



EVALUATION OF DIFFERENT TEACHING METHODS USED IN PHYSIOLOGY LECTURES: A QUESTIONNAIRE BASED STUDY IN A MEDICAL COLLEGE OF NORTH INDIA.

Physiology

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ABSTRACT

Background: A teaching technique is made up of the ideas and procedures that are utilised to instruct students. The technique of teaching a topic has an impact on the students' understanding of the subject and their ability to manage clinical problems. The best technique to evaluate and improve teaching methodology is to get feedback from students. Years of practise with a range of teaching methods produce the most expert teachers. 1,3 Even in learning, the teaching style or methods employed are mostly determined by the content or skill being taught and may also be impacted by the students' aptitude and enthusiasm. **Objectives:** The purpose of this study was to see which technique of educational presentation was favoured by students: overhead projector or simple chalk and board. **Methods:** One hundred first year MBBS (medical students) volunteered to participate in the study. The students' opinions were gathered using a prevalidated questionnaire. In lecture classes, they were asked to fill out a questionnaire and evaluate various teaching approaches. **Results:** Most of the students favoured power point presentations over overhead projectors and chalk and board presentations. **Conclusion:** Among the three teaching modalities employed, students preferred power point to the blackboard and overhead projector. When it was necessary, they favoured a combination of instructional aids.

KEYWORDS

Teaching Method, Power Point, over Head Projector

INTRODUCTION:

Medical education technology's primary purpose is to improve learning and teaching by incorporating a variety of successful teaching approaches into the medical curriculum. Quality doctors, not just quantity, are required to care for the vast Indian population. Increased use of student surveys as a tool of evaluating teaching has resulted from a renewed focus on the quality of teaching in medical colleges. Undergraduate physiology instruction has evolved to include new teaching approaches such as the use of audiovisual aids, small group teaching seminars, and other innovations. It is necessary to revise the teaching programme at frequent intervals in order to make Physiology courses more engaging and understandable. Students' input is the most effective technique to evaluate and improve instructional methodologies.

Rashmi and her associates (Rashmi and her associates) (Rashmi and her Overhead projectors (OHP) and transparencies, Powerpoint presentations, and the conventional chalk and board approach have all been used to teach Physiology in lecture lectures. Various studies have been carried out in the past, with some of them ending in a stalemate. Audiovisual aids should be used in conjunction with conversations, according to Garg et al. For greater performance, Seth et al found that traditional chalk and board and powerpoint are superior to OHP. As a result, we planned to undertake this study to analyse the current teaching methods in Physiology to improve and adjust our teaching style.

Aims and objectives of the study

1. To evaluate different teaching methods used in Physiology lecture classes.
2. To find out the best method for understanding and retaining the topic.

Materials and methods:

A questionnaire was created and prevalidated before being distributed to first-year medical students (table 1). The questionnaire was distributed once the objectives were explained to them. Out of the total of 150 students one hundred students took part in the research. In the Physiology lecture lectures, they were asked to fill out a questionnaire

and evaluate various teaching approaches. Three classes were held using a blackboard, overhead projector (OHP), and power point presentations on various physiology topics. There was no instructor prejudice because all three topics were taught by the same teacher. The students were then asked to rate each of the following parameters out of a possible five on a scale of one to five. The aforementioned 8 items were totaled out of a possible 40 for the assessment. The final exam score was calculated using the average marks from each of the three lectures given. Students were also encouraged to provide their own suggestions. The results were compared to find out the best method for understanding and retaining the subject according to the student's opinion.

Table 1: Questionnaire for Evaluation of teaching methods used for lecture classes

S.NO	PARAMETER	MARKS				
		1	2	3	4	5
1	THE LECTURE WAS WELL ORGANISED					
2	THE LECTURE WAS CLEARLY AUDIBLE					
3	THE BOARD WORK, VISUAL AIDS WERE USED APPROPRIATELY					
4	THE BOARD WORK, VISUAL AIDS WERE CLEAR					
5	THE LECTURE WAS TAKEN PROPERLY					

Statistical analysis

The data was analyzed by using one way ANOVA & post ANOVA pairwise comparison was done by applying Tukey HSD test.

RESULTS

A total of one hundred students took part in the research. Students completed a questionnaire (Table 1) that was used to assess their grades (Figure 1).

Students gave an average of 30.81 out of a possible 40 for lectures using OHP, 31.58 for lectures using blackboard, and 32.03 for lectures using PowerPoint (Figure 2). According to a one-way ANOVA test, there was no statistically significant difference in the average scores of the three teaching approaches. According to the Tukey HSD test, there

was a statistically significant difference between OHP and PowerPoint (P.0.01), as well as chalk and speak and PowerPoint (P.0.01).

When comparing OHP to chalk and board, however, there was no statistically significant difference.

As a result, it is reasonable to conclude that students preferred lectures with PowerPoint presentations because they received the highest average score.

The majority of students stated (in comments and suggestions) that the effectiveness of any lecture is determined by the teacher, regardless of the approach employed. The most effective strategy, according to 90% of students, was a combination of traditional "chalk and talk" and PowerPoint presentations where necessary, such as when explaining diagrams, animations, charts, and classifications. The majority of students advised that more interactive sessions, case studies, and small group discussions be included in regular classroom instruction.

DISCUSSION

The purpose of this study was to compare and contrast various existing teaching methods in physiology, such as overhead projectors, PowerPoint presentations, and the classic blackboard approach, in order to determine which method was the most effective. In terms of which method is superior, pupils favoured PowerPoint over chalkboard and blackboard over OHP. This finding is consistent with a recent study by Vikas Seth et al, which found that the vast majority of students preferred PowerPoint presentations. Amaneet al⁶ came to the same conclusion as the current study. Although previous studies have shown that the traditional chalk and talk method is preferable to the other two ways, a study has found that the ability to incorporate text, photographs, and images in PowerPoint presentations is a significant advantage that improves the educative value of the subject. It is also suggested that although PowerPoint has some advantages, it reduces the interactive discussion between teacher and students.

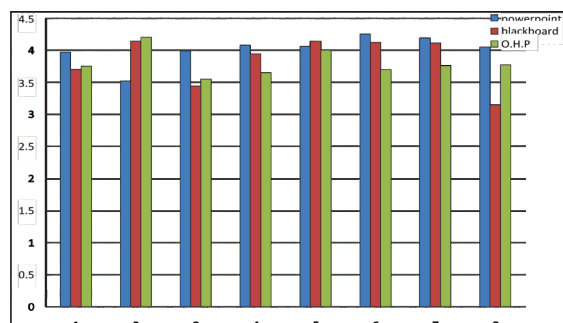


Figure 1: Response of participants (marks awarded) to different teaching methods for 8 parameters listed

This solution, on the other hand, avoids the problems of illegible handwriting and a soiled blackboard. According to Dudley et al⁷, the lecture delivery mode has no substantial impact on learning results. Muneshwar et al⁸ discovered that by providing group activities in the form of seminars and symposiums, the generation gap between students and teachers can be bridged. Interactive lecture sessions, rather than tutorials and small groups, according to J. Thirunavukkarasu et al¹⁰, play a larger role in learning knowledge.

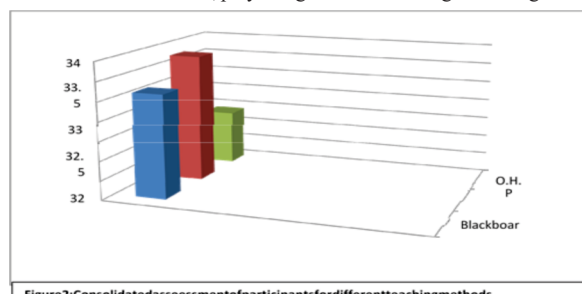


Figure 2: Consolidated assessment of participants for different teaching methods

CONCLUSION

The teaching methods utilised should be relevant for the topic being covered; for example, for flow charts and categorization, OHP is the best method; for illustrating any physiological process, power point with animation is the best method. And the tried-and-true chalkboard, lecture, and chalk method is still the greatest way to teach basic physiology concepts.

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