

# Simulated Role-Playing in Pharmacy

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**Received: 26th Dec, 2019; Revised: 28th Jan, 2020; Accepted: 20th Feb, 2020; Available Online: 25th Mar, 2020**

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## ABSTRACT

Role-play refers to a situation that allows learners to examine realistic situations by interacting with other individuals in a controlled way to develop experience and try different strategies within a supported environment. Depending on the objective of the activity, learners may play a role that is related to their own or could take on an opposite part as well. In this study, the author sought to investigate the satisfaction and perception of pharmacy students toward role-playing. The study used a prospective study design and collected data from students at Princes Nourah bint Abdulrahman University (PNU). The researcher used a rubric that allowed the learners to select their responses as either “Poor,” “Average,” “Proficient,” or “Excellent.” The rubric was distributed to 6<sup>th</sup> level pharmacy students who experienced role-play for the first time in a classroom session. The findings showed that role play helped in the development of professional skills, recognized possible arguments and solutions, facilitated better understanding, developed the confidence of the learners, enhanced their communication skills, promoted effective discussion, and encouraged active participation. These observations were discussed in light of past studies that have focused on the domain of role-playing. Based on these findings, the study recommends the use of simulation and role-play in teaching pharmacy programs.

**Keywords:** Role play, Simulated patient, Standardized patient, Teaching strategies.

International Journal of Pharmaceutical Quality Assurance (2020); DOI: 10.25258/ijpqa.11.1.27

**How to cite this article:** Alshammari E. Simulated Role-playing in Pharmacy. International Journal of Pharmaceutical Quality Assurance. 2020;11(1):173-178.

**Ethics Approval:** Institutional review board IRB log number with KACST, KSA: 20-0044.

**Source of support:** Nil

**Conflict of interest:** None

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## INTRODUCTION

### What is Simulation and Role-play as Teaching Strategy?

Simulation and role-play are types of experiential learning, which allow learners to take on various roles, take on the profile of a character, and interact in diverse and complex education settings. The terms “simulation” and “role play” are at times used variably or in an interchangeable manner.

Simulation is a teaching approach that replicates realistic experiences and provides an alternative learning experience due to some of the shortcomings of clinical rotations.<sup>1</sup> This method of learning uses goal-based role-plays with a virtual patient to duplicate clinical nursing care with no risk to the actual patient.<sup>2</sup> Another scholarly work describes simulation as the art and science of reconstructing a clinical scenario in an unnatural setting. Simulation is important in developing realistic scenarios that imitate the patient care environment and allows for a more explicit application of hypothetical knowledge in a manner that is not possible with traditional teaching approaches.<sup>3</sup>

Role-play, on the other hand, refers to a learning activity that entails the participants taking on some character types

in daily life or simulation of actual life situations.<sup>4</sup> Role-plays with simulated patients provide a suitable chance for learners to engross themselves in a more genuine experience within an environment that is controlled.<sup>1</sup> This strategy can also be described as the performance of an event or situation. Most situations that require role-playing present a challenge or difference of opinion among two or more individuals. Alternatively, role play may also involve circumstances that provoke anxiety. Role-play is different from other learning activities based on simulation since they are unscripted, and the learners get to act out a situation in an entirely unplanned manner.<sup>[3]</sup> Role-play can also be explained as an educational tool that provides medical educators with a chance to examine the reaction and responses of learners in context to actual life situations and promotes feedback from their peers.<sup>5</sup>

The key difference between a classroom role-play and other traditional methods to micro-teaching is that simulation or role-play concentrate more on the lesson delivery by the student-teacher. Moreover, they also concentrate more on the dealings with the learners playing the duty of school students, thereby exposing the student teacher to decision making in the setting of unforeseen scenarios and events.<sup>6</sup> These teaching

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strategies provide beginning students with a prospect of practicing all forms of nursing and clinical care skills, such as fluid management, blood pressure management, or basic life support, among many others.<sup>2</sup> Advanced students may also use simulation and role-play to apply knowledge theory to practice in the nursing decision-making process, provision of end of life care, or the management of a deteriorating patient.<sup>2</sup> Overall, role play is used as a learning strategy in problem-based learning setups and online contexts.<sup>7</sup> It is believed to be a valuable approach to teacher education.

Role-play can be designed in three ways. The first involves guessing games of prominent individuals. In this approach, one participant attempts to role-play the features of a famous individual, and the other members ask questions to guess the identity of the individual. The second design may involve extraterrestrial organisms. In this approach, the learners may be required to be extraterrestrials with no knowledge concerning human civilization. For instance, the teacher may provide the learners with objects, such as toothbrushes and watches, and ask them to conclude their use as if they did not have any prior knowledge on them. The third structure involves role switching.<sup>4</sup> In this structure, the teacher is required to describe various characters for learners. The learners may role-play one character and change to another character once the teacher signals.

#### Advantages of Role Play Assessment

Role-play assessment can be advantageous if designed considerably. The approach can gently push the learners away from the security of a singular and authoritative narrative and provide them with differing recollections. Role-play develops a moderately non-threatening setting where learners can feel easy and relaxed with speaking an unknown language. The end result of this is the establishment of long-term motivation in the learning of a new language.<sup>4</sup> Most prominently, role-play helps learners to ask questions, discover subtexts, and distinguish prejudices, which are important to thinking in an analytical manner.<sup>8</sup> This helps them to make use of their innovative thinking and creativity whenever acting out their roles.<sup>4</sup>

Additionally, role play encourages effective interpersonal relations and social dealings among the team members.<sup>4,11,18</sup> This advantage is largely influenced by the fact that learners need to communicate well and accept their role responsibilities when preparing and practicing for role play.<sup>4,13,14</sup> Social dealings are encouraged by the fact that learners relate themselves to others during the simulation.

Role-play changes the way learners see the world since role play allows them to see things and consider issues with a unique perspective. Stated otherwise, role-play significantly enhances the knowledge of learners and their self-perceived scenarios.<sup>9,12</sup> Students are likely to be satisfied and self-confident after their simulation experience. They may also report high levels of satisfaction based on the dependability of the simulation experience.<sup>10</sup>

What's more, the use of role-playing as a teaching strategy allows the learners to discover the feelings, attitudes, values, as

well as culture contained in the characters.<sup>15</sup> These activities usually result in a strong emotional involvement to the performers, since they usually have to think about big issues in life while acting in the story.<sup>4</sup>

#### Disadvantages of Role Play Assessment

Despite the benefits of role-play, teachers have to prepare heavily to set up the background, contexts, as well as role goals. The teachers may be required to prepare and distribute data and background information concerning the role assumed by the learners.<sup>7</sup> This teaching strategy requires a substantial component of class time, which can turn out to be challenging among subjects with large numbers of learners. The solution to this challenge may entail the use of electronic role-play assessments to contextualize different workplace scenarios.<sup>16</sup> The amount of workload, together with the educational environment, may also contribute to mistakes and constricted learning ways. Besides, the assessment approach may promote dependency among learners. In the same manner, learners who acquire limited or wrong ideas may not be able to participate in certain role-play activities.<sup>17</sup>

Since role-play involves public performance, it may cause difficulties for some learners. There are a few learners who may feel self-conscious acting in front of their peers, especially in cases that involve a high degree of inventiveness. Thus, teachers have to exercise a lot of care when selecting and setting up such endeavors so as not to make more demands on the learners. This challenge can be overcome through the effective preparation of the learners. Besides, the teachers must also be cautious during role-playing to avoid creating any feelings of awkwardness among the learners.<sup>19</sup>

#### Previous Studies

Wang *et al.* examined the use of simulations and role-play and how they influence communication skills among Chinese nursing students. The authors used a convenience sample consisting of 18 master's degree nursing students from a Chinese university. The learners were introduced to the situation-background-assessment-recommendation (SBAR) communication tool through a workshop. The workshop put together the SBAR tool, role-play case scenarios, and video-stimulated recall to demonstrate possible outcomes. The pre and post-workshop scores showed a significant improvement in SBAR knowledge and student self-perceived abilities. In sum, we can conclude that taking part in the SBAR workshop together role-play case scenarios resulted in a meaningful improvement in the knowledge of SBAR and self-perceived attitudes among Chinese nursing students.<sup>10</sup>

Another study by Smithson *et al.* reviewed the literature on the value of standardized patients in pharmacy education. The authors searched articles from CINAHL, Scopus, ProQuest, PubMed, Medline, Science Direct, ERIC, and A+ Education for the years between 2000 and 2013. In total, the review contained 27 articles. The findings showed that the use of simulation and role play promoted student satisfaction and enhanced their effectiveness to confer knowledge, skills, and interprofessional practice. However, the study noted specific

gaps in knowledge concerning the transferability, scalability, as well as cost-benefit of using this teaching strategy.<sup>21</sup>

Chowdhury suggested various teaching, learning, as well as pedagogical methods that can promote morals, values, and ethics among learners. One of the approaches suggested involves the use of role-playing and discussions. The author noted that role-plays and discussions are effective in polishing critical thinking and developing an appreciation of ethical skills. Specifically, the author recommended the use of role-plays based on the dual-use of dilemmas. These types of role-plays encourage the active engagement of learners with ethical issues and can catalyze the development of critical, analytical, verbal, and argumentative skills. The author also suggested that the use of role-play must be done in a manner that is pleasurable and non-threatening.<sup>22</sup>

King *et al.* used a dataset of 107 learners from the University of Melbourne to evaluate role-play-based learning. The intervention used in the study required medical students to perform patient and doctor roles. The results of the study showed that role-play-based learning sessions were tremendously positive. The respondents reported improvements in engagement, empathy, confidence, and learning. The study also noted that the sessions provided outstanding preparation for internships and exams.<sup>23</sup>

Adrian and his colleagues investigated how to develop the communication skills of pharmacy students using active learning and role-play. Learners and pharmacist faculty members reviewed students that were role-playing pharmacists in patient care scenarios. Through role-play scores, the findings of the study showed that the learners improved their oral skills (45.87/50). However, there was an insignificant impact on introductory pharmacy practice experience (IPPE) communication objectives. These findings demonstrate that role-play can improve oral and written communication skills. This can help enhance interprofessional teamwork between providers of health care and pharmacists.<sup>24</sup>

Aburahma and Mohamed reviewed literature on educational games and their use to teach the pharmacy curriculum. The authors observed that role play educational games promoted interactive participation among the learners. Some cases of role-play allowed the learners to apply what they learned in lectures to genuine situations. Role-play games were also found to promote a less demanding environment for learners – which is an advantage since cases of anxiety can at times, hinder learners from engaging fully in discussions. However, many pharmacy educators are still unwilling to implement educational role play due to associated challenges, such as the time spent learning. The authors observed that role-play games can be reused much easily once prepared.<sup>25</sup>

Research by Hess *et al.* analyzed the use of a blended learning course to teach communication skills to medical and pharmacy learners. The learners took part in 10 1-hour online modules as well as 5 3-hour group sessions throughout a semester. The researchers examined pre and post-course domain scores within and across various professions. The

scholarly work noted an increase in performance in all the domains of communication skills among all the learners. Both medical and pharmacy students responded well to the blended approach. The findings meant that the use of a blended learning educational platform, involving role-play helped improve the interpersonal skills of the learners.<sup>26</sup>

The significance of role-playing teaching on student understanding was also tested in the study by Abed. The author used a sample consisting of 87 7<sup>th</sup> grade learners from a male public school located in Amman-Jordan. Two tests were administered in the study before and after the experiment – Scientific Concepts Test (SCT) and Attitudes towards Science Learning Scale (ATSLS). The findings showed statistically significant differences between the two study groups – experimental and control groups. The findings implied that the use of drama or role-play in teaching science was effective.<sup>27</sup>

Veettil and Rajiah used data from India to examine the use of simulation in the practice of pharmacy. The authors chose to incorporate simulation techniques in the training program to promote the education and training of pharmacists and enhance patient care and safety. While simulation experiences could never replace experiences in real clinical settings, they showed a great potential to support clinical education and to develop the skills one needs to be a competent pharmacist. The authors concluded that simulation initiatives provided a consistent and predictable experience to basic sciences, dispensing, as well as medication supply and should be included in all levels of pharmacy training and education.<sup>28</sup>

Ulrich and colleagues documented the reflective responses associated with role-play simulation of bullying experience. The authors used an exploratory design involving 333 learners from 5 college campuses and 3 universities. They examined the personal responses of these learners, their nonverbal communication skills, actions, and their perceived effect of bullying during the process of simulation. The findings showed that role play was a very effective pedagogy and prompted learning at the cognitive and emotional spheres.<sup>29</sup>

Another study that focused on hearing voices simulation was done by Fossen and Stoekel. The study was based on the fact that baccalaureate nursing students are faced with anxiety before dealing with learners with mental illness. The scholars, therefore, collected the perceptions of the learners concerning the simulation experiences before their initial mental health clinical rotation. The study findings demonstrated that the hearing voices simulation provided the learners with a lot of understanding of the experience of hearing voices, and the role-play involved helped the learners to gain a personal understanding of the behaviors of patients.<sup>30</sup>

Gillette and his associates analyzed the cost-effectiveness of role-playing in the development of student-pharmacist communication skills. They used five role-play/case study activities based on a communication skills curriculum. The authors found the ICER equating standardized patients to RP/CS to be \$100.93 higher for each learner on first attempt pass rates. The ICER was also found to be \$9.04 per one-

point increase in the mean score. The study found the use of standardized patients to be more effective and costlier compared to role play/ case studies. The authors recommend the need for extra research to determine the usefulness of standardized patients over role-play in teaching communication skills.<sup>31</sup>

Past research also examined the impact of active learning methodologies on the teaching of pharmaceutical care using data from the pharmacy faculty in Brazil. The authors evaluated student learning using tests and instruments. The satisfaction of the students with the course was also tested. The estimated mean of student scores in all the methods used for evaluation was 7.97 based on a scale ranging between 0 to 10. While using the virtual patient method, student performance was noted to be superior compared to the other methods. The observations made by the authors indicate that the use of an active learning course, such as one involving role play can promote learning of pharmaceutical care competences. However, there is a need for more studies comparing the active methods to traditional ones.<sup>32</sup>

Another study by Mraiche and colleagues demonstrated the development, delivery, and effect of including structured assessments, such as role-play in the existing pharmacy curriculum. Their methodology involved examining the third professional year of the Bachelor of Science in Pharmacy program. Among the three courses, one underscored advocacy through role-plays. In total, the researchers examined 23 students. The authors theorized that including role-play sessions related to the learning outcome would result in better performance. The findings of this study can be applied to pharmacy programs across the world, seeking to improve the learning outcomes of learners.<sup>33</sup>

Similar to the previously mentioned studies, different non-traditional and simulated teaching methods have been sought within the region of Saudi Arabia<sup>34,35,36</sup> but to the best of our knowledge, no one has examined role-playing.

**MATERIALS AND METHODS**

The objective of the study was to extract pharmacy students’ satisfaction and perception toward role-playing. To meet this objective, the study followed a prospective study design. The study was set at a pharmacy college – Princess Nourah bint Abdulrahman University (PNU). Using marking rubric of 4 blocks; fluency, relatedness, engagement, and feedback as an audience (see the appendix section). The rubric allowed the students to select their responses in a four-point Likert scale ranging between “Poor”, “Average”, “Proficient”, and “Excellent.” This rubric was distributed to pharmacy students of the 6<sup>th</sup> level where role-play as a teaching strategy was

implemented for the first time on their study during a classroom session. The focus of this session is on interviewing strategies.

**SELECTION AND DESCRIPTION OF PARTICIPANTS**

Students were voluntarily asked to participate and placed in groups of 5 students with one standardized patient (SP). The chairs were positioned in a circle so that all members, including the SP, are facing inward and can view one another. Role-playing began with explanation that there is a “standardized patient” to help mimic real-life scenarios. A total of 2 cases that the group will run through for 35 minutes, with each student in the group leading the case. The 2 cases are imaginary cases of patients reaching the pharmacy to get help on using their medications and expected drug related problems. Data was collected after finishing the whole session.

**RESULTS AND DISCUSSION**

Fifteen-students voluntarily participated in an ungraded session. They were letting students in each group assess their performance and write about their experience. From case 1 to case 2, there were 100% agreement between students to score excellent as overall satisfaction and that their performance improved from being “average” to “excellent”. Their comments on the experience of role-playing shown in Table 1.

These findings are consistent with previous studies that identified role-play sessions to be advantageous as a teaching strategy. Our study confirms the findings of the previous studies mentioned before which identify various benefits of using role-play. In line with the previous studies, we can conclude that role-play establishes a moderately non-threatening environment that allows learners to be easy and relaxed.<sup>[4]</sup> Most students agreed that role play facilitated better understanding, which is in line with proposals from past studies suggesting that role-play helps learners ask questions, distinguish prejudices, and discover subtexts.<sup>[8]</sup> The findings that role play promoted effective discussion and active participation were consistent with past research alluding to interpersonal relations and social dealings among team members.<sup>[4,11,18]</sup> Our study also noticed better communication among the learners, which was consistent with observations made by Chan, Wolff *et al.*, and Gartmeier *et al.* In sum, the current study has been used successfully to account for the benefits of using role-play as a teaching strategy in pharmacy.

**CONCLUSION**

The study aimed to examine the satisfaction and perception of pharmacy students toward role-playing. The study used a

**Table 1:** Comments Obtained from the Learners

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Helped in professional skills development that can be transferred to the real world
Recognized potential arguments and solutions
Facilitated better understanding
Developed confidence on expressing my concerns toward patients.
Enhanced communication skills with my team and to patients.
Promoted effective discussion
Encouraged active participation

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prospective study design to achieve this objective, using a dataset of learners from Princess Nourah bint Abdulrahman University (PNU). The findings showed that role play helped in the development of professional skills, recognized possible arguments and solutions, facilitated better understanding, developed the confidence of the learners, enhanced their communication skills, promoted effective discussion, and encouraged active participation. Based on these findings, the study recommends the use of simulation and role-play in teaching pharmacy programs.

#### ACKNOWLEDGMENT

This research was funded by the Deanship of Scientific Research at Princess Nourah bint Abdulrahman University through the Fast-track Research Funding Program.

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**APPENDIX**

Marking rubric adapted from reference 4

	Excellent	Proficient	Average	Poor
<b>Fluency:</b>	Perfect fluency of the acting performance, including the pace, speech, and behaviors	Generally, fluent flow of the performance; the existence of a few pauses did not largely disturb the flow	Some occasional pauses occurring during the performance, somewhat affecting its comprehensibility	Frequent, awkward pauses during the course of performance, significantly disturbing the flow
<b>Relatedness:</b>	Most of the performance is well-organized, related to the theme of the topic, and also to the learning objectives of the activity	Satisfactorily relate the performance to the topic and learning objectives; the story is generally a complete one	The link between the performance to the topic and learning objectives is weak and not clear	Chaotic presentation; difficult to understand the performance in relation to the topic and learning objective
<b>Engagement:</b>	Successfully engage the performers, audiences and teacher to concentrate carefully on the performance	Generally able to attract the attention of the performers and audiences on the performance	Uninteresting performance; the audiences barely listen to the performance occasionally	Fail to retain the attention of the audience; weak connection with other performers
<b>Feedback (as audience):</b>	Carefully watching and giving appropriate, useful feedback for improvement to performers after the performance	Some useful feedback is given for the improvement of the performance	Giving few feedbacks with regard to the performance	Pays no attention to the performance thus giving no useful feedback
<b>Overall satisfaction</b>	4	3	2	1

**Comments on your experience with role-playing:**