

A Comparative Study of Traditional Teaching versus Role-Play on Knowledge Acquisition and Communication Skills among MBBS Phase III (Part 1) Students at Autonomous State Medical College, Shahjahanpur, Uttar Pradesh.

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ABSTRACT

Background: Communication is defined as a purposeful process of expressing, receiving, and understanding messages containing factual information, feelings, ideas, and needs by two or more individuals through common symbols. In the context of medical education in India, various teaching–learning approaches are employed, including didactic lectures, role plays, seminars, case studies, demonstrations using videotapes, problem-based learning, and tutorials. These methods are designed to enhance the learning experience for medical students. Role plays, in particular, have gained popularity in medical education as effective tools for imparting knowledge, skills, and attitudes.

Objectives:

Compare the impact of traditional versus role play as teaching learning method on the knowledge of Community Medicine phase III part 1 MBBS students.

Assess the impact of traditional versus role play as teaching learning method on communication skills of Community Medicine phase III part 1 MBBS students.

Methods: This prospective interventional study was conducted in the Department of Community Medicine at Autonomous State Medical College, Shahjahanpur, spanning from September 2023 to December 2023. The study focused on a total of 100 Phase III part 1 MBBS students, with an anticipated enrolment of 90 students, accounting for potential absences. To facilitate the study, a total of 90 Phase III Part 1 MBBS students were involved, and they were organized into three batches, namely A, B, and C, each consisting of 30 students, based on their roll numbers. Within each batch, participants were further divided into two equal sub-groups, denoted as A1, A2; B1, B2; C1, C2. This comprehensive methodology ensures a thorough examination of the impact of role play and traditional teaching on knowledge acquisition and communication skills among the participating students.

Results: Around 21% MBBS students' preferred role play as teaching learning for instructional tool in teaching Community Medicine. The student of role play group scored more in post-test questionnaire as compared to group of traditional teaching & it was found statistically significant while applying t test. Using Kalamazoo Essential Elements checklist for Communication skills, the group of role play done well in all 7 elements of communication skills & found statistically significant.

Conclusions: This study delves into the impact of role play on knowledge and communication, highlighting it as a potent intervention that can effectively enhance cognition, psychomotor skills, and affective domains in learners. Notably, the findings suggest that this type of instructional approach may particularly benefit students engaged in the Family Adoption Programme, preparing them to navigate real-life scenarios in the field where precise guidelines may be lacking. By immersing learners in practical situations, role play helps them familiarize themselves with handling diverse challenges in a composed and effective manner.

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How to Cite: Dr Sumit Saxena, Dr Ashish Kumar, Dr Deepshikha, Dr Shweta Jaiswal, Dr. Sachin Chaudhary, Dr Anju Saxena, (2025) A Comparative Study of Traditional Teaching versus Role-Play on Knowledge Acquisition and Communication Skills among MBBS Phase III (Part 1) Students at Autonomous State Medical College, Shahjahanpur, Uttar Pradesh.,, *Journal of Carcinogenesis*, Vol.24, No.2s, 1070-1078

1. INTRODUCTION

The field of Communication stands at the intersection of tradition and innovation, being both one of the earliest and most contemporary academic disciplines. Originating from ancient Greece, its foundations can be traced back to the study of rhetoric, which focused on understanding and employing "the available means of persuasion." In those times, rhetoric played a pivotal role in the education of the citizenry, highlighting the enduring relevance and historical roots of Communication as a discipline. In the provided statement, Sikiti (1998) defines communication as "a purposeful process of expressing, receiving, and understanding messages containing factual information, feelings, ideas, and needs by two or more individuals through common symbols".¹ Communication skills involve effectively conveying information through speaking, writing, or utilizing various mediums. Absolutely, effective communication skills are fundamental in the context of undergraduate medical education, particularly in the interactions between medical professionals and patients. Effective communication in undergraduate medical education goes beyond the transmission of information; it forms the foundation for a patient-centered, compassionate, and trusting healthcare environment.² Transparent and effective communication in healthcare leads to tailored treatment plans, higher patient adherence, proactive management of risk factors, and, consequently, improved health outcomes. The effective communication is a cornerstone in the patient-doctor relationship, fostering understanding, trust, and collaboration. This, in turn, has a profound impact on the effectiveness of medical interventions and the overall well-being of the patient.

The objective of undergraduate medical education is to nurture physicians with extensive knowledge of health and diseases, adept medical skills, and a compassionate attitude toward patients and their families. The modern approach to teaching in a medical college is characterized by adaptability, innovation, and a commitment to preparing students for the complexities of contemporary healthcare practice.³ A challenge faced in any medical institution is that educators are tasked with imparting extensive medical knowledge within a limited timeframe. Simultaneously, students are tasked with not only absorbing this information but also retaining, interpreting, and applying it in practical scenarios. In India, medical education employs diverse teaching-learning approaches to enrich the educational experience for students. These methods go beyond traditional didactic lectures and encompass a variety of interactive and hands-on strategies. Some of the commonly used teaching-learning approaches in Indian medical education are Didactic lecture, Seminar, Role play, Demonstrations Using Videotapes, Problem-Based Learning (PBL), Tutorials, Practical Demonstrations, Case studies etc. The combination of these diverse teaching-learning approaches aims to create a well-rounded medical education experience that prepares students for the multifaceted challenges of healthcare. The emphasis is not only on acquiring knowledge but also on developing critical thinking, communication skills, and a patient-centered approach to medical practice. Additionally, it is recognized that to advance medical education further, greater attention should be directed towards refining teaching methodologies, coupled with leveraging technological advancements.⁴ Role plays have become increasingly popular in medical education, serving as effective tools for imparting knowledge, skills, and attitudes. Absolutely, both role play and debates are valuable components of medical education, contributing significantly to the development of critical thinking abilities and communication skills in students. By engaging in role play and debates, medical students are better equipped to handle the dynamic and unpredictable nature of real-world medical practice. These activities contribute to the holistic development of future healthcare professionals, preparing them for the challenges they may encounter in their careers. Proficient communication skills are particularly vital in challenging scenarios, such as delivering difficult news, discussing treatment decisions, addressing "Do not attempt resuscitation" situations, and other critical instances involving patients and their families, especially in cases of serious illness.⁵ Role-play is a dynamic experiential learning technique wherein participants engage in acting out specific roles within case scenarios. This approach is designed to facilitate targeted practice and provide constructive feedback to enhance skills development. The incorporation of role-play in medical education, rooted in educational theories such as Kolb and Fry's experiential learning theory, enriches the learning experience for students. Kolb's model posits that learning is a cyclical process involving four stages affective (feeling), symbolic (thinking), perceptually oriented (watching), and behaviourally oriented (doing). Additionally, it aligns with Donald Schön's work on reflective practice, allowing learners to reflect both during and after the action, contributing to a more comprehensive learning experience.⁶ In this way, role-play aligns with the experiential learning cycle, providing a comprehensive and dynamic approach to medical education.

Role-play serves as a versatile tool for the development of various domains of learning, including cognitive, psychomotor, and affective domains. In the context of medical education, it is frequently employed to enhance communication skills among students. Furthermore, when integrated into technical skill training, role-play has demonstrated the ability to introduce a level of realism, thereby contributing to improved patient-physician interactions. This dynamic approach proves effective in addressing multiple facets of learning and skill development within the medical

education framework. The students are unable to communicate adequately with the patients partly due to lack of skills and also because they don't remember the topic well for a longer duration. The traditional method of teaching which imparts unidirectional transfer of knowledge does not increase competence for better doctor patient relationship.⁷ Lack of knowledge & effective communication skills has led to reduced compliance of the patient because of incomplete information that the patient has about the disease, its management and the very primary step of its prevention which ultimately has led to increased burden of disease in the society. Proper communication skills are an asset in medical practice which unfortunately is lacking in the current generation of medical graduates. Acknowledging the critical importance of cognitive and communication skills in the education of MBBS students, this study was meticulously planned to cultivate these essential abilities among future healthcare professionals. The aim is to enhance the overall competence of medical students, preparing them for effective patient interactions, interdisciplinary collaboration, and successful navigation of complex healthcare scenarios. The study seeks to contribute valuable insights into the efficacy of different teaching approaches in nurturing cognitive and communication skills, ultimately shaping well-rounded and proficient medical practitioners.

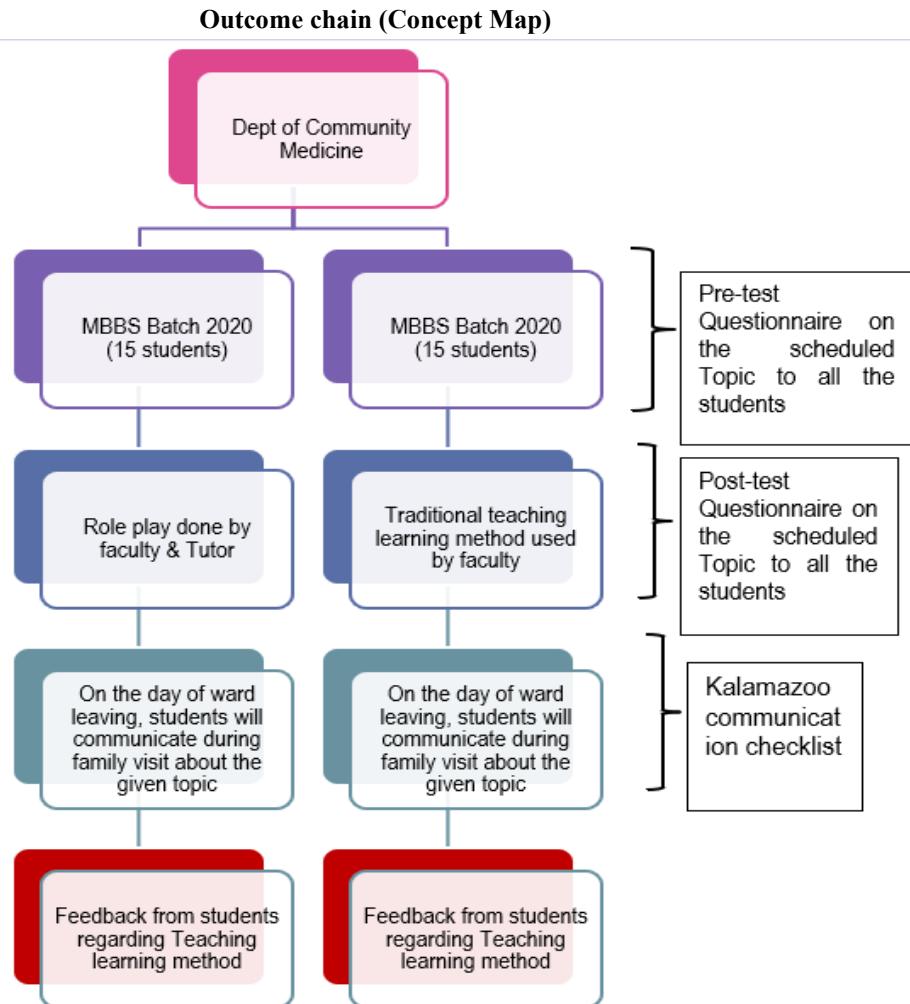
2. OBJECTIVES OF THE STUDY:

Compare the impact of traditional versus role play as teaching leaning method on the knowledge of Community Medicine phase III part 1 MBBS students.

Assess the impact of traditional versus role play as teaching leaning method on communication skills of Community Medicine phase III part 1 MBBS students.

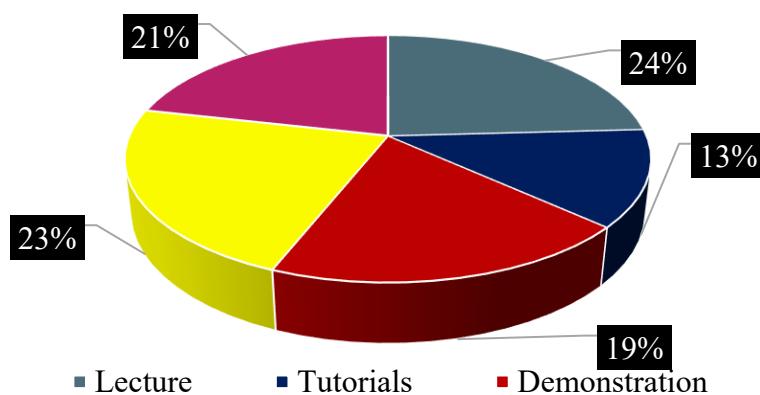
3. MATERIAL & METHODS

This prospective interventional study was conducted in the Department of Community Medicine at Autonomous State Medical College, Shahjahanpur, spanning from September 2023 to December 2023. The study focused on a total of 100 Phase III part 1 MBBS students, with an anticipated enrolment of 90 students, accounting for potential absences. To facilitate the study, a total of 90 Phase III Part 1 MBBS students were involved, and they were organized into three batches, namely A, B, and C, each consisting of 30 students, based on their roll numbers. Within each batch, participants were further divided into two equal sub-groups, denoted as A1, A2; B1, B2; C1, C2. This distribution ensured a structured and systematic approach to the intervention study. One sub-group in each batch was subjected to role play as the teaching-learning method, while the other subgroup, serving as the control group, received traditional teaching. A pre-test questionnaire was administered to assess students' knowledge on the scheduled topic before exposure to either role play or traditional teaching methods. Faculty and tutors conducted the role play in one group, while the other group received traditional teaching. Following the interventions, a post-test questionnaire was distributed to evaluate the knowledge imparted. On the day of the ward leaving test, students participated in a family visit in the field, interacting with families on the previously covered topic. The groups were maintained as before, and faculty members and tutors accompanied the students to assess their communication skills using the Kalamazoo communication checklist.⁸ To gather valuable feedback, students were provided with ward leaving feedback forms, expressing their preferences for the teaching-learning methods used. The collected data were meticulously tabulated in Microsoft Excel spreadsheets and subjected to appropriate statistical tests to compare responses between the two different teaching methods' groups. The comprehensive methodology employed in this study ensures a thorough examination of the impact of role play and traditional teaching methods on knowledge acquisition and communication skills among the participating Phase III Part 1 MBBS students.



4. RESULTS

Students preference for instructional tool in teaching Community Medicine



Result

Table:1 Distribution of Frequency and Percentage Score of the Pre & Post-Test among MBBS students

		Pre-Test(n=90)		Post-Test (Traditional Method) (n=45)		
Classification	Score	Frequency	%	Frequency	%	
Very good	85 – 100	9	10	4	8.8	Unpaired t test= Two tailed p value is 0.60 Statistically not significant
Good	65-84	18	20	6	13.3	
Fair	55-65	31	34.4	10	22.2	
Poor	35-54	18	20	14	31.1	
Very poor	0-34	14	15.5	11	24.4	
		Mean=56.36, SD=21.8		Mean=49.48, SD=23.4		

		Pre-Test(n=90)		Post-Test (Role Play) (n=45)		
Classification	Score	Frequency	%	Frequency	%	
Very good	85 – 100	9	10	16	35.5	Unpaired t test= Two tailed p value is <0.0001 Statistically significant
Good	65-84	18	20	21	46.6	
Fair	55-65	31	34.4	5	11.1	
Poor	35-54	18	20	2	4.4	
Very poor	0-34	14	15.5	1	2.2	
		Mean=56.36, SD=21.8		Mean=76.67, SD=15.9		

In the evaluation of the knowledge component among MBBS students in Phase III part I, a pretest was initially conducted. Subsequently, both role-play and traditional teaching methods were employed, followed by a post-test in both groups. Results revealed that 46.6% of the role-play group students achieved a good score, in contrast to only 13.3% of the traditional group students. The application of an unpaired t-test demonstrated statistical insignificance in the traditional method group, while the role-play group yielded statistically significant results. This suggests that the role-play method had a more pronounced impact on the knowledge outcomes of the students compared to the traditional teaching method.

Table 2: Kalamazoo Essential Elements checklist for Communication skills among MBBS students

Kalamazoo Essential Elements	Teaching Learning method	Done well	Needs improvement	Not Done
Build Relationship	Traditional Method N=45	5	13	27
	Role Play N=45	43	1	1
Test of significance: Chi-square Value=64.51 df=2. p value<0.05				
Opens the discussion	Traditional Method N=45	8	15	22

	Role Play N=45	44	1	0
Test of significance: Fisher exact-Value=59.17 df=2 p value<0.05				
Gather information	Traditional Method N=45	11	16	18
	Role Play N=45	45	0	0
Test of significance: Fisher exact-Value=54.6 df=2 p value<0.05				
Understand the patient's Perspective	Traditional Method N=45	13	11	21
	Role Play N=45	44	1	0
Test of significance: Fisher exact-Value=46.2 df=2 p value<0.05				
Shares information	Traditional Method N=45	13	14	18
	Role Play N=45	44	1	0
Test of significance: Fisher exact-Value=46.1 df=2 p value<0.05				
Reaches Agreement	Traditional Method N=45	10	16	19
	Role Play N=45	42	2	1
Test of significance: Chi-square Value=46.7 df=2 p value<0.05				
Provides closures	Traditional Method N=45	7	13	25
	Role Play N=45	44	1	0
Test of significance: Fisher exact-Value=62.1 df=2 p value<0.05				

In the evaluation of communication skills among MBBS students in two distinct groups, those engaged in role-play outperformed their counterparts in the traditional group across various parameters assessed using the Kalamazoo scale of communication. The role-play participants exhibited enhanced abilities to establish connections with family members, gather information appropriately, and effectively share information with both the family and the patient. Ultimately, they demonstrated a capacity to maintain healthier relationships with families and patients compared to the students in the traditional group. Statistical analysis using significance tests indicated a noteworthy finding ($p<0.05$), signifying the observed differences between the two groups were statistically significant.

Table 3: MBBS student's feedback on traditional versus role play Teaching Learning Methods (TLM)

S.no	Questions	TLM Method	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
	TLM improved learning efficiency	Traditional	3	4	11	23	4
		Role play	1	1	3	28	12
Test of significance Chi-square value=11.8 df=4 p value<0.05							
	TLM was helpful in improving communication skills	Traditional	12	18	10	4	1
		Role play	0	0	1	38	6
Test of significance Fisher exact value=68.5 df=4 p value<0.05							
	TLM was helpful in changing attitude towards patients' perception	Traditional	12	19	9	4	1
		Role play	0	0	1	35	9
Test of significance Fisher exact value=68.4 df=4 p value<0.05							

	TLM was helped in understanding the topic better	Traditional	2	4	8	28	3
		Role play	0	1	2	31	11
Test of significance Fisher exact value=12.1 df=4 p value<0.05							
	TLM integrate theoretical knowledge with practical skills.	Traditional	15	14	8	6	2
		Role play	0	0	1	16	28
Test of significance Fisher exact value=61.5 df=4 p value<0.05							
	TLM helped in better concept clarification	Traditional	4	5	11	20	5
		Role play	0	1	2	18	24
Test of significance Fisher exact value=25.4 df=4 p value<0.05							

Student feedback on the comparison between traditional and role-play teaching-learning methods indicated significant improvements in various aspects within the role-play group. The feedback revealed that the role-play method significantly enhanced learning efficiency, improved communication skills, led to a positive shift in attitude towards patient perception, facilitated better understanding of the topic, enabled the integration of theoretical knowledge with practical skills, and contributed to better concept clarification. These findings were statistically significant, underscoring the effectiveness of the role-play method compared to the traditional approach.

5. DISCUSSION

Effective communication skills are the cornerstone of interactions between patients and doctors in undergraduate medical education. When physicians excel in their communication with patients, it is more probable that patients will establish stronger rapport and trust with their healthcare providers. Various teaching and learning approaches are employed throughout the MBBS course to enhance student engagement, participation, and interest. This approach ensures that learning is facilitated and caters to students with diverse learning styles.

In the current study, the application of an unpaired t-test revealed statistical insignificance in the traditional method group, whereas the role-play group exhibited statistically significant results. These outcomes align with findings reported by Shreedhar Holla Nittor & Geetha KB, who observed that when comparing the pre-test scores between the two groups, the difference was greater in the traditional group and statistically non-significant. However, the post-test scores showed a higher performance in the role-play group, with statistical significance indicated by a p-value of <0.001.⁹

Krishnan G Divya et al. conducted a study comparing the effectiveness of role play and Small Group Discussion (SGD) in imparting prescription communication skills. The results revealed that the role play group outperformed the SGD group in post-session Objective Structured Clinical Examination (OSCE) scores. Specifically, the role play group exhibited significantly higher scores, with a mean total OSCE score surpassing that of the SGD group by 12.60 points. This difference was found to be statistically significant, with a p-value of less than 0.001. The study suggests that role play is more effective than SGD in enhancing prescription communication skills.¹⁰

Bachmann C and

colleagues conducted a study that supports the effectiveness of role play in improving communication skills among medical students. In their research, a two-hour communication skills workshop, which included role play, was implemented for a selected group of students. The intervention group, which actively participated in the workshop, demonstrated better performance in a communication skills exam when compared to the control group. It is noteworthy that the control group, comprised of students who did not attend the workshop, showed a notable contrast in communication skills outcomes. This underscores the positive impact of role play as an intervention in enhancing communication skills.¹¹ The study carried out by Nuzzo et al., which involved 173 fourth-year medical students, yielded compelling results. Those students who had received training in communication skills through role play twelve months prior to the Objective Structured Clinical Examination (OSCE) achieved markedly higher scores in comparison to their untrained counterparts. These results not only endorse the effectiveness of role play in teaching communication skills to undergraduate students but also suggest a lasting benefit from such training sessions. The enduring impact on students' performance, even after a significant period, underscores the value of role play in medical education.¹²

In the current study, the participants involved in role-play demonstrated enhanced proficiency across all parameters of the Kalamazoo Scale of Communication Skills compared to students in the traditional group. These findings align with similar results observed when using the Kalamazoo Essential Elements Communication Checklist-A (KEECC-A). In an integrated curriculum with Early Clinical Exposure (ECE), students exhibited the ability to establish effective relationships with

patients, which is acknowledged as a vital aspect of physician-patient interaction.^{13,14} The students who underwent Early Clinical Exposure (ECE) demonstrated a heightened ability to express concern and empathy for the patient compared to the Non-ECE group. These results underscore the notion that developing a rapport with patients is a continuous and fundamental aspect of medical encounters, underscoring the significance of early clinical exposure in fostering these crucial communication skills among medical students.¹⁵ Similar outcomes were reported by Meraj Lubna et al. using the Kalamazoo Essential Elements Communication Checklist-A (KEECC-A).¹⁶ In the present study, while taking the feedback suggested that students who participated in role-play sessions experienced significant enhancements in various aspects of their learning compared to those in the traditional group. Building on these findings, Preeti Garg et al. reported comparable results regarding students' perceptions of the effectiveness of role-play sessions in acquiring communication skills. This consistency in student feedback further supports the notion that role-play is perceived as beneficial and effective in enhancing communication skills in educational settings.^{17,18}

6. CONCLUSION

This study explores the influence of role play on knowledge and communication, underscoring its effectiveness as a powerful intervention capable of enhancing cognition, psychomotor skills, and affective domains in learners. Notably, the findings suggest that this type of instructional approach may particularly benefit students engaged in the Family Adoption Programme, preparing them to navigate real-life scenarios in the field where precise guidelines may be lacking. By immersing learners in practical situations, role play helps them familiarize themselves with handling diverse challenges in a composed and effective manner. In conclusion, the study emphasizes that when role play is thoughtfully integrated and complemented with other teaching methods, it emerges as a valuable tool for cultivating communication, teamwork, and critical thinking skills in medical education. This, in turn, significantly contributes to the development of well-rounded and competent healthcare professionals.

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Acknowledgement: I extend my heartfelt gratitude to King Edward Memorial Hospital, Seth Gordhandas Sunderdas Medical College for providing me with the invaluable opportunity to pursue the ACME course. Their support and encouragement played a pivotal role in the success of my efforts. I am truly thankful for the enriching experience and the knowledge gained throughout this course.

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