

# Effect of Interactive teaching versus traditional teaching learning methods on 7<sup>th</sup> semester MBBS students in community medicine

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## Abstract

**Background:** Lecture is the most commonly used method for a large group teaching in medical education. A lecture running into an hour can become monotonous and fails to hold attention until the end. With this background this present study is undertaken to know the effectiveness of introducing Interactivity in the lecture to facilitate learning in 7<sup>th</sup> semester MBBS students and to know the feedback of the students towards the effectiveness of interactive teaching learning method.

**Methods:** An interventional study was conducted among 150 7<sup>th</sup> semester III MBBS students at Viswabharathi Medical College, Kurnool. Students were divided into 2 groups containing 75 students each. 4 topics were taught using Interactive teaching learning method in the study Group and Traditional teaching learning method in control Group. After the completion of classes, assessment was done by conducting MCQ test consisted of 50 MCQs of 1 mark each from the topics taught in both the groups. MCQs scores were compared between the study group and control group and the perceptions of the students toward the effect of interactive teaching learning were elicited using a questionnaire based on Likert scale, **Results:** students who have attended Interactive teaching learning method scored more marks in MCQs test and found to be significant. Similarly, feedback data of students who attended interacting teaching revealed that ITL methods were successful in increasing the interaction (82%), communication (85%), interest (80%), attention span (75%) and understanding (83%) of the contents in community medicine. **Conclusion:** From this study it is concluded that an introduction of interactive sessions during lectures has been effective.

**Key Words:** ITL, TTL, Brainstorming, think pair share.

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## INTRODUCTION

Lecture is the most commonly used method for a large group teaching in medical education. It is regarded the most cost-effective method in connection with other teaching learning methods. [1] By definition, the lecture is the formal presentation of content by the educator (as

subject matter expert) for the subsequent learning and recall in examinations by students.<sup>2</sup> However, attention span studies have shown that students' attention decreases significantly after 20 min in traditional lectures.<sup>3,4</sup> On an average; medical students have to attend 4-5 lectures in a day. If all these are traditional or didactic lectures, it might be difficult for the learners to give attention as well as comprehend the knowledge. Lectures are generally described from the instructor's point of view and lack of interaction is considered one of the major limitations of the traditional lecture.<sup>5</sup> Students are frequently seen as passive recipients of information, and as a result, not engaged in the learning process. Most of the current teaching techniques are didactic involving very less student participation and the knowledge is imposed on the students. Using the current techniques, the lesson taught to students is not skill oriented, and therefore, although we are producing good number of health workforce but are

unable to meet the needs of the community.<sup>6</sup> Interactive lecturing involves an increased interchange between teachers and students about the lecture content. The use of interactive lectures can promote active learning, heighten attention and motivation, give feedback to the teacher and the student, and increase satisfaction for both.<sup>7</sup> Interactivity induces active learning in students thereby imparting its advantages like better understanding, more retention, better reproducibility, clarification of doubts and facilitating problem solving, decision making and communication skills.<sup>8,9</sup> students who are actively involved in the learning activity will learn more than students who are passive recipients of knowledge<sup>10,11</sup> Interactive lectures takes active involvement of the student with the subject matter to develop understanding that is mostly not achieved in the lecture halls.<sup>12</sup> With this background this present study is undertaken to know the effectiveness of introducing Interactivity in the lecture to facilitate learning in III MBBS students and to know the feedback of the students towards the effectiveness of interactive teaching learning method.

## MATERIALS AND METHOD

**Study design:** Interventional study (randomized control trial [RCT])

**Ethics:** This study was initiated after obtaining consent from the III MBBS students and after prior approval by the Institutional Ethical Committee.

**Study duration:** September 2019 to November 2019

**Study place:** Viswabharathi Medical College, Kurnool

**Sample size:** A total number of 150 7<sup>th</sup> semester III MBBS students

**Sampling:** Randomized sampling. by lottery method 75 students each were allotted to control group and study group.

**Inclusion criteria:** students willing to participate

**Exclusion criteria:** students not willing to participate and who were absent for the sessions

This study was conducted in the Department of Community Medicine, Viswabharathi Medical College, Kurnool, Andhra Pradesh, from September, 2019 to November 2019. It was an educational Interventional study (randomized control trial [RCT]) conducted among 150 7<sup>th</sup> semester III MBBS students after taking informed consent. Randomized sampling method is used for this study. Students were divided into study group and control group with 75 students of both genders and equal age in each group. Study group was exposed to interactive lectures and control group was exposed to traditional lectures. Both students and teachers were sensitized about the study. 3 instructors who were trained in teaching learning methods conducted through workshop taught the same topics in the control group and study group for 3 months Different types

of interactivities like brain storming, MCQs were designed and introduced in the lecture. Four different topics (Pulmonary Tuberculosis, Hypertension, Significance test-Statistics, Waste disposal) were taught using Interactive Lecture methods (Brain storming, think pair share and MCQ) in the study group and TTL method (PowerPoint) in control group. The same content, course syllabus were used for both classes. the same instructional methods were used for the two groups of students. These methods included didactic lecturing using power point presentations. The only difference between the two groups was that interactive learning strategies like Brain storming, think pair share and MCQ were used only in study group. Neither group had any exposure to interactive lecture methods prior to the conduction of the study. After the completion of teaching the same 4 topics to both the groups separately, assessment was done in both the groups by conducting MCQ test consisted of 50 MCQS of 1 mark each from the topics taught. Perceptions of the students toward the effect of interactive teaching learning were elicited using a questionnaire based on Likert scale.

### INTERVENTION (INTERACTIVE T/L METHODS)

#### Brainstorming

Brainstorming is used at the beginning of the lecture. Students were divided into seven groups and are provided with a topic. Teacher as the group leader asked group members to think about the problem related to the topic and give their ideas. Student idea are listened and accepted patiently, without passing any comment.

#### Think-pair-share

It was used in the middle of the lectures. Students share and compare possible answers to a question with a partner before addressing the larger class.[13]. Before each topic is completed, to engage the students, the class is interrupted and individual sub topics were given to the Study group students who were divided into seven pairs to discuss. After that, each pair shared their answers in the large group which was facilitated and compiled by the teacher.

#### MCQs:

It was used at the end of the lecture. At the end of each topic, to engage the students and to know about their understanding about the topic, class is divided into seven pairs and MCQs from the topic were displayed through PowerPoint on the screen and their answers were recorded and discussed.

**STATISTICAL ANALYSIS:** Statistical Analysis was done by SPSS Version 21. Comparison of marks gained by the two methodologies was done by Unpaired T test. Perception about Interactive teaching learning methods was assessed using Likert scale and the result expressed as percentage

## OBSERVATION AND RESULTS

The data showed that Mean MCQs marks scored by the students who attended traditional teaching methods were 32.2 and mean MCQs marks scored by the students who attended interactive teaching methods were 40.5. Significant difference was observed in the marks of control group and study group. Table 1.

**Table 1:** Comparison of MCQS marks

Group	Teaching methodology	No of students	Marks by MCQs (Means $\pm$ SD)	Statistical test
Control group	Traditional lectures (PPT)	75	32.2 $\pm$ 4.022161	Unpaired T test (P<0.0001)
Study group	Interactive lectures (Brain storming, Think pair share, Mcq)	75	40.5 $\pm$ 3.308239	

The feedback responses were collected from all the students who have attended all the ITL sessions. Feedback revealed that ITL methods were successful in increasing the interaction (82%) and communication (85%) among students, Increased attention span and reduced boredom(75%) along with interest (80%) and understanding (83%) of the contents in community medicine.. [Table 2]

**Table 2:** Perception of students toward the effect of interactive teaching and learning sessions on the Likert scale

statements	Strongly agree	agree	Neither agree nor disagree	Disagree	Strongly disagree
Increased interaction	82%	10%	8%	-	-
Improved communication	85%	9%	6%	-	-
Increased interest	80%	12%	8%	-	-
Increased attention span and reduced boredom	75%	20%	5%	-	-
Better understanding	83%	10%	7%	-	-

## DISCUSSION

We used three different interactive methods such as Brainstorming, Think pair share and MCQs at the beginning, during and at the end of the lecture. It was observed that students who attended Interactive teaching learning method scored more marks in the MCQ than the students who attended traditional teaching learning method. It was observed that majority of the students satisfied with ITL module in terms of increased interaction and improved communication, attention span, interest in the subject, and understanding of the content. The same findings were observed in a study where interactive teaching promotes a higher level of thinking which includes analysis and synthesis of material, application to other situations, and evaluation of the material presented.<sup>14</sup> Borkar *et al.* in their study found that all students were in favor of interactive lecture.<sup>1</sup> Similarly Katyal *et al.*,<sup>15</sup> in their study found that students' communication skills also improved when interactive lectures were introduced. Students were reported to have strongly agreed that interactive lectures make learning enjoyable and interesting. In a study by Chilwat *et al.*,<sup>16</sup> even though no significant difference in average marks was observed, the interactive lectures were better appreciated by the students than conventional. In the effective, active lecture the instructor involves students through a highly interactive and participatory approach using a variety of teaching techniques. Because of the questioning, interaction and

involvement, students are actively engaged and connected to the educator. By contrast, in an ineffective, passive lecture, the instructor stands at a lectern and speaks with minimal student interaction. Not surprisingly, after a few minutes students find it difficult to concentrate, as there is little or no stimulation.<sup>17</sup> In a study carried by mannison *et al.* 1994 found that memory was enhanced by increased attention and motivation.<sup>18</sup>

## CONCLUSION

This study clearly proves that interactive teaching is definitely preferred by the students of III MBBS in learning Community Medicine and it is a better teaching method. Introduction of interactivity in the lectures was agreed as enjoyable and fun, increasing enthusiasm and interest, active participation, making the teaching environment livelier improving the attention span, breaking the monotony. So wherever possible interactive sessions should be used by the faculty during lectures to make them effective.

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## REFERENCES

1. Borkar RS, Meshram SA, Jadhav PE. Introducing interactivity in community medicine classes for arousing interest in the subject amongst II<sup>nd</sup>. MBBS students. Res Anal Eval 2012;4:47-8.

2. Vella F. Medical education: capitalizing on the lecture method. *FASEB J* 1992; 6(3): 811–812
3. Frederick P. The lively lecture-8 variations. *Coll Teach* 1986;34:43-50
4. Stuart J, Rutherford RJ. Medical student concentration during lectures. *Lancet* 1978;2:514-6.
5. Munson LS. *How to Conduct Training Seminars: A Complete Reference Guide for Training Managers and Professionals*. McGraw-Hill: New York.1992.
6. Mishra AK, Manikandan M, Kumar R, Chauhan R C, Purty AJ, Bazroy J. Concomitant use of handouts, group and panel discussion as a teaching technique for undergraduate medical students. *Int J Innov Med Educ Res*. 2016;2:18-22.
7. Steinert Y, Snell LS. Interactive learning: Strategies for increasing participation in large group presentations. *Medical teacher* 1999;21(1): 37-42
8. Ernst H, Colthorpe K. The efficacy of interactive lecturing for students with diverse science backgrounds. *Adv Physiol Educ* 2007;31:41-4
9. Morey O. Teaching methods and strategies, *Scholars* 2009;409:772-3235
10. BUTLER, J.A.(1992) Use of teaching methods within the lecture format, *MedicalTeacher*, 14, pp. 11± 25
11. FEDEN, P.D. (1994) About instruction: Powerful new strategies worth knowing, *Educational Horizons*, 73, pp. 18± 24
12. Ridley RT. Interactive teaching: A concept analysis. *J Nurs Educ*. 2007;46:2039.
13. Available from: <https://med.ubc.ca/files/2012/03/Interactive-LecturingStrategies.pdf>. [Last assessed on 2019 Dec 13].
14. Kaur D, Singh J, Seema, Mahajan A , Kaur G. Role of interactive teaching in medical education, *Int J Basic Applied Med Sci* 2011;1:54-60
15. Katyal R, Singh A, Joshi HS, Chandra S, Singh K. Enhancing student’s learning by introducing various interactive teaching-learning methods in large group. *International Journal of Biomedical and Advance Research* 2016; 7(8): 363-368
16. Chilwant K.S. Comparison of two teaching methods, structured interactive lectures and conventional lectures. *Biomedical Research* 2012; 23 (3): 363-366.
17. Sullivan R.L., McIntosh N. *Delivering effective lectures*, JHPIEGO Strategy Paper # 5, JHPIEGO Corporation: Baltimore, Maryland, 1996.
18. Mannision, M., Patton, W. and Lemon, G. *Interactive teaching goes to Uni: Keeping students awake and learning alive*, Higher Education Research and Development, 1994 ; 13, pp.35-47.

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