

## EFFECTIVENESS OF DEVELOPING STUDENTS' PRACTICAL COMPETENCIES IN CLINICAL DISCIPLINES BASED ON INTERACTIVE TEACHING METHODS

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### Abstract

This article presents a study devoted to investigating the implementation of the role-playing method in teaching clinical disciplines among second-year students of the Faculty of General Medicine at Tashkent State Medical University, as well as its significance in the development of students' practical skills. In the study, groups 218-A and 218-B (30 students) were selected as the experimental group, while groups 219-A and 219-B (30 students) served as the control group. According to the results of the initial survey, the level of utilization of the role-playing method in teaching clinical disciplines was found to be very low. During a two-week intervention, doctor-patient scenarios were enacted in the experimental group using the role-playing method. The findings demonstrated that the role-playing method plays a significant role in developing students' communication skills with patients, enhancing their ability to make independent decisions in clinical situations, and improving the application of theoretical knowledge in practice. Moreover, this method contributes to the formation of empathy, effective patient-centered communication, and appropriate approaches in complex clinical scenarios. Role-playing activities also positively influence student engagement by making lessons more dynamic and interactive, strengthening collaborative relationships within groups, and increasing professional motivation. The results of the study substantiate that the use of role-playing methods in teaching clinical disciplines is highly effective in developing students' practical competencies and highlight the relevance of integrating interactive methods into medical education.

**Keywords:** Interactive methods, role-playing, clinical disciplines, practical skills, communication skills, clinical reasoning, medical education, professional motivation.

### Introduction

Traditionally, the teaching of clinical disciplines has been conducted using a teacher-centered approach, typically involving lectures delivered by instructors while students assume a passive role as listeners, with textbooks and presentation slides serving as the primary learning resources. However, recent studies emphasize the importance of student-centered and interactive learning processes that actively engage students in developing clinical practical skills. With the growing emphasis on interactive teaching methods—such as simulations, role-playing, and problem-solving of clinical case scenarios—students are no longer passive observers but active



participants in their professional training. This shift facilitates the development of their ability to apply theoretical knowledge in practice, make clinical decisions, and effectively communicate with patients.

When interactive teaching methods such as simulations, role-playing, clinical case problem-solving, group discussions, and practical sessions are applied in teaching clinical disciplines, students become more actively engaged in the learning process and acquire practical skills more effectively. Instead of passively listening to clinical information delivered by instructors in traditional lecture-based formats, these methods transform students into active participants, fostering the development of clinical reasoning, diagnostic abilities, and decision-making skills in selecting appropriate treatment strategies.

Recent studies indicate that students demonstrate greater interest in learning clinical disciplines when they are given the opportunity to make independent decisions in simulated clinical scenarios, engage in patient-role communication, and participate in the analysis of real clinical cases. The level of students' attention, interest, effort, and participation in the educational process is defined as student engagement, which is considered a critical component of modern medical education. Behavioral engagement reflects students' active participation in practical sessions and their performance in completing clinical tasks; emotional engagement represents their positive attitude toward the profession; and cognitive engagement denotes the extent of mental effort and analytical thinking applied in solving clinical problems. These three dimensions of engagement are interrelated: students who demonstrate high attention during simulation-based training are more likely to develop a positive attitude toward clinical practice and engage in deeper professional reasoning. Currently, it is widely acknowledged that students' clinical competence and the quality of their professional training are largely determined by their level of engagement in the learning process.

### Methods

Practical training is one of the most widely used teaching approaches in medical education. However, one-directional instruction during practical sessions does not sufficiently contribute to the development of students' clinical skills. This limitation may lead to a decline in students' interest in acquiring practical competencies, which are essential for their future roles as qualified physicians. The integration of interactive techniques into practical training can stimulate active student participation and consequently lead to a higher level of practical skill acquisition.

The interaction between instructors and students plays a crucial role in improving traditional practical teaching methods. Interactivity promotes active learning, enhances motivation and attention, and facilitates feedback exchange between teachers and learners. Interactive learning activities actively engage students and encourage them to independently develop practical competencies. During interactive practical sessions, students tend to be more attentive and motivated [2].

Interactive teaching can be implemented in various formats, including large groups, small groups, pairs, and individual learning. One of the key methods applied in this study is role-playing, through which students perform the roles of physicians and patients, simulate real clinical situations, and develop their practical skills.

A scientific study was conducted among second-year students of the General Medicine faculty at Tashkent State Medical University to evaluate the effectiveness of developing students'



practical competencies in clinical disciplines through the use of interactive teaching methods, particularly the role-playing method. The relevance of this study is determined by the growing importance of integrating theoretical knowledge with practical skills in modern medical education, enhancing students' clinical reasoning, and preparing them for independent professional practice through interactive approaches, especially role-playing.

In the study, groups 218-A and 218-B (a total of 30 students) were selected as the experimental group, while groups 219-A and 219-B (a total of 30 students) were designated as the control group. Special attention was paid to ensuring that both groups were comparable in terms of age, academic performance, and baseline level of knowledge.

At the initial stage of the research, a survey was conducted among students of both groups to assess the current use of the role-playing method in clinical training sessions. The questionnaire examined students' familiarity with this method, its frequency of use in practical classes, and their perceptions of its effectiveness. The analysis of the survey results revealed several important findings.

In the experimental group, 70% of students (21 individuals) reported that the role-playing method was used very rarely in clinical sessions, while 23% (7 individuals) indicated that it was not used at all. Only 7% (2 students) noted that elements of role-playing had been partially applied in certain clinical disciplines. A similar pattern was observed in the control group: 70% (21 students) reported limited use, 23% (7 students) reported no use, and only 7% (2 students) indicated familiarity with the method.

The survey results demonstrated that the use of interactive methods, particularly role-playing, in teaching clinical disciplines remains at a very low level, which negatively affects the development of students' practical skills. The majority of students (83% in the experimental group and 87% in the control group) expressed a preference for greater use of interactive methods, including role-playing, in practical sessions. They emphasized that such methods enable realistic simulation of clinical situations, improve communication skills with patients, and enhance independent decision-making abilities.

Furthermore, students highlighted that the role-playing method facilitates the application of theoretical knowledge in practice, supports the development of nuanced doctor-patient communication skills, and plays a crucial role in fostering the ability to make prompt and appropriate decisions in diverse clinical scenarios. According to respondents, this method also contributes to making classes more engaging and dynamic, strengthens collaboration and teamwork among students, and enhances their ability to analyze clinical situations from multiple perspectives.

These preliminary findings indicate that the implementation of interactive methods, particularly role-playing, in teaching clinical disciplines at Tashkent State Medical University is insufficient and requires comprehensive improvements. In the subsequent phase of the study, it is planned to conduct structured training sessions based on specially designed role-playing programs in the experimental group and to compare their effectiveness with that of the control group.

## Results

In the second phase of the study, specialized training sessions were conducted in the experimental group (groups 218-A and 218-B, total of 30 students) over a two-week period using the role-playing method during clinical practical classes. During these sessions, students



performed the roles of physicians and patients and worked through scenarios involving various clinical situations. In each session, students rotated roles, which enabled them to develop skills in clinical situation analysis, diagnosis, and selection of appropriate treatment strategies.

After the two-week intervention period, a follow-up survey was conducted among all 30 students in the experimental group, and the results were analyzed. The findings demonstrated that all students provided positive feedback. Specifically, 93% of students (28 individuals) reported that the role-playing method significantly improved their communication skills with patients. In particular, students noted that this method enabled them to establish empathetic and effective communication, accurately interpret patients' complaints, demonstrate empathy, and apply appropriate psychological approaches even in complex clinical situations.

Furthermore, students reported that role-playing activities enhanced their ability to interact with patients in various psychological states, address patients' fears and uncertainties, deliver difficult diagnoses, and build trust during the treatment process. According to the participants, these competencies are essential for effective patient interaction and ensuring treatment adherence in their future independent clinical practice.

In addition, nearly all students (93%) indicated that their diagnostic skills had improved as a result of role-playing activities. They emphasized that their ability to apply theoretical knowledge in practice, differentiate clinical manifestations of various diseases, and perform differential diagnosis had significantly improved. Students highlighted that role-playing allowed them to experience simulated real-life clinical situations, thereby strengthening the integration of theoretical knowledge with practical skills.

According to the survey results, almost all students in the experimental group (93%) expressed a preference for the continued use of the role-playing method in future classes. They evaluated this method as more effective compared to traditional practical training and expressed a desire for its broader implementation across other clinical disciplines. Students also noted that role-playing made classes more engaging and dynamic, strengthened collaborative relationships within the group, and increased their professional motivation.

Moreover, respondents emphasized that the role-playing method enhanced their ability to make prompt clinical decisions, communicate effectively with patients, and solve complex diagnostic problems. They also reported increased confidence in their knowledge and practical skills. According to student feedback, role-playing not only contributed to the development of practical competencies but also reinforced theoretical knowledge, enhanced clinical reasoning, and improved psychological preparedness for future independent professional activity.

These findings indicate that the use of the role-playing method in teaching clinical disciplines is highly effective in developing students' practical skills and underscores the importance of broader integration of interactive teaching methods in medical education.

In contrast, in the control group (groups 219-A and 219-B, total of 30 students), practical training in clinical disciplines was conducted using traditional teaching methods without the application of interactive approaches. Over the two-week period, conventional instructional techniques such as lectures, explanations, and demonstrations were employed, and the process of practical skill development was observed. Unlike the experimental group, no role-playing or other interactive activities were conducted in the control group; instead, classes proceeded according to the standard curriculum. At the end of the two-week observation period, a survey was also conducted



among the 30 students in the control group to assess their practical skills and level of satisfaction with the learning process.

**Analysis of Survey Results.** The analysis of the survey results demonstrated that only 27% of students (8 individuals) in the control group reported sufficient development of communication skills with patients during practical sessions. A total of 53% (16 students) indicated partial development of communication skills, while 20% (6 students) reported that these skills were not adequately formed.

Regarding diagnostic competencies, 30% of students (9 individuals) reported improvement in their ability to establish accurate diagnoses based on patients' signs and symptoms, 43% (13 students) indicated partial improvement, and 27% (8 students) observed no significant changes. Students also reported certain difficulties in applying theoretical knowledge in practice, particularly in differentiating between diseases with similar clinical manifestations.

The results concerning satisfaction with the learning process and preferred teaching methods revealed that 33% of students (10 individuals) were fully satisfied with traditional practical sessions, 44% (13 students) were partially satisfied, and 23% (7 students) expressed dissatisfaction with the current teaching approaches. When asked about preferred methods for future classes, 77% of students (23 individuals) expressed a preference for interactive methods, particularly role-playing and simulation-based learning.

### **Discussion**

The findings of the study indicate that the use of the role-playing method in teaching clinical disciplines demonstrates significantly higher effectiveness in developing students' practical competencies compared to traditional teaching approaches. While 93% of students in the experimental group reported improvements in communication skills and diagnostic abilities, the corresponding figures in the control group were only 27% and 30%, respectively, suggesting a statistically significant difference between the groups.

These results are consistent with existing literature, which emphasizes that interactive teaching methods, particularly role-playing, play a crucial role in developing clinical reasoning, facilitating the application of theoretical knowledge in practice, and enhancing effective patient communication skills. Students in the experimental group reported acquiring key professional competencies through role-playing, including accurate interpretation of patient complaints, demonstration of empathy, rapid decision-making in complex clinical situations, and the ability to perform differential diagnosis.

Moreover, students emphasized that role-playing contributed to making lessons more engaging and dynamic, strengthening collaborative relationships within groups, and increasing professional motivation. These findings further confirm the role of interactive teaching methods in enhancing all three dimensions of student engagement—behavioral, emotional, and cognitive. In contrast, following traditional practical sessions in the control group, only approximately one-third of students reported improvements in communication and diagnostic skills. Additionally, 77% of control group students expressed a desire for the integration of interactive methods in future classes, highlighting the need to improve existing teaching approaches and to expand the implementation of interactive methodologies in medical education.

According to student feedback obtained during the study, role-playing not only contributes to



the development of practical skills but also reinforces theoretical knowledge, enhances clinical reasoning, and improves psychological readiness for future independent professional practice. This underscores the multifaceted positive impact of interactive methods within medical education.

Furthermore, the findings indicate that the application of the role-playing method not only improves students' communication skills, clinical analysis, and decision-making abilities but also fosters the development of essential personal qualities, including professional responsibility and adherence to medical ethics.

The fact that nearly all participating students (93%) expressed a preference for the continued use of the role-playing method and its application across other clinical disciplines further confirms the high level of acceptance of interactive teaching methods and their significant role in the educational process.

### Conclusion

The present study conducted among second-year students of the Faculty of General Medicine at Tashkent State Medical University scientifically demonstrates that the use of the role-playing method in teaching clinical disciplines is significantly more effective in developing students' practical competencies compared to traditional teaching approaches. A total of 93% of students in the experimental group reported substantial improvement in communication skills with patients and clinical diagnostic abilities. They also emphasized that role-playing enhanced their capacity to apply theoretical knowledge in practice, make rapid decisions in complex clinical situations, and establish effective and empathetic communication with patients.

In contrast, in the control group, only approximately one-third of students reported improvements in communication and diagnostic skills following traditional practical training. Furthermore, 77% of students in the control group expressed a preference for the use of interactive methods in future classes, clearly indicating the need to improve existing teaching approaches and to expand the implementation of interactive methodologies in medical education. The findings of this study indicate that the role-playing method not only contributes to the development and refinement of practical competencies but also positively influences students' professional motivation, increases their interest in learning, strengthens collaborative relationships within groups, and enhances psychological preparedness for future independent clinical practice. The fact that nearly all students in the experimental group (93%) expressed a preference for the continued use of the role-playing method and its application across other clinical disciplines further confirms the high level of acceptance of interactive teaching methods and their significant role in the educational process.

Based on the results obtained, it is advisable to implement comprehensive measures at Tashkent State Medical University and other medical higher education institutions in the country, including the wider integration of role-playing and other interactive methods into clinical teaching, systematic incorporation of these approaches into educational curricula, professional development of instructors in the effective use of interactive methodologies, and provision of necessary simulation equipment.

At the same time, further large-scale studies in this field are warranted, including investigations into the specific features of the role-playing method across different clinical disciplines and the



evaluation of its long-term effectiveness as a promising direction for future research.

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