

Assessment of Effectiveness of Preferred Method of Learning Style among Undergraduate Studies

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Abstract

Introduction: The study was intended to assess perception of medical undergraduates towards different teaching aids utilized for giving study strategy. A comparison between conventional techniques for teaching, for example, writing chalk and board with lecture delivery utilizing projectors and transparencies and Power Point presentation. **Materials and method:** First year medical undergraduates were requested to fill a questionnaire in regards to their perception towards different study technique delivery systems. The students were also interviewed after analysis of result. **Results:** Majority of medical undergraduates (42%) favored blackboard and chalk while 31% favored PowerPoint presentations and just 26% favored projectors and transparencies. **Discussion:** The students favored lectures over PowerPoint presentations; but, there was no reasonable outline as to prevalence of any method. Fundamental inclination was collaboration with teacher as came out in meeting with students. Subsequently it highlights that in hands of a trained teacher any prop is valuable. It additionally highlights the requirement for training teachers to better utilize recent advances in innovations to better convey and promote understudies.

Keywords: Teaching aids: Chalk and blackboard, Transparencies, Overhead projector, PowerPoint presentation.

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INTRODUCTION

Faculty members must have content knowledge pedagogical knowledge and knowledge of the learner and his/her characteristic to be effective teacher [1].

Most university faculty members have detailed content knowledge as a result of reading and studying avidly within their academic disciplines. However, obtaining knowledge of the learner and his/her preference is a vastly underutilized approach to improve classroom instruction. To address this concern, faculty members should understand their students' learning attitude and learning style preferences. Learning style is defined as the manner and conditions under which the learner most efficiently and effectively perceives, processes, stores and recalls what they are attempting to learn [2]. Students learn best when they are engaged by material that is presented in variety of ways and formats [3].

The field of learning styles is complex, with over 70 different learning styles models identified in a review [4]. These modalities represent numerous assumptions and focus on different aspects of the

learner like cognitive personality style, information processing style or instructional preferences.

Generally students prefer to take new information in form of sensory modality. Three major sensory modalities are visual (V), aural (A) and kinesthetic (K) collectively known as VAK [5].

There have been numerous advances in method of teaching but still lectures are the most favored type of learning. Lectures invigorate both visual and auditory senses; likewise different types of aids can be used during a lecture. A chalkboard is likewise a successful type of prop for conveying directions to students. Within the recent years there has additionally been a joining of transparencies with overhead projectors, at present the utilization of electronic presentations has turned into the most in thing with the help of utilization of Microsoft PowerPoint and laptops [6].

Power Point presentations (PPT) are the most widely recognized type of educating in medical colleges and hospitals. However, there is a division of opinion with respect to the superiority of technique for educating.

Different studies have been led to evaluate the viability of showing strategies in different colleges and universities. One study recommended an inclination of PowerPoint over customary utilization of board and chalk [7]. Another study demonstrated that PPT was favored over transparencies and overhead projectors [8]. A broad study done to analyze the superiority of PowerPoint and transparencies over each other demonstrated no difference in assessment of students while in another there was stamped distinction in opinion and power point by far replaced utilization of transparencies [9, 10]. Henceforth there is no obvious opinion as to with respect to the favored method. Likewise no study gave an insight on the opinion of medical undergraduates over the techniques for teaching. In this manner the present study was intended to break down the most favored technique for educating medical students, their attitude towards teaching aids.

MATERIALS AND METHODS

An overview was completed as survey composed to build up the assessment of medical students with respect to the favored method of teaching. The study was led for 1st Year MBBS of 2014 batch students of LSBRKM, GMC, Jagdalpur, after exposing them to different visual aids like black board and overhead projector and power point in class room. A total of 100 first year medical students were incorporated in the study (38 males and 62 females). Some lectures were absolutely on BB and some were on OHP modes and in some, both BB and power point were used. Students were exposed for such visual aids for 1 year and then they were asked to complete a given questionnaire, which asked them about these three (BB, OHP, power point) visual aids of teaching.

The students were requested to fill the survey with respect to their observations towards diverse guides of teaching.

Then they were assessed by means of a standardized Likert type Scale containing 10 items. The questions asked were:

- Which visual aid is reliable type?
- Which mode develops the ability to understand the topic better?
- I prefer... ..
- Which mode provides good learning experience?
- Which is more interesting and interactive visual aid?

They were asked to grade each items using the following scoring system:

- 5-strongly agree
- 4-agree
- 3-neutral
- 2-disagree
- 1-strongly disagree

A few responses of questions were only on yes or no basis.

These questions were:

- Should BB teaching be integrated with OHP teaching?
- Should seminars be conducted along with other mode of teaching?
- Should computer assisted LCD projector teaching be included along with other mode of teaching?
- Do you feel any difficulty from switching one mode to another within short duration?
- Should the photo state material of topic be provided after teaching?

Out of 100 forms 15 were rejected due to overwriting and/or double entries. The aggregates of all grading for every parameter were utilized to ascertain final weight score. The overall preference was established using weight average method. Statistical analysis was done utilizing one-way ANOVA test. The students were further met after the investigation of the outcome got.

RESULTS

Greater part of the students favored chalk and board technique (42%) though 31% favored PowerPoint presentations and as it were 26% favored transparencies and overhead projectors. However, the difference in preference over method of teaching aids is not statistically significant ($p > 0.05$).

Essential focuses were noted by teachers from meetings with students that would encourage turn out to be valuable for application. Chalk and board method is best as it gives an interactive session with the teacher. The lectures are justifiable and straightforward, matter gave is clear and, along these lines gives better comprehension of subject [8].

With electronic PowerPoint presentations, lectures conveyed are more composed, all data is available, less wastage of time in noting down points and with transparencies, lectures are clearly audible and informative.

1. Chalk and Board

The primary purpose behind inclination of chalk and board technique is for a better student and teacher interaction. There is a direct association built up between a teacher and student while taking down of notes and making diagrams. Principle purpose behind dislike is poor handwriting of staff or hurrying the subject matter furthermore presence of old and dirty props.

2. PowerPoint presentations

PowerPoint presentations give better nature of presentation what's more, great pictures and diagrams

can be shown, making it additional fascinating and catchy. But it has certain drawbacks – (1) takes longer time to setup and (2) has issues with power failure. PowerPoint presentation lectures can be too quick at times and without proper interaction may get over the head and becomes very difficult. The darkening of rooms makes it irritable and poses trouble in taking notes.

3. Transparencies and overhead projector

Transparencies and overhead projector covers more data in brief term and stays away from issues of dirty blackboards. However, there are certain drawbacks: (1) it gets to be exhausting and monotonous and (2) there are issues identified with poor handwriting and visibility.

Teaching aids favored by medical undergraduates are appeared in Fig-1(A &B).

Table: A

| Teaching aids | Preference of students |
|--------------------------------------|------------------------|
| Blackboard and chalk | 44% |
| Powerpoint presentstion | 30% |
| Transparencies & overhead projectors | 25% |

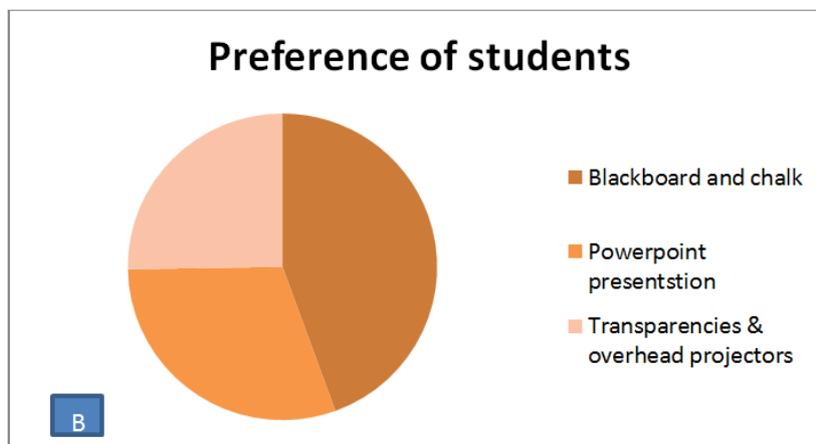


Fig-1: Preference of teaching aids (A & B)

Table-1: Attitude of 1st Year MBBS students towards BB and OHP teaching

| Question | BB | OHP | Power point |
|--|-------|-------|-------------|
| Reliable type of visual aid | 44% | 25% | 30% |
| Which visual aid develops the ability to understand the topic better | 64.33 | 35.14 | |
| I prefer ... | 57.33 | 42.66 | |
| Good learning experience is from | 63.85 | 36.14 | |
| More interesting & interactive visual aid | 57.14 | 42.46 | |

□p>0.05 on comparison to OHP, *p<0.001 on comparison to OHP, ‡p<0.001 on comparison to BB. All figures are in percentage

Table-2: Percentage of students agreed with questions asked in survey

| Questions | % of Students (n) |
|--|-------------------|
| Integration of both visual aids | 62.35% (53) |
| Seminars/Group discussions | 75.29% (64) |
| Use of LCD projector in near future as visual aid | 76.47% (65) |
| Difficulties in switching from one visual aid to other | 23.0% (20) |
| Photocopy material to be provided | 61.17% (52) |

Table-2 shows number and percentage of students who agreed to the questions asked about the BB and OHP teaching. Fifty-three (62.35%) students preferred a combined teaching aid, i.e., OHP teaching with the BB teaching and 76.47% students wanted LCD projector in near future as visual aid. Even they

favoured seminars along with different teaching aids (75.29%). Most of the students (77%) did not feel difficulty in switching from one teaching mode to other during the delivery of lecture by teacher.

DISCUSSION

Teaching is an art. A teacher can teach the students by making the best utilization of various teaching aids accessible to make them comprehend learn and reproduce well. Thus, in turn, improves both attitude and academic performance of the student.

The levels of student learning in the lecture are primarily the lower cognitive levels of knowledge and comprehension. In other words students expect to learn the information being presented so that they can repeat it later on. The lecture itself does not teach the students to analyze, it merely illustrates the process. How much the students learn from the model will depend both on the clarity with which instructor highlights the process and on the sophistication level of the listeners.

Every teaching methodology has its pros and cons. Effective lectures combine the talents of scholar, writer, producer, comedian, showman and researcher in ways that contributed to students learning as well stated by McKeachie [11].

A great deal of new advancements has come into the field of teaching. A reasonable utilization of these more up to date advancements can be exceptionally valuable in terms of sparing time and gives better material and presentation. An assessment by the students can give us part of data to work with, in order to give better and best education to them.

Numerous such studies have been done in different colleges and universities. Keeping in mind the end goal to apply it in the medical field of education, the current study was intended to know the attitude of students towards different methods of teaching and their point of view regarding the result of the same.

A questionnaire was set up to assess the perception of medical students towards different methods of teaching. A survey was done and the questionnaire was filled by first year medical students. Every question was ranked on a five-point scale. After analysis of the outcomes the students were also interviewed with respect to the opinion on results to get important points from them which might be further utilized by teachers to improve their technique for teaching.

In the present study, chalk and board was the most favored method. At the point when the students were requested their conclusion on result, they said that it was the best method to build up student-teacher association. However, there were sure disadvantages for example, old and dirty props, more time utilization and fewer topics being covered in the given time. Even intricate and coloured figures are difficult to draw on blackboard.

On this basis, transparencies were viewed as better as they provided more matter in given time and a proper format could be followed. But, it was boring and monotonous and the students lost interest after certain time, particularly, if there was no interaction. However, this mode could be utilized alongside lectures as side aids to highlight certain points.

A study completed by Chaudry *et al.*, demonstrated that majority of students (67.1%) favored a combination of teaching aids [12].

The second most favored method was PowerPoint presentations. The students said that it gave better and clear understanding as lot of diagrams and flow charts could be incorporated. But the purpose will be lost if just PowerPoint were presented and the presenter is not good enough or if no proper explanation or description is furnished along with the slides. But they are good in terms of audio visual aids. Less time is consumed however on the other side, less time is given for taking down notes and can be too fast at times [13].

Garg *et al.*, analyzed students' conclusion and demonstrated that 81% of the students wanted teachers to incorporate audio visual aids in their methods for teaching [14].

Kulkarni *et al.*, demonstrated that audio visual aids enhance the effectiveness of blackboard teaching [15].

Certain proposals that picked up attention during discussion with students were:

A good association with teacher is essential. Direct data in terms of writing board chalk still gives the best feeling of being taught. Transparencies and projectors should to be utilized along with writing boards for highlighting of specific points. PowerPoint can be used as helps in interactive sessions and not the main event. Judicious utilization of PowerPoint invokes more interest for subject and likewise has a lasting impact.

As a whole, all students accept BB teaching as a good learning experience and results are significant ($p < 0.001$) compared to OHP teaching. Majority of students coming from any medium of school or area of living wanted seminars to be conducted along with the use of LCD monitors during lecture classes.

Among the class, 61.17% students want photocopy material of teacher's notes. Only 23% of students agree to find difficulty to switch from one mode to another during one hour of scheduled teaching. To counter the drawback of both visual aids in medical teaching there should be integrated means of each teaching.

When instruction in undergraduate courses matched students' learning style preferences, students achieved higher scores than when mismatched [15].

Rochford [16] found that using learning style responsive material to instruct remedial writing students at an urban community college resulted in significantly higher achievement. Miller [17] found that both students' examination scores and students' attitude towards learning were significantly higher when presentation was matched with student learning styles. Insight into the specific preference of individual classes would help instructors tailor both their presentation and methods of assessment for each individual class. In addition, the present study suggests that females prefer lectures with blackboard as visual aid compared to OHP teaching. This alone shows that there is influence of gender on learning style preference. Jill [18] also found gender differences in learning style preference among undergraduate physiology students. Instructors need to be cognizant of these differences and broaden their range of presentation accordingly. An opposing viewpoint that exists in the literature asks whether it is the most advantageous to teach primarily using a mode that matches an individual's preferred learning style or whether a deliberate mismatch actually produce stronger results for the learner. Grasha [19] argued that an environment in which delivery of the material is matched to the learner's preferred style would eventually bore the student, causing the learner to disengage. A deliberate mismatch could prevent disinterest and stretch an individual to grow and learn. This was supported by research that showed that even individuals with strong learning style preferences preferred a variety of teaching approach to avoid boredom [20]. Kelly and Tangney [21] showed that students with low level of learning activity actually learned more when presented first with their least preferred material and resources. It is important to note that the efficacy of mismatching as a primary strategy for improving student learning outcomes has not been shown [20]. Mismatching has been suggested as an occasional teaching strategy employed to stimulate, interest and not as an alternative or replacement for matching.

CONCLUSION

Considering the outcomes and students reactions towards them, it can be concluded that students prefer a combination of teaching aids rather than a single mode of teaching. Among various combinations, blackboard and PowerPoint presentations together are the favored most as they give better perception of the subject. Additionally both supplement each other as far as adjusting each other's drawbacks.

In this manner, for individual teaching, chalk and board still remains the most favored technique. Utilizing of overhead transparencies and PowerPoint alone is not as effective. However, there were no

significant contrasts between the methods and in this way no method in itself can be viewed as superior. The study clues on a need to review our methods for teaching and give appropriate preparing to the teachers to convey the best taking into account the student needs.

Conflicts of Interest: The authors have none to declare

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