

Perception of different teaching aids by the final year MBBS student's in a Medical College

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Abstract

Introduction: Time to time evaluation of medical curriculum by experts is the routine practice in medical education. However the student's perception and opinion about the teaching - learning methodology is equally important because it is meant for them. So, evaluation of teaching -learning methodology by the students in a medical college may further help in modification and construction of the medical curriculum. Considering these facts the present study is undertaken.

Objectives: To understand the preferences and perception of medical students about the current methods of teaching and learning aids used for teaching and also the qualities of the teacher influencing them.

Methods: The questionnaire number 16 covering the different aspects of lectures was given to 200 medical students of final year students in the year 2014 of Sapthagiri institute of medical Sciences & Research centre Informed consent was taken by the participants and confidentiality was maintained. The questionnaire was assimilated and analyzed statistically.

Results: Multimedia is most satisfied teaching aid because students can follow the teaching and understand the concept effectively. Student perception forms an essential component for process evaluation of the medical curriculum which has a profound effect on the stakeholders i.e. the teachers in terms of scope for improvisation in medical education and students for becoming effective physicians.

Keywords: Teaching aids, multimedia, Audiovisual aids, medical education, PowerPoint, OHP, Blackboard, Lectures.

1. Introduction

Teaching is an art. By making use of best teaching aid, teacher can teach and make the students understand, remember and reproduce well; thus improving the academic performance of students. 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. [1]

Medical teachers have conventionally been using different teaching aids to educate medical students previously dominated by blackboard and slide projectors. More recently audiovisual aids such as videotapes and multimedia have been introduced. Critics of multimedia feel that it is expensive, too time consuming, and isn't worth the time and effort.[2] A learner's learning style, whether visual, auditory or kinesthetic, is usually resistant to change.[3] Hence it is likely that mismatches exist between the learning styles of medical students and the teaching styles of medical teachers.[4]

2. Material & Methods

A questionnaire was prepared having 16 items covering the different aspects of teaching aid in the form of opinion by the medical students. The questionnaire was a closed ended one with a few open ended options. The same was validated. The ethical principles were adhered to. The questionnaire was given to 200 medical students of final year in the year 2014, Irrespective of the teacher and topic, the students were asked to grade teaching aids that were used to teach, Irrespective of class method of teaching style & teaching aids. Informed consent was taken by the participants and confidentiality was maintained. The questionnaire was assimilated and analyzed to derive the results.

Teaching-aids used in study were

1. Black board (BB),
2. Power Point presentation (PPT),
3. Over Head Projector (OHP),
4. Multimedia

Questionnaires asked based on the above teaching aids were:

- The reliable teaching visual aid,
- Develops ability to think & understand topic better,

- Provide good learning experience,
- Interesting & interactive teaching aid,
- Allowed better inclusion of context,
- Enhanced visual quality of text & figure,
- Allows good room illumination,
- Better able to cope with teaching speed of teacher,
- Helps to grasp the content,
- Stresses upon the relevant & important information.
- Revision allowed at the end of the lecture,
- More useful in small group (10-20),
- More useful in large group (50-100),
- PPT included with other teaching aid- yes/no,

- Do you feel any difficulty from switching one mode to another within short duration of time- yes/no,
- Most preferred teaching aid.

After obtaining informed consent, the students were encouraged to furnish their unbiased independent opinion regarding the above study.

2.1 Statistical analysis

The response obtained from the students was statistically treated to calculate the high Satisfaction Index (SI) for teaching aids. Observational study was done & percentage was calculated.

3. Results

	BB (%) Blackboard	PPT (%) Powerpoint presentation	OHP (%) Over head projector	MM (%) Multimedia
1. The reliable teaching visual aid	12	20	14	54
2. Develops ability to think & understand topic better	56	18	16	10
3. Provide good learning experience	13	38	5	44
4. Interesting & interactive teaching aid	30	29	5	36
5. Allowed better inclusion of context	11	31	17	41
6. Enhanced visual quality of text & figure	16	28	7	49
7. Allows good room illumination	72	7	8	13
8. Better able to cope with teaching speed of teacher	61	21	5	13
9. Helps to grasp the content	30	16	14	40
10. Stresses upon the relevant & important information	18	22	6	54
11. Revision allowed at the end of the lecture	38	37	11	14
12. More useful in small group(10-20)	66	30	4	-
13. More useful in large group(50-100)	32	44	24	
14. PPT included with other teaching aid- yes/no	yes-73	No-27		
15. Do you feel any difficulty from switching one mode to another within short duration of time- yes/no	yes-38	No-62		
16. I prefer teaching aid	10	38	5	47

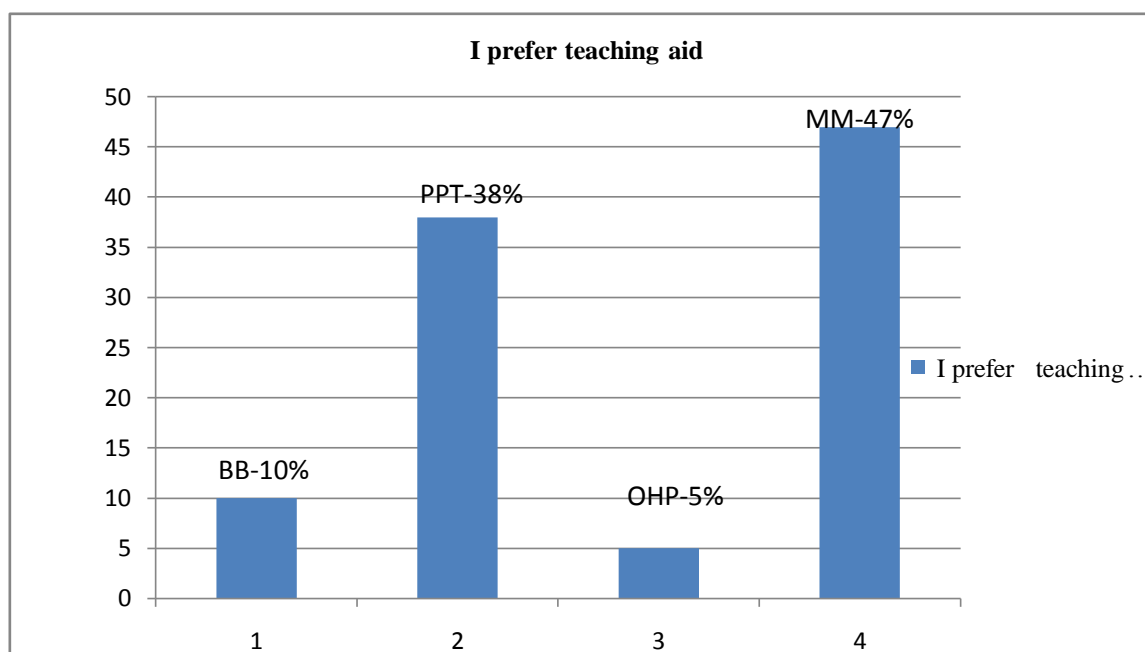


Figure 1: Bar chart showing preference of teaching Aid

3.1 In the present study, Learning aids

Students preferred Multimedia (47%) as their first choice, followed by PPT (38%), black board teaching aid (10%) & OHP5%.

Multimedia preferred by 47% of students - reliable (54%), Stresses upon the relevant & important information(54%), Helps to grasp the content(40%), Enhanced visual quality of text & figure(49%), Allowed better inclusion of context(41%), Interesting & interactive teaching aid(36%), Provide good learning experience (especially applied aspects)(44%),

PPT preferred by 38% of students - More useful in large groups (44%). PPT used with other teaching aids was preferred by 73% of students.

BB preferred 10% of students - Develops ability to think & understand topic better (56%), Allows good room illumination (72%), Better able to cope with teaching speed of teacher (61%). More useful in small group (10-20) (66%) revision allowed at the end of lecture (38%)

OHP preferred in 5% of students-More useful in large group(50-100)(24%), Allowed better inclusion of context(17%), Develops ability to think & understand topic better(16%), Helps to grasp the content(14%), The reliable teaching visual aid(14%),

Majority of 62% students commented no difficulty, 38% said yes in from switching one mode to another within short duration of time.

4. Discussions

Priyadarshini *et al* [5] conducted the study in the Department of Biochemistry, of a Medical college with study comprising of 117, 1st MBBS students who have completed their 2nd semester. Results showed Power point presentation in combination with Blackboard (66%) was the most helpful teaching aid to understand, remember and reproduce; followed by combination of OHP and blackboard (46%). Teaching using OHP alone and PPT alone was opined not effective at all. [5]

The study done by Chaudhary *et al* [6] was undertaken on 100 Medical students of 1st Year MBBS of 2006 Batch. In their study also majority of the students (67.1%) favoured the combination of teaching aids. Blackboard (31%) was preferred over OHP (11%) and Power point (3.4%) Even they favoured seminars along with different teaching aids (82%). Most of the students (77%) did not feel difficulty in switching from one teaching mode to other during the delivery of lecture by teacher. [6]

Study done by Thirunavukkarasu *et al*[7] observed marks scored by 60 students, taught using two different teaching aids for medical under graduates in pathology subject was, students had a more favourable response towards PowerPoint presentation than Blackboard for better inclusion of content and understanding figures. [7]

Roopakulkarni *et al* [8] study observed where, questionnaire was given to 475 medical students of first, second and final year students in the year 2009, have also

concluded that audio-visual aids enhance the effectiveness of the blackboard teaching. 56.1% of students prefer blackboard teaching, whereas 42.2% of students are for multimedia presentations. [8] Garg *et al* [9] have taken the students opinions of 63 on the prevailing teaching methods in Pharmacology and showed that 81% of the students wanted the teacher to make use of audio visual aids during the lectures. [9]

Baxi *et al* [4] in their study questionnaire was given to 93, 5th semester students at Government Medical College, Bhavnagar regarding showed that an equal number of students preferred blackboard based or multimedia-based lectures. [4]

In few studies like Vikas Seth *et al*[10] who have compared the preference for teaching aid between medical students versus dental students. The medical students have preferred PPT whereas the dental students preferred the Chalkboard. [10]

Sujata Biswas *et al* [11] study showed that student's opinion about both lecture delivery methods, majority students feel that both power point and chalk and board should be used simultaneously in all the classes. [11]

Bartsch and Cobern *et al*[12] noted that students preferred lectures with PPT over the use of OHP, but that in some instances study done by Szabo and Hastings *et al* [13], the content of the PPT presentation distracted students and they performed less well on tests compared with another group given lectures using chalkboard. One extensive study comparing PowerPoint and OHP observed no difference in student performance in tests [13] while in another study Lowry *et al* [14] there was marked improvement in examination results when PPT replaced the use of OHP. [14]

In the present study multimedia teaching was preferred, compared to other teaching aid goes well with the study done by Roopakulkarni *et al*[8], Garg *et al*[9] & Baxi *et al*[4].

Explanations for the preference of teaching aid was given by different authors were:

A multimedia has been shown to be effective for classes with students from different backgrounds; it explains complicated topics with the aid of pictures, graphs, animations and simulations. It also increases the memory of the student with respect to the topic taught. Multimedia lectures can present complex concepts in small, chronological steps that aid student's ability to comprehend information in a meaningful way. The inability to move away from the computer desk inhibits a teacher walking freely across the room. Hence, when the faculty tends to focus on the technology the students feel ignored [4].

In our study explanation given for preference of Multimedia by 47% of students –Most reliable(54%), Stresses upon the relevant & important information(54%), Helps to grasp the content(40%), Enhanced visual quality of text & figure(49%), Allowed better inclusion of context (41%), Interesting & interactive teaching aid (36%), Provide good learning experience (44%).

In case of PPT presentations the main reason for liking was that they avoided the issue of poor handwriting and

dirty blackboard. It is more interesting and engaging. A study has pointed out that in power- point the ability to integrate the text and the pictures and images is a great advantage and improves the educative value of the subject [15]. It is suggested that although PPT has some positive effects, but it reduces the interactive discussion between teacher and students [9].

PPT preferred by 38% of students in our study because - More useful in large groups (44%). PPT used with other teaching aids was preferred by 73% of students.

While preferred blackboard teaching because, the rooms will be well illuminated, Teacher can hold the attention & aroused interest in students and can cope with the speed of the teacher, It increases the ability of the students to think and understand the contents and simultaneously take down the notes and write the diagrams, No interruption because of power failure & more useful in small group (10 - 20) & is deficient in showing three dimensional diagrams, animated videos and sounds. Chalk board may be said to be more student centered. [5]

In our study BB was preferred by 10% of students – because it Develops ability to think & understand topic better (56%), Allows good room illumination(72%), Better able to cope with teaching speed of teacher (61%). More useful in small group (10-20) (66%), revision allowed at the end of lecture (38%).

By using overhead projections (OHP) presentations it is easy to put much information on one slide. When a large volume of information is presented in this manner, working memory capacity can be overloaded and useful note taking becomes difficult. This could be the main reason why the students did not prefer OHP although both these aids share a few of the advantages of computer presentations such as proper illumination and better display of figures and graphics.[16]

It is easier to take notes provided the handwriting is well legible. Of the presentations that were disliked, the main issues were of poor visibility and that the presentation contained too much material and covered too quickly. It is explained in an article that although the OHP is easy to use and has some advantages, at times it can serve as a distraction. [17]

In our study OHP preferred in 5% of students-it was more useful in large group(50-100)(24%), Allowed better inclusion of context(17%), Develops ability to think & understand topic better(16%), Helps to grasp the content(14%), The reliable teaching visual aid(14%).

5. Conclusions

The students have opined that the lectures are essential. In today's world of medical curriculum and short duration of time frame given to students, student perception forms an essential component for process evaluation of the medical curriculum which has a profound effect. Ideally combination teaching aid will be most satisfied teaching aid because the inherent deficiency of one aid is compensated by the other. If individual teaching aids are considered, multimedia teaching aid is most acceptable, because students can follow the teaching and understand the concept effectively.

Use of multimedia along with other teaching aids will improve students in better understanding of subject which will have an impact on final outcome on the stakeholders i.e. the teachers in terms of scope for improvisation in medical education and students for becoming effective physicians. We as teachers need to judiciously use different teaching aids & methods to increase the understanding, remembrance and reproducibility and thus the academic performance of the students.

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