

Comparison of the Efficacy of Different Teaching Tools in First Year Medical Students



Medical Science

KEYWORDS : Model based learning, Power Point Presentation with multimedia on LCD projector, Overhead projector, Black board teaching

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ABSTRACT

OBJECTIVES: 1) Find out best teaching tool 2) Find out student's style preference for learning.

METHODS: Study conducted in Dept. of Physiology, Smt. NHL MMC on 100 students, divided in 4 groups of 25.

Each group was taught same topic by same teacher with any one method of teaching- (A) Model based learning, (B) Power Point Presentation with multimedia on LCD projector, (C) Overhead projector and (D) Black board teaching. After learning, all students from were answered same 10 objective questions to test their immediate comprehension about topic.

RESULTS: Group taught by model scored significantly better than rest. However on asking about preferred method for teaching, 68% opted for Power Point Presentation with multimedia on LCD projector.

CONCLUSION: Model based learning is the best teaching tool. However all topics cannot be taught with models so in that case Power Point Presentation with multimedia on LCD projector is method of choice.

INTRODUCTION:

Physiology, in basic medical science, is one of the most important subject. Clear concepts of physiology help to understand pathology and medicine quite easily. Attempts have been made all over India to make the teaching of physiology more interesting and relevant. It is accepted that reviewing the teaching and evaluation methods by feedback from students and modification of methodologies accordingly is very important for the undergraduate medical teaching. [1, 2, 3]. The course assessment instruments like feedback may help to know about the pros and cons of teaching and assessment methods. Currently, student's feedback represents the primary means used by most programs to assess their methodology. [3, 4] Faculty members must have content knowledge, Pedagogical knowledge and knowledge of the learner and his/her characteristic to be effective teacher. [5] Most medical college 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. First-year undergraduate teaching is stressful, voluminous and challenging for the beginners. Their learning styles and preferences too are different. In view of this it has been proposed that teachers should assess the learning styles of their students and adapt their classroom methods to best fit each student's learning style. [6] The traditional board teaching is gradually being replaced by transparencies and PowerPoint (PPT) slides; however these are often considered passive forms of learning and are unable to sustain interest for a longer time.

AIMS AND OBJECTIVE:

- To find out best method of teaching
- To find out preferred method of learning amongst students.

MATERIAL AND METHOD:

Our present study was cross-sectional, conducted in Smt. NHL Municipal Medical College, Ahmedabad. We carried out study on 100 students 1st year MBBS. 100 students were divided in 4 groups of 25 each. Groups were made based on students' internal exam results so in each group there was equal combination of above average, average and below average students. Each group was taught a topic of clinical physiology, 'Difference between obstructive and restrictive lung disease' by using any one teaching method; i.e. either

- Overhead projector (OHP) or
- Black board teaching (BBT).

Teaching was carried out by same teacher in all groups. After learning pre structured questionnaire containing 10 questions whose answers are one liner related to above mentioned topic was given to check students' immediate comprehension. Each correct answer carries one mark with no negative marking. After 10 minutes responses were collected and checked.

RESULTS AND DISCUSSION:

TABLE: AVERAGE SCORE OF GROUP and % OF PREFERRED METHOD

TEACHING TOOL	AVERAGE SCORE OF GROUP (out of 10)	% OF STUDENTS PREFERRED THIS METHOD
(A) Model based learning (N= 25)	6.70 ± 1.64 ^x	11%
(B) Power Point Presentation with multimedia on LCD projector (N= 25)	5.20 ± 1.77 ^x	50%
(C) Overhead projector (N= 25)	4.05 ± 1.43	10%
(D) Black board teaching (N= 25)	3.85 ± 1.36	29%

All values are MEAN±SD. (x p<0.05)

From above table it is clear that students taught by Model scoring best (mean ± SD: 6.70 ± 1.64) than the rest of the students. Next best method being Power Point Presentation with multimedia on LCD projector (PPT), followed by Overhead projector (OHP) and last is the Black board teaching (BBT). To check the level of significance of above results we applied "NON PARAMETRIC ANOVA-K.WALLIS TEST". So on comparing MBL & PPT, high mean value was significant (p<0.05). Same way comparison between PPT & OHP as well as between PPT & BBT were also significant (p<0.05). However there was no significant difference between OHP & BBT. So from our study it is clear that use of multimedia with power point presentation serves as a better teaching tool than blackboard. Same kind of study by sujata biswas et al (2011) did not find any difference between power point presentation and black board.[7] Another study by betigiri et al (2011) found power point presentation as an ideal teaching tool and blackboard teaching as most preferred method of teaching, although they had not included model based

- Model based learning (MSL) or
- Power Point Presentation with multimedia on LCD projector (PPT) or

learning in their study.[8] In our study 50% students preferred "Power Point Presentation with multimedia on LCD projector" as a choice of teaching method, probably because it has the advantage in being able to present the content with excellent audio-visual clarity.

CONCLUSION:

Model based learning is the best teaching tool. However all topics cannot be taught with models so in that case Power Point Presentation with multimedia on LCD projector is method of choice.

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