



Preferences of undergraduate medical students- Electronic and non-electronic teaching methods in pathology

M.Phani Kumar

1- Associate Professor, Dept of Pathology, Fathima Institute of Medical Sciences, Kadapa.

Abstract:

Medical under graduates receive different methods of teaching from their faculty members. The teaching methods mainly used for lectures are blackboard/whiteboard, over head projector (OHP) or PowerPoint (PPT) presentations. Each method has its own advantages or disadvantages. **Objective:** To find out the students preferences regarding different teaching methods for undergraduate medical teaching in pathology. **Methodology:** A questionnaire based study on the comparison of different teaching methods for undergraduate medical students was conducted at the RIMS Medical college, Kadapa. Study group included 60 students attending pathology classes. The 2 groups received a series of three lectures. An objective test comprising of same 10 MCQs was given after each lecture to the 2 groups to assess their performance after attending the class in that particular method of teaching. Data was analysed to calculate percentages and mean. **Results and Conclusions:** It was observed that students preferred the use of PowerPoint presentation in lectures than blackboard teaching in both the groups for all the three topics which has been covered. The students had a more favourable response towards PowerPoint presentation than Blackboard for: better inclusion of content and understanding figures. Maximum students agreed that duration of lecture should not be more than 1 hour.

Key words: Blackboard; Lectures; Pathology; PowerPoint; Teaching methods

Introduction

There has been a growing interest over the past decade for a paradigm shift from teacher-centered mode of delivery to student-centered [1]. A teaching method comprises of the principles and methods used for instruction. The choice of teaching methods to be used depends largely on the information or skill that is being taught, and it may also be influenced by the aptitude and enthusiasm of the students. Medical under graduates receive different methods of teaching from their faculty members. The teaching methods mainly used for lectures are didactic lectures, role playing, case studies, demonstrations through videotapes, problem based learning (PBL) [2]. Each method has its own advantages or disadvantages. With the changing trends majority of the faculty members are getting acquainted with the latest teaching methods like web based learning, problem based learning, m learning etc. Most of the faculty members have an up to date knowledge of their subject of specialization. However, understanding the differences in learning style preferences of the learner is very important but an underutilized approach to improve understanding of the learners' [3]. The three domains of

learning are cognitive, affective and psychomotor domains. Students have shown to grasp new knowledge by the help of visual, auditory and tactile sensory modalities [4]. **Objective:** To find out the students Preferences of undergraduate medical students- Electronic and Non-Electronic Teaching Methods in pathology.

Materials and Methods

Study subjects: Undergraduate medical students was conducted at the RIMS Medical College, Kadapa. Study period: January 2011- March 2011. Study group included students attending pathology classes. Out of them 60 students are selected randomly into 2 groups based on random number table. Groups are divided based on the teaching methods used- Blackboard teaching; and Power point presentation. The same topic is being covered for 2 groups. Informed consent was taken from the students and confidentiality was assured. The performance of students was assessed after each of the teaching style with the help of a structured questionnaire. The 2 groups received a series of three

lectures. An objective test comprising of same 10 MCQs was given after each lecture to the 2 groups to assess their performance after attending the class in that particular method of teaching and to assess the difference of score in blackboard method and power point method of teaching. The evaluation is same for all the three topics for the two teaching aids use. Data was analysed to calculate percentages and “t” test.

Results

Marks scored by students taught using two different teaching aids for medical under graduates in pathology subject are as follows:

Topic 1: Comparison of two methods in 2 different groups

| Group | Group One | Group Two |
|-------|-----------|-----------|
| Mean | 6 | 8 |
| SD | 1.1 | 0.5 |
| SEM | 0.2008 | 0.09129 |
| N | 30 | 30 |

95% confidence interval for difference: -2.442 to -1.558.
t = -9.066 with 58 degrees of freedom; P = 0.000

SD= Standard deviation

SEM=Standard Error of Mean

Topic 2: Comparison of two methods in 2 different groups

| Group | Group One | Group Two |
|-------|-----------|-----------|
| Mean | 5.5 | 6.4 |
| SD | 1.1 | 1.5 |
| SEM | 0.2008 | 0.2739 |
| N | 30 | 30 |

95% confidence interval for difference: -1.58 to -0.2202.
t = -2.650 with 58 degrees of freedom; P = 0.010

Topic 3: Comparison of two methods in 2 different groups

| Group | Group One | Group Two |
|-------|-----------|-----------|
| Mean | 5.8 | 6.5 |
| SD | 1.5 | 1.1 |
| SEM | 0.27 | 0.20 |
| N | 30 | 30 |

95% confidence interval for difference: -1.38 to -0.0202.
t = -2.061 with 58 degrees of freedom; P = 0.044.

It was observed that students preferred the use of PowerPoint presentation in lectures than blackboard teaching in both the groups for all the three topics which has been covered. The students had a more favourable response towards PowerPoint presentation than Blackboard for: better inclusion of content and understanding figures. Especially in a subject like pathology, where diagrammatic presentations are needed, students find it more easy to understand. There is significant difference in both the groups.

On interviewing the students and taking the comments recorded are as follows

* Students wanted to take down notes, so they liked the lecture classes through power point which gave them the opportunity to do so.

* Few wanted the teacher should use both power point and chalk- board, as chalk-board method gave them the natural pause to understand the subject better and power point method was devoid of any understanding problem due to bad handwriting.

*Most of the students opines that the class should not continue beyond 1 hour at a stretch.

Discussion

It has been stated that learning is enhanced by feedback (Miller), this is true not only for students but also for the staff involved in teaching them. Various teaching methods have come into play for the benefit of the students and each method has its own merits and demerits [5]. Edlich [6] argues that the lecture format for large classes is outdated and ineffective. McIntosh [7] observes that lecturing is frequently a one-way process unaccompanied by discussion, questioning or immediate practice, which makes it a poor teaching method.

It was observed that students preferred the use of PowerPoint presentation in lectures than blackboard teaching in both the groups. This observation may probably be due to the fact that, inherent deficiency of each method is compensated by the other. While blackboard teaching is deficient in showing three dimensional diagrams, animated videos and sounds; the same can be demonstrated using a Power Point presentation. Power Point presentations take less time to present the same information as compared to Black Board teaching. Blackboard teaching allows the students to take down the notes and diagrams which is difficult with Power Point presentations as there is tendency to deliver the lecture fast [8].

A study done by Priyadarshini et al among MBBS students, Blackboard Teaching was opined as most helpful to understand, remember and reproduce (A grade) teaching aid. Teaching using OHP alone and PPT alone was opined not effective at all [9].

A study by S. N. Baxi et al reported that an equal number of students preferred Blackboard based or multimedia-based lectures [10]. A study done by Vikas Seth et al, medical students have preferred PPT whereas the dental students preferred the Chalkboard [11].

Conclusion

It is found that students are interested in learning through live demonstrations, group discussions, continuing medical education and active interaction rather than simple straight lectures. Feedback from the students had facilitated a change in the preconceived notions about teaching learning principles on the part of the faculty.

Source of Funding: Nil

Source of Conflict: Nil

References

1. Barr RB, Tagg J. A new paradigm for undergraduate education. *Change*. 1995;27(6):13-25.
2. Ramsden P. Learning to teach in higher education. London, Routledge: Psychology Press 1992.
3. Atif Mahmood, Fahmida Khatoon, Mukkaram Ali, Saima Ejaz, Masood Anwar Qureshi Perceptions and Preference of Contemporary Teaching Methods among University Students of Pakistan- A Cross-Sectional Survey *IOSR Journal of Nursing and Health Science (IOSR-JNHS)* 2012.;1(1)6-10.
4. Fleming N.D. I am different: not dumb: modes of presentation (VARK) in the tertiary classroom. In: Research and development in higher education, edited by Zelmer A, Canberra, Australia's: Proceedings of the 1995 Annual conference of the higher education and research development society of Australia 1995:303-18.
5. J. Thirunavukkarasu, K.Latha, C.Sathish Babu, C.B. Tharani. A Study on Effectiveness of Different Teaching Methodology in Pharmacology for Under Graduate Students. *ASIAN J. EXP. BIOL. SCI. VOL 2(3)* 2011: 487-492.
6. Edlich, R.F. (1993). My last lecture. 11(6): 771-774.

7. McIntosh, N. (1996). Why Do We Lecture? JHPIEGO Strategy Paper #2. JHPIEGO Corporation: Baltimore, Maryland.

8. Vikas Seth, Perna Upadhyaya, Mushtaq Ahmad, Virendra Kumar. "Impact of Various Lecture Delivery Methods In Pharmacology". *EXCLI Journal*; 2010;9:96-101.

9. Priyadarshini. K. S, H. V. Shetty, Reena. R. Assessment of different teaching aids and teaching Methods for the better perception of biochemistry by 1st Mbbs students. *Journal of Evolution of Medical and Dental Sciences*. 2012;1(6)1159-65.

10. S N Baxi, C J Shah, R D Parmar, Parmar, C B Tripathi. 2009. "Students' perception of different teaching aids in a medical college" *AJHPE*. Vol. 1, No. 1, 15-16.

11. Vikas Seth, Perna Upadhyaya, Mushtaq Ahmad, Vijay Moghe. 2010. "PowerPoint or chalk and talk: Perceptions of medical students versus dental students in a medical college in India". *Advances in Medical Education and Practice*. 11-6.

Website: www.ijrhs.com

Submission Date: 01-10-2013

Acceptance Date: 25-10-2013

Publication Date: 31-10-2013

How to cite this article:

Phani Kumar M. Preferences of undergraduate medical students- Electronic and non-electronic teaching methods in pathology. *Int J Res Health Sci* 2013;1(3):239-41.

Corresponding Author:

Dr. M. Phani Kumar, MD (Pathology),
Associate Professor,
Dept of Pathology,
Fathima Institute of Medical Sciences,
Kadapa, A.P.
Email: phanimeruva@gmail.com