Teaching aids-perceptions of medical students

N. R. Hemalatha¹, Mamata P. Samaga²*

¹[Associate Professor, Department of Physiology] ²[Assistant Professor, Department of Microbiology] Mandya Institute of Medical Sciences, Mandya, Karnataka, INDIA.
Email: mam43@rediffmail.com

Abstract
Background: Traditional didactic lecture is more passive in nature and less effective as a teaching tool compared with active learning methods, such as problem-based learning. However, a well-organized lecture remains one of the most effective ways to integrate and present information from multiple sources on complex topics. Hence, assistance in the form of audio-visual aids like chalk and board, ppt and ohp is needed to enhance the quality of lecture. Aims and Objectives: The objective of our study was to find out medical students perspective regarding the 3 audio visual aids (chalk and board, ppt, ohp) commonly used in teaching. Material and Methods: A cross-sectional descriptive questionnaire based study was conducted on 87 first year medical students. A pre-designed, pre-tested, self-administered questionnaire in English was used to collect data. A 15-item questionnaire was used to assess views regarding audiovisual aids. Statistical Analysis: Data was entered in MS Excel and were analyzed. Results are shown with the help of bar diagram, pie chart and percentages. Results: In our study, chalk and board was the most preferred teaching aid (62%) followed by combination of teaching aids(21.8%). 87.4% students felt that chalk and board facilitated interaction of students and teachers, 81.7% for copying diagrams easily, 79.3% for better problem solving. The same parameters scored less with ppt, 3.4%, 14.9%, 19.5% respectively. Our students felt black board was ineffective for demonstration of clinical conditions (98.8%), covering more subject per lecture (82.8%). These parameters scored highest preference with ppt teaching, 88.5% and 71.3% respectively. Conclusion: Chalk and board teaching remains as a best preferred teaching aid which can be supplemented by ppt and ohp to improve medical teaching.

Key Word: Audio-visual aid, chalk and board, didactic lecture, medical students.

*Address for Correspondence
Dr. Mamata P. Samaga, Assistant Professor, Dept. of Microbiology, Mandya Institute of Medical Sciences, Mandya, Karnataka, INDIA.
Email: mam43@rediffmail.com
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INTRODUCTION
Traditional didactic lecture is more passive in nature and less effective as a teaching tool compared with active learning methods, such as problem-based learning. However, a well-organized lecture remains one of the most effective ways to integrate and present information from multiple sources on complex topics. Hence, assistance in the form of audio-visual aid is needed to enhance the quality of lecture. A chalkboard is commonly used in lectures as a medium of classroom instruction, while the use of transparencies with an overhead projector is also done. John Dewey stated once that if we teach today as we taught yesterday, we rob our children of the tomorrow. Technological advancements of this era have revolutionised every field of life. Teaching is no exception.¹ Recently the use of electronic presentations has become common and Microsoft PowerPoint (PPT) is now the most popular package used out of all electronic presentations.² The objective of our study was to find out students perspective regarding the various audio visual aids used in teaching, so as to improve their effective use in didactic lectures in Medical education.

MATERIAL AND METHODS
This was a cross sectional descriptive questionnaire based study carried out at Mandya Institute of medical sciences, mandya for students admitted to college for the academic year 2013-14, after obtaining written informed consent from the students. The participation to study was on voluntary basis. A pre-designed, pre-tested, self-administered questionnaire in English was used to collect data. A 15-item questionnaire was constructed to assess views regarding audiovisual aids, based upon a review of literature and similar studies conducted elsewhere.¹,³ The study was done at the end of 1st year, after exposing them...
to different teaching aids throughout 1st year. Eighty seven preclinical medical students, including girls and boys, participated in the study. All participants were given a briefing about objective of the study and assured confidentiality. Students were instructed to select appropriate teaching aids for each item in the questionnaire and give their overall opinion regarding the best teaching aid they preferred. All of them completed the questionnaire. Data was entered in MS Excel and were analyzed. Results are shown with the help of bar diagram, pie chart & percentages. For a full description of the individual statements, kindly refer to the questionnaire in the appendix.

RESULTS

In our study, most students opted chalk board as best teaching aid for the following parameters (Fig 1, Table 1)

- Facilitated interaction between students and teacher - 87.4%
- Copy diagrams easily – 81.65%
- Problem solving better – 79.35%
- Students opted ppt teaching for the following parameters
  - Demonstration of clinical conditions – 88.6%
  - Covers more subject per lecture – 71.3%
  - Better summarization – 69%
- Students felt combination of teaching aids (Chalkboard, PPT, and OHP) for the following parameters –
  - Clear and understandable – 8.1%
  - Better understanding of topic – 4.6%
- However our students felt chalkboard was ineffective for the following parameters –
  - Demonstration of clinical conditions – 98.8%
  - Covers more subject per lecture - 82.8%

OHP was the least preferred teaching aid for all the parameters.

We also studied about the overall opinion of students towards the best teaching aid and found that 62 % of students preferred chalkboard, 14.9% ppt and 21.8% combination. (Fig 2)

So students overall prefered combination of teaching aids next to chalkboard teaching which scored highest. (Table 2)

![Figure 1: Percentage distribution of different teaching aids for 15 parameters](image-url)

### Table 1: Student’s preference for teaching aids to various parameters

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Parameters</th>
<th>Chalk Board N (%)</th>
<th>Power Point Teaching n (%)</th>
<th>Over Head Projector n (%)</th>
<th>combination n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lectures well organised</td>
<td>50(57.5)</td>
<td>28(32.2)</td>
<td>2(2.3)</td>
<td>7(8)</td>
</tr>
<tr>
<td>2</td>
<td>Clear and understandable</td>
<td>45(51.8)</td>
<td>47(54.1)</td>
<td>3(3.5)</td>
<td>1(1.2)</td>
</tr>
<tr>
<td>3</td>
<td>Stimulate my interest</td>
<td>36(41.4)</td>
<td>33(37.9)</td>
<td>3(3.5)</td>
<td>3(3.5)</td>
</tr>
<tr>
<td>4</td>
<td>Stress on important points</td>
<td>50(57.5)</td>
<td>31(35.7)</td>
<td>3(3.5)</td>
<td>3(3.5)</td>
</tr>
<tr>
<td>5</td>
<td>Able to take notes</td>
<td>44(50.6)</td>
<td>42(48.3)</td>
<td>1(1.2)</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>Copy diagrams easily</td>
<td>71(81.7)</td>
<td>13(14.9)</td>
<td>2(2.3)</td>
<td>1(1.2)</td>
</tr>
<tr>
<td>7</td>
<td>Better understanding of topic</td>
<td>51(58.7)</td>
<td>28(32.2)</td>
<td>2(2.3)</td>
<td>6(6.9)</td>
</tr>
<tr>
<td>8</td>
<td>Lectures well informative</td>
<td>45(51.8)</td>
<td>33(37.9)</td>
<td>2(2.3)</td>
<td>7(8)</td>
</tr>
<tr>
<td>9</td>
<td>Problem-solving better</td>
<td>69(79.4)</td>
<td>17(19.6)</td>
<td>1(1.2)</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>Flow of thought better</td>
<td>48(55.2)</td>
<td>27(31.1)</td>
<td>5(5.8)</td>
<td>7(8)</td>
</tr>
<tr>
<td>11</td>
<td>Better summarization</td>
<td>20(23)</td>
<td>60(69)</td>
<td>2(2.3)</td>
<td>5(5.7)</td>
</tr>
<tr>
<td>12</td>
<td>Best mode to recall tough points</td>
<td>30(34.5)</td>
<td>50(57.5)</td>
<td>2(2.3)</td>
<td>5(5.7)</td>
</tr>
<tr>
<td>13</td>
<td>Covers more subject per lecture</td>
<td>15(17.3)</td>
<td>62(71.3)</td>
<td>5(5.8)</td>
<td>4(4.6)</td>
</tr>
<tr>
<td>14</td>
<td>Demonstrations of clinical conditions</td>
<td>1(1.2)</td>
<td>77(88.6)</td>
<td>6(6.9)</td>
<td>3(3.4)</td>
</tr>
<tr>
<td>15</td>
<td>Facilitated interaction between students &amp; teacher</td>
<td>76(87.4)</td>
<td>3(3.5)</td>
<td>0</td>
<td>8(9.2)</td>
</tr>
</tbody>
</table>
A good teaching needs a special equipment except for chalk, board and duster to put much information on one page/slide. When a large volume of information is presented in this manner, the working memory capacity becomes overloaded and useful note-taking becomes difficult. This could be one of the reasons as to why the students did not prefer the use of an OHP during lectures. Students gave the feedback that in lectures by using an OHP, good illumination is needed for proper visualization and the use of different colors on the plastic transparency sheet and depiction of the main points with good hand writing is beneficial in the elucidation of the topic under discussion. If we can use proper tips and rules, the OHP presentation can become more effective. Our study had limitations. The opinions were collected only from a single batch of first year medical students. A multicentric study with higher sample size will be beneficial to assess the best teaching aids in medical education.

**CONCLUSION**

Traditional chalk and board cannot be completely ignored. This teaching aid still stands as an unmatched option, but can be made more effective by combining it judiciously with other aids. We as teachers, need to consider different visual aids like Chalkboard, OHP, ppt, etc and must...
organise our teaching to take advantage of the power that these technological advancements provide, to make our lectures more informative and effective.

REFERENCES


13. Ricer RE, Filak AT, Short J. Does a high tech (computerized, animated, PowerPoint) presentation increase retention of material compared to a low tech (black on clear overheads) presentation? Teach Learn Med 2005; 17: 107-111.

