Short Report

Students' perception of different teaching aids in a medical college

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Introduction

Medical teachers have conventionally been using different teaching methods 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.[1] A learner's learning style, whether visual, auditory or kinesthetic, is usually resistant to change.[2] Hence it is likely that mismatches exist between the learning styles of medical students and the teaching styles of medical teachers.

This study was undertaken to determine 2nd-year medical student teaching-aid preferences during classroom instruction in a medical college in India.

Methods

A focus group of 10 medical teachers of 2nd-year medical students were asked for their views on the advantages and disadvantages of blackboard, overhead projector, slide projector and multimedia as a teaching tool. Based on these views a questionnaire was prepared using a 5-point Likert Scale. It was given to 93 5th-semester students at Government Medical College, Bhavnagar. These undergraduate students attended classroom lectures by different teachers using blackboard, transparency, 35-mm slides and multimedia (computer) teaching modalities. The students were asked to voluntarily complete the survey to evaluate their preferences to specific presentation methods. The study was approved by the local ethics committee. Statistical analysis was done by Kruskal-Wallis one-way analysis of variance on ranks using SPSS Software Trial Version.

Observation and results

Table I shows that blackboard teaching scored more in the following points:

- Facilitated interaction between student and teacher
- Aroused interest in learning
- Helped to hold attention in class
- More helpful to grasp the content
- Better able to cope with teaching speed of teacher
- More useful in small group (10 - 20)
- Increased ability to think and understand.

Table I shows that multimedia teaching scored more in the following points:

- Room illumination
- Allowed better inclusion of content
- Enhanced visual quality of text and figure
- Made better use of examples and illustrations
- More useful in large group (50 - 100)

Blackboard and multimedia teaching scored equally in the following:

- Stresses relevant and important information
- Best to summarise lecture

The overall preference of students was distributed equally between blackboard teaching and multimedia teaching. Slide-projector teaching was the least preferred, followed by the overhead projector.

Discussion

The overall preference of students was distributed equally between blackboard teaching and multimedia teaching. This is an interesting finding because the literature suggests that students prefer computer-assisted teaching modalities.[3] The effectiveness of multimedia depends on how it is used in relation to instruction. When multimedia is used to supplement regular instruction, gain in achievement is consistent, but when it is substituted for traditional instruction achievement results are mixed. 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.

In this study students rated **blackboard-based teaching more highly for** 'facilitating interaction between teachers and students', 'coping with teaching speed of teacher', and 'arousing interest in learning' and 'holding attention in classes'. This may be because older, more experienced teachers tended to use this teaching modality, while younger teachers usually opted for multimedia computer-based lecturing. The students also felt that blackboard teaching was 'more helpful in grasping the content' and facilitated an 'increased ability to think and understand'. This is most likely owing to the fact that blackboard-based delivery considerably reduces the speed of lecture delivery, thereby facilitating understanding and grasping. The old model of lectures and note taking has been found to be unsuccessful in making efficient use of faculty time for allocat-

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Table I. Acceptance of instruction media by 2nd-year medical students

	OHP	Black- board	Multimedia	Slide project	*p*
1. Allowed better inclusion of content	13	29	53	21	<0.001
2. Enhanced visual quality of text and figure	14	16	57	22	<0.001
3. Room illumination	14	23	34	16	<0.001
4. Facilitated interaction between student and teacher	16	50	30	17	<0.001
5. Make better use of examples and illustrations	15	37	46	20	<0.001
6. Aroused interest in learning	10	42	36	17	<0.001
7. Helped to hold attention in class	10	50	32	20	<0.001
8. More helpful to grasp the content	13	44	33	13	<0.001
9. Better able to cope with teaching speed of teacher	10	44	33	16	<0.001
10. Stresses relevant and important information	18	39	38	10	<0.001
11. More useful in large group (50 - 100)	17	30	48	13	<0.001
12. More useful in small group (10 - 20)	16	46	38	13	<0.001
13. Increased ability to think and understand	11	52	28	15	<0.001
14. Best to summarise lecture	14	40	41	12	<0.001
15. Overall I prefer teaching aid X	12	39	40	6	<0.001

ing information to large groups of learners.[4] This was also felt by our students who were of the opinion that the blackboard is 'more useful in instructing small groups'.

A multimedia approach was favoured by 40 subjects in this study. This could be owing to the fact that the respondents come from a diverse background of different states across India and also from tribes and creeds. Multimedia has been shown to be effective for classes with students from different backgrounds.[4] The choice of multimedia by medical students is also not surprising, as multimedia material has been shown to explain complicated topics with the aid of pictures, graphs, animations and simulations.[5] Multimedia lectures can present complex concepts in small, chronological steps that aid students' ability to comprehend information in a meaningful way.

By using overhead projections (OHP) or 35-mm slide presentations it is easy to put much information on one page /slide. When a large volume of information is presented in this manner, working memory capacity can be overloaded and useful note taking becomes difficult.[6] This could be the main reason why the students did not prefer OHP and slide presentations, although both these aids share a few of the advantages of computer presentations such as proper illumination and better display of figures and graphics. Motion on the screen is important to holding viewer attention. This is also lacking in both OHP and 35-mm slides, whereas animation plays a major role in multimedia design.

Conclusion

This study showed that an equal number of students preferred blackboard-based or multimedia-based lectures. Teachers should take note of the reasons why a significant number of students still prefer 'outdated' teaching modalities compared with computer-based presentations. The reasons for this preference need to be taken into consideration when using multimedia modalities to present lectures to students.

References

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