHP, and PPT), and feedback (effect). The major limitation of lectures is that listener passively receives the material and feels bored and sleepy. Lectures can be made more effective by using visual aids [14]. Blackboard is most commonly used visual aid as it has easy access and relatively simple to use. It needs no special equipment except for chalk, board, and duster which are easily affordable. The quality of the learning experience and outcomes requires a special concern not only with the methods of teaching but also with the ways in which the student uses his/her cognitive abilities. The conceptual teaching should be capable of eliciting deep cognitive processing for an appropriate development of ethical and intellectual development. There is also a need to consider teaching and learning in an integrated manner,[15 ]along with student counselling and development of higher-order thinking skills. The development of thinking can only come about at the cost of reducing the amount of traditional contents<sup>10</sup> that includes the use of only chalkboard and memorization of the contents. The teacher's role is not just to deliver information but also to scaffold and to respond to students' learning efforts. Similarly, the students' role is not just to copy new information, but also to actively make sense and construct meaning.[16] The most important factor in learning is the baseline knowledge of students and new knowledge is constructed by building or enhancing concepts on existing knowledge.

The activation of existing knowledge is an obvious starting point in any workable model for teaching. The schema activation, schema construction, and schema refinement model for teaching, coupled with the encouragement of the students to engage in deeper processing and thinking, give credible and robust basis for teaching and present the information in a structured and organized way. Teaching with integrated tools (PowerPoint and chalkboard) facilitate the students and involve in “schema refinement” as the teacher reviews what has been covered and emphasize the key points made. One of the most useful activities for the student is to make a summary in his/her own words of the main thrust of the session and to annotate this in relation to previous learning and possible future applications. There is no doubt that learning is better when the learner is active rather than passive. Appropriate learning should be meaningful, achieved on a wide range of stimuli, frequent practice in varied contexts and group discussion is also necessary for effective learning. Moreover, learning is more likely to be effective and efficient if learners are informed as to how well they are doing. Teaching with PowerPoint provides better concepts and this is more elaborated when the teacher highlights important contents of the topic on the board. In the present study, it was observed that when contents such as figures and flow charts were discussed on PowerPoint and then elaborated on chalkboard, the students were more active and got a time to ask the questions compared to showing slides on the PowerPoint or drawing simple slides on the board only. The integrated teaching with PowerPoint and chalkboard keeps the students engaged and motivated. Their attention remains focused on the subject matter and that ultimately leads to better absorption of the core knowledge of the contents. In present study, Visibility of Lecture contents was better in PPT lectures, clarity was better in PPT. Lectures were well organised in PPT, clarity of words was more in PPT, Stress on important points was better in PPT Lectures as compared to chalk board lectures. Able to copy notes, diagrams was better in chalk board lectures, Better understanding of topics was seen in chalk board lectures, students were able to concentrate more in chalk board lectures, Student- Teacher interaction was better in chalk board lectures. 52 % students preferred PPT lecture teaching, 26 % students preferred chalk board lecture teaching. 22% students preferred both PPT and Chalk board teaching methods.

PowerPoint presentation is an essential instrument of health professionals in teaching. It offers a tremendous number of options for personalizing slides. Having choices of font, color scheme, display options, sound, and graphics providing an opportunity to enhance a presentation in different ways. However, it should be kept in mind that inappropriate use of PowerPoint features can substantially degrade the quality of a presentation.[17] In medical schools, it has also been seen that most of the physicians / teaching faculty do not pay adequate attention to appropriate preparation of PowerPoint due to their busy schedule and assign PowerPoint slide making to their secretarial staff. In such scenario, teaching faculty can neither deliver the lectures adequately, nor can they stimulate the students at active learning standards. 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.[18]

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.

## **Conclusion**

The results of the present study suggest that both the tools of teaching (PowerPoint or chalkboard) have some strengths and limitations. Therefore, integrated (PowerPoint and chalkboard) method of teaching is more suitable tool of teaching and learning at undergraduate medical schools than PowerPoint or chalkboard alone. In present study 52 % students preferred PPT lecture teaching, 26 % students preferred chalk board lecture teaching. 22% students preferred both PPT and Chalk board teaching methods.

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