



COMPARISON OF TWO TEACHING METHODS USED FOR TEACHING ANATOMY FOR 1ST YEAR MBBS STUDENTS.

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ABSTRACT

There are various methods of teaching for different students. Medical profession also needs a different and effective method of teaching and learning. Anatomy is a basic platform for learning all other clinical branches of Medicine. In our college we used to teach Gross Anatomy by lecture & cadaveric dissection. For lecture either chalk & board or PPT was used. The teacher has to act as a font of knowledge to build up overall development of a student. It is necessary to compare & analyse the different methods of teaching so that we can change to newer methods which will be beneficial to the students.

OBJECTIVES AND AIMS: To compare the two teaching methods, chalk & board and PPT, for teaching Anatomy for first year MBBS students.

METHODS: A group of 100 first year MBBS students (2020-21 batch) from TOMCH&RC were taken for the study. Students were divided into 2 groups of 50 each. Each group was taught by different methods of teaching. For group A chalk and board was used, for group B PPT was used for the same topic. At the end of each session students were assessed by MCQ pattern of questionnaire. Another topic was taken, this time group A was taught by PPT method and Group B was taught by chalk & board method. The marks obtained by them are compared and analyzed. Perception of the students were taken by the questionnaire through Google form and analyzed by taking percentage and represented graphically.

RESULTS: In this study, 70% of the students scored more from group A for topic 1, which was done in chalk & board method. Same group scored less for topic 2, which was done in PPT method. Group B also scored more in topic 2 which was done in chalk & board method. 84 % students preferred blackboard as the teaching method compared to power point presentation, while 16% preferred PPT.

CONCLUSION: Blackboard still remains the preferred teaching aid among the MBBS students. Power point presentation is helpful for the students to visualize 3D Pictures/ objects which can save the time. Combining these two methods will give the better results.

KEYWORDS : Medical Education, Chalk & Board, Power Point method, Teaching Method.

INTRODUCTION:

There are various methods of teaching for MBBS students. We have to follow different methods of teaching to increase the interest of students and also make them involve in learning the subjects effectively. All these years we use to follow traditional methods of teaching only. For first year MBBS students we used to teach Anatomy by lecture and Cadaveric dissection. For lecture either chalk and board or PPT was used. Good knowledge of Anatomy is like a strong foundation for the Medical Education. The teacher has to act as a font of knowledge to build up overall development of a student.

Anatomy is a basic platform for learning all other branches of Medicine. Because of large number of students in India, small group teaching which superior method is difficult.¹ The lecture still remains the main method of teaching for large group. That's why it should be more effective. Previously duration of first year MBBS was 1½ years, but now it is reduced to 1 year. Within this duration we are supposed to complete the entire portion. We wanted to compare whether the traditional didactic lecture class is better or PPT method is good for the students.

OBJECTIVES / AIM OF THE STUDY:

Comparison of two teaching methods chalk & board and PPT, used for teaching Anatomy for first year MBBS students.

MATERIALS & METHODS:

A group of 100 first year MBBS students from The Oxford Medical College Hospital & Research Center were taken for the study. The students were briefed about the study and taken the consent. Students were divided into 2 groups of 50 each. Students were selected randomly. Each group was taught by different methods of teaching. For group A chalk and board was used in topic 1 and PPT method for topic 2. For group B, PPT was used for the topic 1 and Chalk & board method for Topic 2. At the end of each session students were assessed by MCQ pattern of questionnaire. The marks obtained by them were compared and analyzed.

Teaching-aids used in this study were

1. Chalk & board
2. Power Point presentation (PPT)

This Qualitative study was assessed by taking the perception of the students about the chalk and board & PPT method of teaching by questionnaire through Google form and analyzed by using percentages and represented graphically.

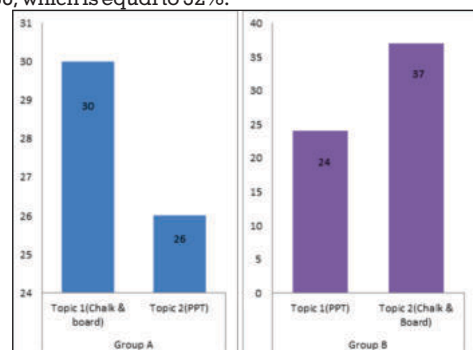
RESULTS:

Topic 1:

In chalk & board method (Group A) out of 50 students 35 of them scored marks between 20 and 30, which comprise of 70%. In PPT method (Group B) 24 out of 50 scored between 20 and 30, which is equal to 48%.

Topic 2:

In chalk & board method (Group B) out of 50 students 37 of them scored marks between 20 and 30, which comprise of 74%. In PPT method (Group A) 26 out of 50 scored between 20 and 30, which is equal to 52%.



The Graphs showing the performance of students in different methods of teaching

The following questionnaire were sent to all the students through the Google form and taken their perception.

Table 1. Showing Sample Questionnaire And The Perception Of Students

SL NO	QUESTIONS	CHALK & BOARD (%)	PPT (%)
1.	Which method of teaching you prefer for better understanding?	67	33
2.	Which method is more structural & organized?	28	72
3.	In which method spelling and new terms were clear.	25	75
4.	In which method you can follow the diagram well	35	65
5.	Which method is more interesting & stimulating?	73	27
6.	In which method you can take down the notes.	56	44
7.	Which method helped to memorize the topic?	66	34
8.	Which method of teaching makes you actively participate & involve in the class	84	16
9.	In which method you can understand the concept well	75	25
10.	Which method was clearer regarding the lecture content?	55	45

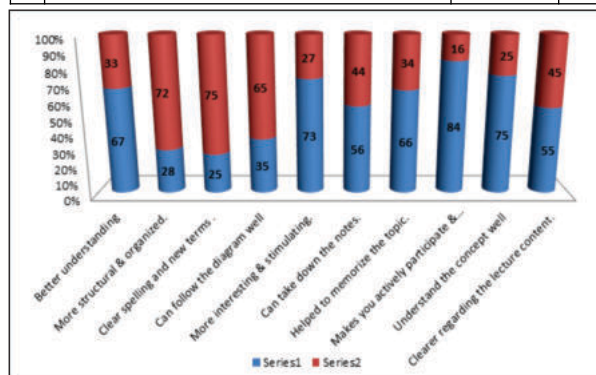


Chart showing the perception of students. (Blue series represents Chalk & board method, Red series represents PPT method of teaching.)

DISCUSSION:

The basic platform for learning and understanding all clinical branches of medicine is provided by Anatomy.¹ Anatomy is taught by various methods like didactic lecture, dissection of cadaver, small group discussion, using bones, PPTs with videos, X-ray, models etc. Since the teaching is an art, teachers can make use of their best teaching aid and make the students understand, remember and reproduce well, thus improving the academic performance of students.² The responsibility of a medical teacher is to meet the individual educational need of the students regarding the knowledge, attitude and the skill. In our college the lecture delivery is by conventional chalk and board method and PPT presentations. Teachers need to continually reflect on their teaching. They should be ready to make changes in their teaching as and when required. In this aspect we wanted to know in which method the performance of students are better, So that we can try to make it more effective. That's why we did this study.

From nineteenth century the blackboard is commonly used tool of teaching. Newer tools have come now with the advancement of the technology.³ Even though the chalk & board method is easy & simple; there is more involvement & depth. In this method the students can get better involved in the subject and can retain the information given by the teacher.³

In Power Point the teacher can explain the topic with images and videos, which is not the case with blackboard teaching. Power Point is a powerful tool to convey the pictorial ideas to students. If it used properly it can enhance the presentation and help the students to learn and remember the things better because most of the people remember what they see is better than what they hear.

It was observed that the short-term retention of facts was less with PPT, students in PPT group obtained lower scores. More number of students preferred blackboard. The most effective lectures where the students are able to understand and given sufficient time to take down the notes, flow charts and diagrams and need some time to understand the topic.⁴

Chalk & board aid is having many advantages like it is inexpensive; easy to clean and reuse, allows students to keep pace with the teacher and is not dependent on electricity.⁵ The student-teacher interaction is better, students can take down the diagrams as the teacher is drawing on the board, they can learn how to draw also. In this method student becomes an active learner. For this method of teaching handwriting should be legible, diagrams should be easy and understandable. Chalk & board is time consuming & cannot go back once it is erased.⁶ It is not effective for large group teaching as it is difficult for last bench students to see clearly. Voice of all teachers may not reach affectively to all the students.

In PPT we can use colors, fonts, diagrams and animation. PPT is more interesting because of its animations, pictures, graphs, 3D images, sequence of images and videos. We can show the microscopic pictures of histology, demonstration of cadaveric dissection. But dim light causes loss of eye contact, note taking is difficult, information is overloaded and electricity is must.^{5,6}

Table 2. Showing Advantage & Disadvantages Of Chalk & Board Method

CHALK & BOARD		
SL NO	ADVANTAGE	DISADVANTAGE
1	Student centred	Drawing all the diagrams is difficult
2	Readily available	Eye to eye contact lost while writing on the board
3	Inexpensive	Difficult to write on the board and talk to the participants at the same time
4	Needs no electricity	The board cannot hold large amount of materials and may required continual erasing
5	Darkening of room is not necessary	The board can get messy
6	Allows the student to follow and draw the diagrams and notes	Requires more time
7	Student and teacher interaction is more	Handwriting should be legible
8	Easy to use	There is no permanent record of information presented
9	Students are active learners	Voice of all teachers may not reach affectively to all the students
10	Sequential development of a concept can be done effectively	

Table 3. Showing Advantage & Disadvantages Of Ppt Method

POWER POINT TEACHING		
SL NO	ADVANTAGE	DISADVANTAGE

1	Can make use of videos, 3 dimensional images	Teacher centred
2	Face to face contact with audience	Required to prepare PPT using proper font, colour etc
3	Effective in a fully-lighted room; audience can follow handouts or take notes	Students are passive observer
4	Can use colourful diagrams which will attract the students	Student and teacher interaction is less
5	Can show the demonstrations of dissection, cadaveric specimens.	Technical issues like electricity problem, Audio video issues etc
6	Can show the Histology Microscopic slides	

Teaching method for anatomy should be assessed under three domains understanding the concept, retention of lecture information in memory and reproducibility of diagrams. The student perspective and preference to a particular method should be considered.⁶

In another study the students felt that blackboard teaching was more helpful in grasping the content and facilitated an increased ability to think and understand. The choice of multimedia by medical students is because complicated topics can be explained with the aid of pictures, graphs, animations and simulations.⁷ In a study by Shilpa et. al. 44.6% of the students preferred chalk and board method.⁸

In our study two groups were made as Group A and Group B of 50 students each. Two different topics were selected. Each batch was taught the same topic in different methods of teaching. In first topic group A was taught by chalk & board method, group B was taught by PPT method for the same topic. 35 students scored above 20 who attended Chalk & Board class & 26 students scored above 20 who attended PPT class. In second topic group A was taught by PPT method and group B was taught by Chalk and board method. 24 students of group A scored between 20 and 30 marks, where as 37 students of group B scored more marks who attended chalk and board method. It clearly showed that the performance of students was good in chalk and board method in both the groups. In other studies also like Nusrat Jabeen, et. al., Sarith Gadicherla & Ramesh babu, the students preferred chalk & board only to take notes compare to PPT. Students preferred Chalk & board because they can easily take down the diagram by following the teacher's method of drawing and helped them to learn better than the PPT⁵. The interaction of teacher and students is more in this method. In a study by Priyadarshini H.V. Shetty & Reena, students preferred combination of both the methods. By using both Audio-Visual aid & chalk & board in proper & intelligent way we can enhance the effectiveness of the teaching methods.⁸ It also depends on the students understanding capacity & their preferences of different teaching methods. The requirement of students is to not only understanding the subject but also they should be able to reproduce in the examination. The curriculum in MBBS is also changing. Liking or disliking of different methods by students depends on the fulfillment of their requirements or not.¹ By taking the feedback from students regarding the teaching methods, we can understand their actual requirement and according to that we can plan our teaching method. The needs of learners are very important to follow the effective methods of teaching. The changes may be related to method of teaching or adding contents in different way etc. The final outcome should be making them understand the subject thoroughly and also improve their performance in exams. The main aim of our teaching should be making students understand the concept so that they can easily apply in their future practice. Our teaching should be providing them a strong basement for future Medical career.

The teaching learning method should fulfill a student's learning of specific learning objectives. Because of that reason we wanted to know the perception of students about different methods of teaching. When we see the perception of students in our study, 67% of them preferred Chalk and Board method for better understanding. 72% of them opined that PPT is more structural & organized well. Spelling and new terms were also clear in PPT (75%). 65 % can follow the diagrams in PPT. Chalk and Board method was more interesting and stimulating (73%) and they can take down the notes (56%), understand the concept (75%) well in this method. Contents were also clearer in chalk & board method for 55% of students. But the preparation for the teachers will be more and strenuous in this method.⁵ Overall when we observe the perception of students in this study, they preferred Chalk and Board method for many reasons. The performances of the students were better in chalk & board method. But for few reasons like drawings, spelling etc they preferred PPT. Depending upon the topics we can use the appropriate method of teaching, where we can use 3-D diagrams, audio visual aids or simple line diagrams on chalk and board and make the teaching learning more interesting and interactive. The physician should come out with adequate knowledge of health and diseases, reasonable medical skills, and a healthy attitude toward patients and their families, which is the goal of undergraduate medical education.⁹ By understanding the student perception about teaching and learning methods we can reinforce the medical education at the delivery level. It is very challenging for teachers to create the student friendly approach to teach too many students.¹⁰ By taking the feedback from students helps teachers to know the method of teaching that improves the student's understanding capacity and according to that we can plan our method of teaching whether chalk and board, PPT or combination of both.

CONCLUSION:

Blackboard still remains the preferred teaching aid among the MBBS students. Power point presentation is helpful for the students to visualize 3D Pictures / objects which can save the time. By adding both traditional & modern method we can make our teaching method much more effective.

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