Original Article

Pediatric Education and Research
Volume 6 Number 2, May - August 2018
DOI: https://dx.doi.org/10.21088/per.2321.1644.6218.13

Paediatric Museum-An innovative Teaching-Learning Method

Sunil Mhaske[1], Prajakta Ghatage[2], Ramesh Kothari[3]

[1]Dean [2]Resident [3]Professor and Head, Department of Paediatrics, DVVPF's Medical College, Vilad Ghat, Ahmednagar, Maharashtra 414111, India.

Abstract

Introduction: A lecture is the most widely used teaching method. Learning by lecture is a passive practice. Many pioneering techniques have been used to motivate students to have active attitude toward learning. In our method we are using museum as an innovative teaching-learning method. *Material and Method:* 96 undergraduate students were evaluated by dividing into 2 groups. Group 1 (48 students) was taught through the traditional blackboard-chalk and Power Point presentation method and Group 2 (48 students) was sent to the Paediatric Museum for the same period of time. The knowledge and understanding of the subject was then assessed through a test at the end of the 1 month posting. After both the groups were taught by both methods of teaching, feedback was taken. *Result:* Most of the students accepted that the newer, innovative method of teaching was more interesting and appealing to them. Group 1 scored 68% average and in that group 54% students got above 50%. While the average of Group 2 was 84% and 68 % scored a over 50% marks. The feedback showed that 99% of the students agreed or strongly agreed that learning and clearing their concepts was easier after visiting museum. Students also strongly agreed that this method was time saving and helped them in memory retention. *Conclusion:* Students who had attended the museum had a better understanding of the Paediatric subject and could reproduce the knowledge gained by them in a better way as compared to the students taught through the traditional method.

Keywords: Museum; Teaching; Medical Students.

Introduction

In this era, where medical education plays the most important role in shaping up of a doctor's knowledge and ability to treat patients, the teacher's duties are being more and more scrutinized. Teaching health science subjects in India is largely in the form of instructive lectures which is more teachercentered. The efforts are being made to make teaching more student-centered [1]. During recent decades, newer technologies have been implemented and visual aids such as slides and PowerPoint presentations have been used to boost education. Since lectures have a low effect on the development, the employment of newer techniques is inevitable and actively engage the students in the education process. Effective medical education should be viewed as a continuum, integration of basic science and clinical medicine should occur throughout the curriculum and self-directed, life long learning should be emphasized [2].

Irby [3] gave importance in his research article about not only teaching but also learning. Creating an environment in which the students can learn effectively and efficiently becomes the new prerequisite, demanding not only that teachers are experts in their fields but also-and more importantly-that they understand how students learn. According to Samarakoon et al. Teaching is considered as 'ever-evolving' processes especially in medical school. He further states that it needs to modernise continuously. James et al. [4], defined learning style as 'the manner in which and the conditions under which learners most efficiently and effectively perceive, process, store, and recall what they are attempting to learn'. According to Kharb et al 'learning style' means as 'an individual's preferred method of gathering, processing, interpreting, organizing and analyzing

Corresponding Author: Prajakta Ghatage, Resident, Dean, Department of Paediatrics, DVVPF's Medical College, Vilad Ghat, Ahmednagar, Maharashtra 414111, India.
E-mail: sunilmhaske1970@gmail.com

Received on 30.07.2018, **Accepted on** 31.08.2018

information' [5].

Paediatric museum has been designed to teach the students in a way which would enable their hearing and visual impressions to gain access to knowledge according to their own, individual understanding and grasping power.

Material and Method

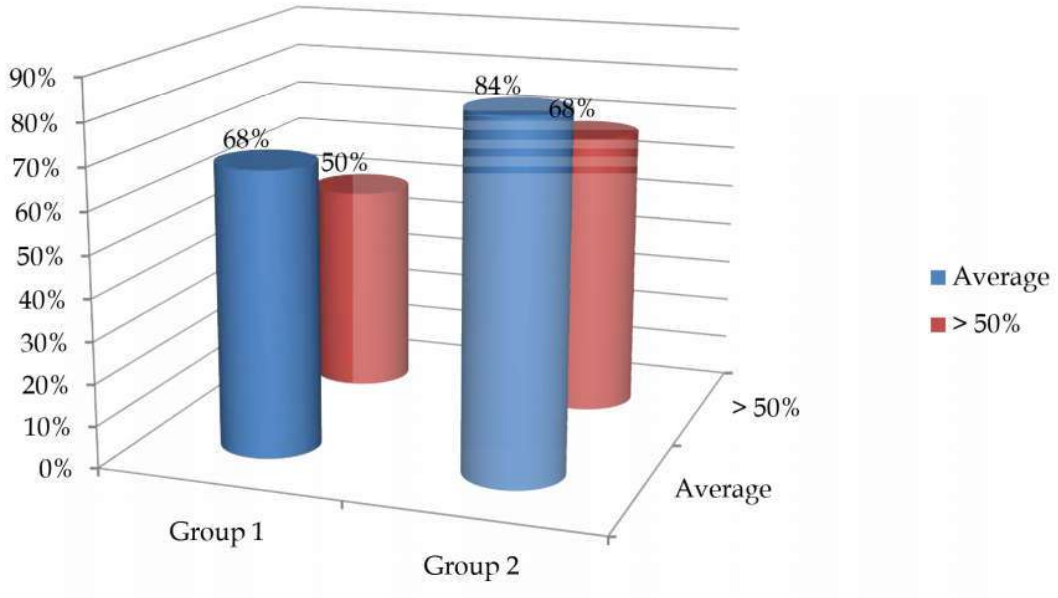
This study was conducted in the Department of Paediatrics at a tertiary care hospital and Medical College. The Paediatric Museum used for study is one of its kind museum in Asia. 98 undergraduate students of final MBBS from our Medical College were evaluated by dividing them into 2 groups of 48 students each. Permission was taken from the ethical committee of College. Group 1 was taught through the traditional blackboard-chalk and Power Point presentation method for an hour. Group 1 was sent to the Paediatric Museum. The knowledge and understanding of the subject was then assessed through a written test and viva at the end of the 15 lecture series which was covered over 1 month. In the next semester, the batches were exchanged and the group 1 was sent by Paediatric museum. After both the groups were taught by both the methods, a feedback was taken from all the students.

Fig. 1: Paediatric Muesum used in study

Result

Group 1 scored 68% average makrs and in that group 54% students got above 50%. While the average of Group 2 which was taught in Paediatric museum had an average of 84% and 68 % scored over 50% marks.

To test the effectiveness of the method, we conducted a quasi-experimental study and then the students were asked to write their learning experiences in feedback form by a questionnaire method. A feedback form was prepared to take the input from the students regarding their experience during the interactive method the results of which are as follows:



Graph 1:

Questions	Totally disagree	Partially disagree	Agree	Strongly agree
Do you think this teaching method has increased your performance?	00	00	36 (37.5%)	60 (62.5%)
Do you think this method has Increased your interest in Peadiatrics?	00	01 (0.68%)	39 (40%)	56 (58.3%)
Helped in memory retention?	00	01 (0.68%)	44 (48.9%)	52 (54%)
Do you think it is better than traditional Teaching method?	00	01 (0.68%)	40 (41.2%)	55 (57.2%)
Helped in increasing confidence and knowledge?	00	01 (0.68%)	33 (34.3%)	63 (65.6%).

Discussion

Medical education is an important factor in the progress of any country. Across the world, increasing attention is being given to the quality of teaching and learning in the medical colleges. Teaching is the noblest profession of all. A doctor is treated as equivalent to god who serves and saves the lives of the people. Our study showed that Group 1 scored 68% average makrs and in that group 54% students got above 50%. While the average of Group 2 which was taught in Paediatric museum had an average of 84% and 68 % scored over 50% marks. The feedback showed that 99% of the students agreed or strongly agreed that learning and clearing their concepts was easier after visiting museum.

Students also strongly agreed that this method was time saving and helped them in memory retention. Teacher's explanations enable students to understand the content and forging connections between what is known and what is new. Good teaching methods are open to change for effective teaching in the light of evidence collected [6].

The outcomes of the research revealed so the student based education leads to an improvement in student participance, better long-term memory, motivating students, stability of knowledge, higher self-confidence level, recognizing the educational differences, better student master interactions, and creating a sense of team-work. Also, learners got greater in this problem solving method topics in the final exam. These results were compatible with these findings of Nikfar et al. [7], Kermaniyan et al.[8], Momeni Danaei et al. [9], Jafari et al.[10], Hekmatpour et al.[11].

Although traditional medical education methods had produced thousands of well-known, efficient and successful doctors in both developed and developing countries there were increasing calls for fundamental changes in medical education to meet the needs of the community [12].

In our study as both the groups were taught by both the methods, they found the museum learing as more innovative, interesting way which enabled them to learn at their own pace and helped in better understanding.

Conclusion

Students who had attended the museum had a better understanding of the Paediatric subject and could reproduce the knowledge gained by them in a better way as compared to the students taught through the traditional method.

To decrease the burden on teachers, the biases that can arise because of intrinsic individuality of the teachers and the learning capabilities of the students, the establishment of the innovative "Paediatric Museum as a learning tool" has proved to be worthy.

References

1. Ramani S. Twelve tips to promote excellence in medical teaching. Med Teach 2006 Feb;28(1):19-23.
2. Bardes CL,Gillers D,Herman AE. Learning to look:Developing clinical observational skills at an art museum. Med Educ 2001;35(12):1157-61.
3. Irby DM. What clinical teachers in medicine need to know. Acad Med. 1994;69:333–342.
4. Samarakoon L, Fernando T, Rodrigo C, Rajapakse S. Learning styles and approaches to learning among medical undergraduates and postgraduates. BMC Medical Education, 2013;13:42.
5. James WB, Gardner DL. Learning styles: Implications for distance learning. New Directions for Adult and Continuing Education, 1995;67:19-31.

6. Koh GCH, Khoo HE, Wong ML, Koh D. The effects of problem-based learning during medical school on physician competency: a systematic review. Canadian Medical Association Journal. 2008;178(1):34–41.
7. Wojtczak, A. Glossary of Medical Education Terms. In MedEdWorld Glossary. 2003.
8. Brown G., & Edmunds S. Lectures. In, J. A. Dent & R. M. Harden (Eds.), A Practical Guide for Medical Teachers (4th ed., pp. 61-68). London: Churchill Livingstone Elsevier. 2013.
9. Hafeez K., Khan M.L.Z., Jawaid M., & Haroon S. Low attendance in lectures at medical colleges of Karachi – A cross sectional survey. Journal of Postgraduate Medical Institute, 2014;28(2):161- 64.
10. Sumera, A. Large group teaching, an effective and efficient teaching methodology. Journal of Asian Scientific Research, 2014;4(1):1-5.
11. Held, S., &McKimm, J. Improve your lecturing. British Journal of Hospital Medicine, 2009;70(8):466-69.
12. Momeni Danaei S, Zarshenas L, Oshagh M, Khoda O, Maryam S. Which method of teaching would be better; cooperative or lecture? Iranian Journal of Medical Education. 2011;11(1):24–31.