

## Attitude of medical students about different teaching aids used in lectures in anatomy

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### ABSTRACT

Nowadays medical teachers use different audiovisual (AV) aids of teaching in their classes to make the subject more interesting and understandable. To assess the impact of three common lecture delivery methods, viz Blackboard (BB), Transparency and Over Head Projector (OHP) and Powerpoint Presentation (PP), a questionnaire based study was carried out among first year MBBS students of R.G.Kar Medical College, Kolkata. One hundred forty students of academic session 2010-2011 were exposed to different aids of teaching, viz. Black Board (BB), Over Head Projector (OHP), power point presentation (PP) for ten months. They were taught Anatomy by different teachers who used all the three AV aids in their lectures. Then they were asked to respond to a questionnaire regarding these three AV aids of teaching. The students preferred Black Board teaching over OHP and result was statistically significant (p value <0.0001). BB teaching was also preferred over PP presentations (p < 0.02). But in comparison to OHP, students preferred PP, though the difference is not statistically significant (p < 0.10). Most of the students still prefer Black Board teaching to other modern AV aids like OHP and PP. For better understanding of a subject by students and improvement of their performance, a teacher should match the lectures with preferred AV aids and use the AV aids prudently.

**Keywords:** Audiovisual aids, teaching methods, lecture methods.

### INTRODUCTION

Every teacher should prepare himself/ herself before taking lecture classes. The knowledge of the teacher about the subject is not sufficient to make the students understand the subject. How the subject is delivered plays a very important role for achievement of learners' goal. A teacher should also take into account the knowledge of learner and his/her preferences. However, in present set-up this most important thing is greatly neglected.

Traditional lectures have a place in well designed curricula. In recent years Anatomy lectures have been revolutionized with adoption of new aids in teaching. The use of electronic media has become common in medical colleges. In addition to traditional "chalk and talk" method, use of Power point Presentation (PP) and Over Head Projector (OHP) is gradually increasing. Garg *et al*<sup>1</sup> have observed that students want the teachers to include audiovisual aids during the lectures, but it was not certain whether it increased their understanding or performance in the examinations. Bartsch and Cobern<sup>2</sup> noted that students preferred lectures with PP over the use of OHP, but that in some instances the content of the PP presentation distracted students and they performed less well on tests compared with another group given lectures using chalkboard. Seth *et al*<sup>3</sup>

concluded that impact of traditional chalkboard and PP teaching was much more than the lectures using transparency and OHP. According to a study performed by Novelli and Fernandes,<sup>4</sup> the students from undergraduate biomedicine and medicine courses preferred traditional face-to-face explanation using blackboard-teaching methods, than slide-projection, or power-point class.

Though various studies have been conducted to compare the effectiveness of lectures using these three teaching aids, there was no conclusive opinion regarding which one was most effective. Therefore, the present study aimed to determine the students' opinion regarding their preference about use of different teaching methods for better understanding of Anatomy lessons.

### MATERIALS AND METHODS

A survey was undertaken among 140 medical students of 1<sup>st</sup> yr. M.B.B.S. of academic year 2010-2011 of R.G.Kar Medical College and Hospital, Kolkata. The students were exposed to all the three lecture delivery methods, viz. Blackboard (BB), OHP and PP by different teachers in different topics of Anatomy for 10 months. Then they were asked to answer a given questionnaire about these three aids of teaching. The aim of the study was briefly explained to them. Their identity was kept

**Table-1:** Who responded according to their liking to the parameters

Score	Parameters used in scoring				
5	Very reliable	Very understandable	Most preferable	Very good learning experience	Most interesting and interactive
4	Quite reliable	Quite understandable	Quite preferable	Good learning experience	Quite interesting and interactive
3	Equivocal	Equivocal	Equivocal	Equivocal	Equivocal
2	Less reliable	Less understandable	Less preferable	Not so good learning exp	Less interesting and interactive
1	Not at all reliable	Not at all understandable	Not at all preferable	Very bad learning experience	Not at all interesting and interactive

confidential. The results were assessed by means of a standardized Likert type Scale. The parameters set were: 1) Reliable, 2) Understandable, 3) Preferable, 4) Good learning experience, 5) Interesting and interactive.

Based on these parameters they were asked to grade each item using the scoring system as per Table-1.

After the entries were completed the results were statistically analyzed by using relevant methods, viz. paired *t*-test.

From students response we prepared tables against individual mode using same parameter and response grade. These are given in Table- 2, 3 and 4.

Then mean scores were calculated using response from 140 students against each parameter and mode (Table-5).

In next step by using these mean scores we compared between each pair of methods – (BB vs OHP), (BB vs PP) and (PP vs OHP) by paired *t*- test.

**RESULTS**

Majority of students found lectures using BB more reliable, understandable, preferable, their learning experience good, most interesting and interactive (Table-2).

With lectures using Transparency and Over Head Projector (OHP), the students’ response was less favorable (Table-3).

**Table-2:** Represents the findings regarding the BB method (Total No. of Students – 140)

	5	4	3	2	1
Reliable	63	47	24	04	02
Understandable	77	35	20	07	01
Preferable	71	29	35	04	01
Good learning experience	62	47	25	06	00
Most interesting and interactive	52	44	34	09	01

Students’ acceptance of Powerpoint Presentation (PP) was almost similar to that of OHP (Table-4).

When we compare the mean scores (Table-5), it was observed that BB was the most acceptable visual aid to the students in comparison to OHP and PP in every aspect, i.e. reliability, understandability, preference, good learning experience, most interesting and interactive. Also, in terms of reliability, preference, good learning experience and being most interesting and interactive visual aid, PP was more acceptable than OHP, but as far as understandability is concerned, OHP was found to be more acceptable than PP.

Next a Paired T-Test was done between each of the three methods pitted against each other which yielded the following observations-

Between BB and OHP teaching, students preferred overwhelmingly the BB teaching and the difference in scores were found to be statistically significant ( $P < 0.0001$ ).

Between BB and PP, again the BB method gained mileage and the difference was also found to be statistically significant ( $P < 0.02$ ).

Interestingly, between PP and OHP the students were in for PP but the difference between the scores were found not to be statistically significant ( $P < 0.10$ ).

**Table-3:** Represents the findings regarding the OHP method

(Total No of Students- 140)

	5	4	3	2	1
Reliable	25	48	50	11	06
Understandable	24	50	51	12	03
Preferable	24	40	66	08	02
Good learning experience	27	43	61	07	02
Interesting and interactive	22	48	58	11	01

**Table-4:** Represents the findings regarding the PP method  
(Total No of Students- 140)

	5	4	3	2	1
Reliable	46	45	31	07	11
Understandable	34	39	47	10	10
Preferable	45	23	50	12	10
Good learning experience	40	39	36	20	05
Interesting and interactive	63	34	23	08	12

*Foot note:* The figures against each row and column represent the number of students

## DISCUSSION

From the results of the present study, it was found that most of the students preferred traditional BB teaching over PP and OHP and it was significant statistically. The results support the prior study done by Novelli and Fernandes.<sup>4</sup>

When PP teaching was compared with OHP, though students prefer PP but the difference was not statistically significant.

According to students, they liked BB teaching as the lectures contained natural pauses and breaks, allowing students to follow and make their own notes. Also it was not affected by power cut. The drawbacks were poor visibility due to poor handwriting or dirty board.

Some students liked PP teaching as there was no question of poor handwriting and plenty of beautiful and colorful diagrams. But some disliked them because the presentations contained too much material and the lectures were delivered very quickly. The students of our study supported the view that PP teaching has the

**Table-5:** Represents comparison of mean scores

	BB	OHP	PP
Reliable	4.18	3.55	3.77
Understandable	4.29	3.62	3.55
Preferable	4.18	3.54	3.62
Good learning experience	4.18	3.61	3.64
Interesting and interactive	3.99	3.56	3.91

ability to mix the text and the photos and images Mayer and Anderson,<sup>5</sup> but the disadvantage is that the students participation is minimum Casanova and Casanova.<sup>6</sup> The students in present study also supported the view given by Shallcross and Harrison<sup>7</sup> that the BB teaching was student- centered and PP teaching was more teacher-centered.

In the lectures using OHP, the main reason for liking by the students was that they could take notes easily provided the handwriting was good. But the problem was similar to PP teaching, where there was too much contents and too short delivery time.

Most of the students still prefer traditional BB teaching over other modern AV aids, like OHP and PP. With an aim to fulfill the very purpose of this study, the teachers should take a note of the feedback response from the students regarding their usage of different teaching aids before taking a lecture class and act accordingly. A teacher should match the lectures with preferred AV aids and use the AV aids prudently. This will help to bridge the communication gap between the students and teachers in the lecture classes and will pave the way for a better understanding of a subject by students and improvement of their performance.

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