Journal of Medical Education and Development
Vol. 17, No. 4, Winter 2023
Pages: 334 - 341

مجله مرکز مطالعات و توسعه آموزش علوم پزشکی یزد
دوره هفدهم، شماره چهارم، زمستان ۱۴۰۱
صفحه: ۳۴۱ - ۳۳۴

Effect of Lecture-Based Education, Role-Playing and Learning through Peers on Learning and Satisfaction among MBBS Students

Yadav A (MD)[1]*, Kumar TM (MSc)[2], Nagababu P (PhD)[3], Kumar RG (MD)[4], Hussain MDS (MSc)[5], Yadav Golla AM (MD)[6], Nandakumar LG (MD)[7]

[1] Associate professor, Department of Biochemistry, MNR Medical College & Hospital, Sangareddy, Telangana, India
[2] Assistant professor, Department of Biochemistry, MNR Medical College & Hospital, Sangareddy, Telangana, India
[3] Professor, Department of Biochemistry, MNR Medical College & Hospital, Sangareddy, Telangana, India
[4] Professor & Head, Department of Biochemistry, MNR Medical College & Hospital, Sangareddy, Telangana, India
[5] Assistant professor, Department of Biochemistry, MNR Medical College & Hospital, Sangareddy, Telangana, India
[6] Senior Resident, General Medicine Department, Sidhi Vinayaka Hospitals, Sangareddy, Telangana, India
[7] Professor, Department of Physiology, MNR Medical College & Hospital, Sangareddy, Telangana, India

Received: 22 Aug 2022 ***Accepted:*** 29 Aug 2022 ***Revised:*** 07 Feb 2023

Abstract

Introduction: The oldest and most popular teaching style in medicine and related fields is the lecture. They are affordable and at least as good at transferring knowledge as other instructional techniques. The present study aimed to assess the effect of lecture-based education, role-playing and learning through peers on learning and satisfaction among MBBS students.

Methods: This descriptive study was conducted among the MBBS student studying at MNR Medical College & Hospital. Total of 446 students were approached to fill the predesigned questionnaire for the response. The questionnaire in Google form was shared to students via email, WhatsApp and Telegram (Google form link: https://forms.gle/YfkNojfV5az5Q6AW8). The questionnaire contained two sections, demographic information included age, gender, and year of course and second part included the 10 questions. Students expressed their views on the questionnaire expression based on a five point Likert scale.

Results: Total of 340 students with mean age of 19.65±1.22 yrs responded to the questionnaire shared. Among them 61.8% were female students and 38.2% were male students. Most students responded with strongly agree for the role play mode of learning compared to the traditional lecture based learning and also peer learning ($p<0.001$).

Conclusion: According to the findings, students are more satisfied with participatory methods such as role playing than with lecture and learning through peers. There were upsides for each method of learning in itself as responded by the participants.

Keywords: Medical Education, Satisfaction, Role Play, Peer learning, Lecture

[Downloaded from jmed.ssu.ac.ir on 2026-09-12]

[DOI: 10.18502/jmed.v17i4.12052]

Introduction

Innovative ideas and novel approaches in Medical education are promoted in order to meet the changing learning needs and expectations of health care (1). Medical educators are concerned with improving students' ability to focus on the needs of patients and their families (2). In educational programmes, two general teaching models are introduced: a teacher-centered model in which the teacher is the all-encompassing fulcrum with the goal of shaping behaviour based on a predetermined pattern, and a student-centered model in which the student is the all-encompassing fulcrum. Learners in this approach learn and quickly forget. The student-centered technique is another style that focuses on the learner, his/her needs, and talents. Despite the fact that the lecture approach is widely used in medical colleges, around 80% of the information delivered by this method is lost after 8 weeks (3,4).

Lectures can be tedious and, worse, ineffective. Learning through lecture is unavoidable for everyone at some point in their lives, since it is an effective instrument for imparting fundamental knowledge and conveying experimental sciences, and in certain situations, the most appropriate teaching approach. If they are just recitations of standard texts, they are not achieving their responsibilities of increasing knowledge and inspiring pupils to study sufficiently. If the lecture is merely utilised to offer extensive coverage of facts and discoveries, students will benefit more from reading an excellent textbook. If lectures are the main mode of instruction, pupils will be unprepared for their career opportunities (5).

In the traditional teaching method, those who are actively involved in the discussion in the classroom are handful, which means that the majority are just listeners. It seems that student-centered education can increase students' satisfaction, accelerate learning, develop problem-solving skills, and continue learning and critical thinking. In the conventional teaching technique, individuals who actively participate in the classroom discussion are a small minority, implying that the majority are only listeners. It appears that student-centered education can boost student happiness, speed learning, build problem-solving abilities, and encourage students to keep studying and thinking critically (4). Role-playing is a student-centered strategy that is commonly utilised in training. In this manner, the individual places himself in the desired circumstance and responds accordingly, learning how to cope with situations and issues in specific settings. Role-playing involves the four aspects of thinking, emotions, insight, and action, and these characteristics work together to maximise the impact of role-playing in education. It also improves learners' capacity to face problems, make decisions, evaluate events, and think critically as a problem-based learning strategy. Role-playing lessens anxiety while simultaneously increasing learners' confidence (6,7).

Another strategy for assisting students in learning and strengthening their comprehension is learning via peers (8), which is described as the development of information and skills through active aid and support amongst persons at the same level. Students assist each other learn by teaching their peers in this way; in reality, students actively engage, learn from one another, and take responsibility for their own learning (9). Academic failure is a threat to students' future careers, as well as a factor that increases social spending in government, such as a lack

[Downloaded from jmed.ssu.ac.ir on 2026-09-12]

[DOI: 10.18502/jmed.v17i4.12052]

of productivity, which increases the need for social services. Researchers must therefore identify potential barriers to individuals' academic success and achievement, as well as offer potential solutions. The National Medical Commission (NMC) in new curriculum has given importance to various teaching learning methods in medical education (10). The didactic lectures is limited to one-third hours and other learning methods which included various student centric method for two-third hours of total allotted time for the programmes in medical education.

Present study aimed to assess the effect of lecture-based education, role-playing and learning through peers on learning and satisfaction among MBBS students.

Material & Method

This descriptive study was conducted among the MBBS student studying at MNR Medical College & Hospital. The students included in the present study were the ones who were exposed to the above said learning methods, belonged to the 2019 to 2021 batch students. Total of 446 students were approached to fill the predesigned questionnaire for the response. Participants, not willing and not exposed to the above methods of learning were excluded from the study.

The class lecture was done as routine basis, by the medical teacher for an hour long class, with topic of the class as per schedule. The students were exposed to the role play as small group of 3-5 participants in each group and the topic was selected by the instructor. The students prepared for the case and presented the role play in the class which ended with the debriefing and discussion. In peer learning, students selected topic for themself and learned the topic. The instructor present in classroom created suitable atmosphere for student to present at end of peer learning.

A questionnaire was prepared and validated by the faculties and pilot study on 20 students, who were excluded from the study participants. The questionnaire in form of Google form was shared to students via email, WhatsApp and Telegram (Google form link: https://forms.gle/YfkNojfV5az5Q6AW8).
The study was approved by the institutional ethics committee (MNR/IEC/2021/0251) and obtained the informed consent from all the participants. The questionnaire contained two sections, demographic information included age, gender, year of program and second part included 10 more questions on response to different type of learning methods. All the Students of different phase of MBBS program expressed their views on the questionnaire expression based on a five point Likert scale from a strongly disagree (1 point) and strongly agree (5 points). The average minimum score was 10 and maximum score was 50. The information, data was collected were analysed using SPSS V.21.0 operating on windows 10, using the descriptive statistical test. The data were represented using tables and figures. P-value of <0.05 was considered statistically significant.

Results

Total of 340 students responded to the questionnaire shared. Among them 61.8% were female students and 38.2% were male students. Among the enrolled respondents, 40.3% were 1st phase MBBS, 32.1% were 2nd phase MBBS and 27.6% were 3rd phase MBBS students. The students strongly agreed on overall satisfaction from such

[Downloaded from jmed.ssu.ac.ir on 2026-09-12]

[DOI: 10.18502/jmed.v17i4.12052]

learning activity which was student centric (63.2%). (Table 1)

Table 1: Demographic details of all the study participants

		Frequency	Percent
Gender	Female	210	61.8
	Male	130	38.2
Year of MBBS program	1st Yr MBBS	137	40.3
	2nd Yr MBBS	109	32.1
	3rd Yr MBBS	94	27.6
Overall satisfaction from such learning activity which are student centric	Strongly disagree	15	4.4
	Disagree	4	1.2
	Neutral	46	13.5
	Agree	151	44.4
	Strongly agree	124	36.5

Impression with strongly agree on lecture based learning, students responded that Satisfied with the quality of education (42%), Feeling more responsible for learning content in students (36%), Effective and useful in understanding the contents (42.0%). Impression with strongly agree in Role play responded with benefits of having enough charm and excitement (45.9%), Create more interest and motivation to read lessons in students (37.7%) and Encourage to participate in class (34.4%). Impression with strongly agree using Peer learning helped in Facilitate understanding and remembering content (39.9%), Better quality of learning (40.2%) and Encourage to participate in class (35.6%) (Table 2).

[Downloaded from jmed.ssu.ac.ir on 2026-09-12]

[DOI: 10.18502/jmed.v17i4.12052]

Table 1: Comparison of the questionnaire response for different type of learning methods by students

		Lecture based learning		Role play		Peer learning		Chi-square test (p-value)
		N	%	N	%	N	%	
Encourage to participate in class	Strongly disagree	19	34.5%	18	32.7%	18	32.7%	17.561 (0.02)*
	Disagree	15	23.8%	15	23.8%	33	52.4%	
	Neutral	87	33.9%	100	38.9%	70	27.2%	
	Agree	171	35.3%	152	31.3%	162	33.4%	
	Strongly agree	48	30.0%	55	34.4%	57	35.6%	
Feeling more responsible for learning content in students	Strongly disagree	16	25.4%	22	34.9%	25	39.7%	19.355 (0.01)*
	Disagree	33	47.1%	11	15.7%	26	37.1%	
	Neutral	85	28.1%	106	35.0%	112	37.0%	
	Agree	165	35.1%	163	34.7%	142	30.2%	
	Strongly agree	41	36.0%	38	33.3%	35	30.7%	
Satisfied with the quality of education	Strongly disagree	27	36.0%	19	25.3%	29	38.7%	26.291 (0.001)**
	Disagree	40	44.9%	19	21.3%	30	33.7%	
	Neutral	105	31.6%	124	37.3%	103	31.0%	
	Agree	100	27.6%	123	34.0%	139	38.4%	
	Strongly agree	68	42.0%	55	34.0%	39	24.1%	
Tend to repeat the topic	Strongly disagree	34	27.2%	47	37.6%	44	35.2%	96.36 (0.001)**
	Disagree	49	41.5%	39	33.1%	30	25.4%	
	Neutral	62	21.4%	152	52.4%	76	26.2%	
	Agree	113	35.9%	75	23.8%	127	40.3%	
	Strongly agree	82	47.7%	27	15.7%	63	36.6%	
Better quality of learning	Strongly disagree	16	28.1%	15	26.3%	26	45.6%	19.93 (0.01)*
	Disagree	15	22.4%	22	32.8%	30	44.8%	
	Neutral	115	34.5%	115	34.5%	103	30.9%	
	Agree	130	36.7%	127	35.9%	97	27.4%	
	Strongly agree	64	30.6%	61	29.2%	84	40.2%	
Facilitate understanding and remembering content	Strongly disagree	12	17.9%	26	38.8%	29	43.3%	49.87 (0.001)**
	Disagree	49	59.0%	12	14.5%	22	26.5%	
	Neutral	85	31.6%	99	36.8%	85	31.6%	
	Agree	149	37.4%	126	31.7%	123	30.9%	
	Strongly agree	45	22.2%	77	37.9%	81	39.9%	
Create more interest and motivation to read lessons in students	Strongly disagree	23	34.3%	22	32.8%	22	32.8%	18.309 (0.01)*
	Disagree	44	42.7%	41	39.8%	18	17.5%	
	Neutral	103	34.9%	84	28.5%	108	36.6%	
	Agree	105	31.6%	109	32.8%	118	35.5%	
	Strongly agree	65	29.1%	84	37.7%	74	33.2%	
Effective and useful in understanding the contents	Strongly disagree	26	35.1%	19	25.7%	29	39.2%	31.47 (0.001)**
	Disagree	23	23.5%	38	38.8%	37	37.8%	
	Neutral	91	30.4%	106	35.5%	102	34.1%	
	Agree	113	33.0%	135	39.5%	94	27.5%	
	Strongly agree	87	42.0%	42	20.3%	78	37.7%	
Having enough charm and excitement	Strongly disagree	23	33.8%	19	27.9%	26	38.2%	46.307 (0.001)**
	Disagree	23	39.0%	22	37.3%	14	23.7%	
	Neutral	152	43.3%	89	25.4%	110	31.3%	
	Agree	97	31.2%	104	33.4%	110	35.4%	
	Strongly agree	45	19.5%	106	45.9%	80	34.6%	

*p-value <0.05 was considered statistically significant, **p-value <0.001 was considered statistically highly significant.

[Downloaded from jmed.ssu.ac.ir on 2026-09-12]

[DOI: 10.18502/jmed.v17i4.12052]

Table 2: Mean score comparison of the questionnaire response for different type of learning methods by students of 1st, 2nd and 3rd phase MBBS

	Lecture based learning		Role play		Peer learning	
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**
Encourage to participate in class	3.6	1.0	3.6	1.0	3.6	1.0
Feeling more responsible for learning content in students	3.5	1.0	3.5	1.0	3.4	1.0
Satisfied with the quality of education	3.4	1.2	3.5	1.0	3.4	1.1
Tend to repeat the topic	3.5	1.3	3.0	1.1	3.4	1.3
Better quality of learning	3.6	1.0	3.6	1.0	3.5	1.2
Facilitate understanding and remembering content	3.5	1.0	3.6	1.1	3.6	1.2
Create more interest and motivation to read lessons in students	3.4	1.1	3.6	1.2	3.6	1.1
Effective and useful in understanding the contents	3.6	1.2	3.4	1.0	3.5	1.2
Having enough charm and excitement	3.3	1.0	3.8	1.1	3.6	1.1

The mean score of the response was higher for the role play mode of learning compared to lecture based learning and peer learning method (Table 3).

Discussion

Lectures are the oldest and most ubiquitous method of learning in medicine and allied subjects. They are economical and at least as effective as other methods of teaching at conveying knowledge and understanding to the students. Given the usefulness and universal usage of lectures it is important that all medical teachers develop and refresh their expertise in lecturing (3). Role playing as an educational tool in a discipline such as medicine is a type of active learning that improves group learning and facilitates relationships with other students (11). This technique integrates students' cognitive and psychomotor systems concurrently, resulting in deep learning in the brain and experiments retained in memory. Medical students' clinical skill will increase as a result of role playing. 12).

The current study's findings revealed that students' satisfaction was higher through role-playing, lecturing, and learning through counterparts, respectively, and in different areas of satisfaction, role-playing had more points in most cases, but the two methods of lecturing and learning through peers had also attracted student satisfaction in some areas.

In present study, the students responded majority with strongly agree for the role play mode of learning compared to the traditional lecture based learning and also peer learning ($p<0.001$). The mean score of the response was higher for the role play mode of learning compared to lecture based learning and peer learning method. The students strongly agreed on overall satisfaction from such student centric learning activity (63.2%).

On assessment of the questionnaire, the students responded majority with strongly agree for the role play mode of learning

[Downloaded from jmed.ssu.ac.ir on 2026-09-12]

[DOI: 10.18502/jmed.v17i4.12052]

compared to the traditional lecture based learning and also peer learning ($p<0.001$). The study demonstrated that students enjoyed, learned and also chance was given to understand the subject in innovative method by role play. Also there was significant number of student agreeing that the lecture based learning helped them to clear the doubts by question answer sessions followed by end of lecture class.

In study by Safari M et al., the mean test score of students using the lecture technique was considerably lower than the mean test score of students using the discussion method. There was no statistically significant difference in overall satisfaction levels between lecture and discussion techniques. The satisfaction of students with exam and course ratings differed significantly between the two techniques (4). The findings of a research conducted by Robinson et al. According to a 2009 study, 45% of students thought role-playing was similar to actual life, and 23% got useful feedback from its use. Furthermore, this strategy improved students' comprehension of individual self-confidence, stimulated creative thinking, and elevated their level of happiness with learning (13).

In a qualitative study conducted in 2012, the main themes derived from the situation were: understanding, trust, respect, honesty, building good interpersonal relationships and power, ability and open-mindedness. The conclusion was that the use of role-playing between patient and nurse can improve the performance of predicted treatment outcomes (14).

In terms of several areas of satisfaction, role playing and learning via peers and lectures were the most satisfying in certain circumstances. This suggests that, depending on the variations between particular students, combining teacher and student strategies will have a greater impact. Several other studies have reported similar findings (11,15,16), owing to the hybrid approach's flexibility in terms of access to resources, communication between instructor and student, and performing and providing assignments for students. As a consequence, they are more pleased with the training technique. The variety of content delivery techniques, as a result of satisfying the diverse demands of learners, may all increase learner satisfaction.

Conclusion

According to the findings, students are more satisfied with participatory methods such as role playing than with lecture and learning through peers, and because teaching is an interactive and collaborative process between teacher and student, it is preferable to use student-centered teaching methods in the classroom.

Acknowledgements

The authors would like to acknowledge the support of Institution for providing the opportunity and permission required to conduct the present study.

[Downloaded from jmed.ssu.ac.ir on 2026-09-12]

[DOI: 10.18502/jmed.v17i4.12052]

References

1. Chan ZCY. ***Role-playing in the problem-based learning class.*** Nurse Educ Pract. 2012; 12(1): 21–7.

2. Holland K. ***The reality of nursing practice: what role for nurse education?*** A personal perspective. Nurse Educ Pract. 2002; 3(2): 147–8.

3. Wilson K, Korn JH. ***Attention during lectures: Beyond ten minutes.*** Teach Psychol. 2007; 34(2): 85–9.

4. Safari M, Yazdan PB, Ghafarian H, Yazdanpanah SH. ***Comparing the effect of lecture and discussion methods on studentslearning and satisfaction.*** Iranian Journal of Medical Education. 2006; 1(15): 59–63. [Persian]

5. Vasavi P, Usha MK, Yadav A. ***Role of training session in improving the knowledge of blood transfusion practices among undergraduates: A hospital-based study.*** J Pathol Nepal. 2020; 10(1): 1702–5.

6. Zinatizadeh S, Azmi A, Monavari SM, Sobhanardakani S. ***Multi-criteria decision making for sustainability evaluation in urban areas: a case study for Kermanshah city, Iran.*** Appl Ecol Environ Res. 2017; 15(4): 1083–100.

7. Vizeshfar F, Dehghanrad F, Magharei M, Sobhani SMJ. ***Effects of applying role playing approach on nursing students' education.*** Int J Hum Cult Stud. 2016; 1772–81.

8. Stone R, Cooper S, Cant R. ***The Value of Peer Learning in Undergraduate Nursing Education: A Systematic Review.*** ISRN Nurs. 2013; 13: 1–10.

9. Kimyai S, Jafari NE, Mohammadi N. ***The effect of peer education on practical skills training of dentistry students in restorative preclinic.*** Iranian Journal of Medical Education. 2011;11(4):418–24. [Persian]

10. Padmasree D, Yadav A. ***From Medley to Magnificence: Developing Problem Solving Skills in Biochemistry.*** Res Dev Med Educ. 2022; 11(1): 1–4.

11. Sucaromana U. ***The effects of blended learning on the intrinsic motivation of Thai EFL students.*** English Lang Teach. 2013; 6(5): 141–7.

12. McNamara N. ***Preparing students for clinical placements: The student's perspective.*** Nurse Educ Pract. 2015; 15(3): 196–202.

13. Robinson-Smith G, Bradley PK, Meakim C. ***Evaluating the use of standardized patients in undergraduate psychiatric nursing experiences.*** Clin Simul Nurs. 2009; 5(6): e203–11.

14. Babatsikou FP, Gerogianni GK. ***The importance of role-play in nursing practice.*** Heal Sci J. 2012; 6(1): 1–5.

15. Deperlioglu O, Kose U. ***The effectiveness and experiences of blended learning approaches to computer programming education.*** Comput Appl Eng Educ. 2013; 21(2): 328–42.

16. Tseng H, Walsh EJ. Blended vs. ***Traditional course delivery: Comparing students' motivation, learning outcomes, and preferences***. Q Rev Distance Educ. 2016; 17(1): 43–52.

This paper should be cited as:

Yadav A, Kumar TM, Nagababu P, Kumar RG, Hussain MDS, Yadav Golla AM, Nandakumar LG***. Effect of lecture-Based Education, Role-Playing and Learning through Peers on Learning and Satisfaction among MBBS Students.*** J Med Edu Dev; 17 (4): 334 – 341.

**** Corresponding Author: Tel: +919972456525, Email: yadav.anurag52@gmail.com***

[Downloaded from jmed.ssu.ac.ir on 2026-09-12]

[DOI: 10.18502/jmed.v17i4.12052]