PROMOTING PROFESSIONALISM IN PHARMACY BY IMPLEMENTING SIMULATED LEARNING MODULES

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ABSTRACT

Background: It is only through effective communication that healthcare practitioners can practice professionally and competently. Students' communication skills and practice abilities are improving due to simulation-based education (SBE). Objective: Simulated learning modules (SLMs) were developed based on practice-based scenarios. An evaluation of students' abilities to practice pharmacy and their professional conduct was conducted to determine the impact of SLMs on their abilities to practice. Methods: SLMs integrating EXCELL competencies were used to investigate a number of learning outcomes. An experiential learning system and leadership skills training develop participants' self-efficacy, generic communication skills, and self-confidence. A total of six pharmacy practice and practical placement scenarios were covered in the SLM workshops. During SLM (Short Learning Module), students attended three hours of preliminary lecture and eight hours of workshops. EXCELL social interaction maps (SIMs) were used in SLMs to brief, role-play, facilitate, and debrief actors. Before and after the workshops, students were given quantitative and qualitative surveys, and teachers were asked to reflect on their experiences. In surveys, specific learning outcomes are evaluated using pharmacy professionalism and pharmacy practice effectiveness scales. Students' responses were measured prior to the start of SLMs after two workshops and a block placement. By self-reporting their progress, students could gauge how much improvement they had made. Results: Pharmacy practice and professionalism have improved significantly, and students have shown a commitment to ethical behavior. Communication skills improved significantly along with confidence, according to qualitative feedback. It is observed by teachers that SLMs are an effective method of improving communication and professionalism skills, and they suggest modifications to improve the effectiveness of this method. Conclusion: In a recent study, both students and teachers evaluated the effectiveness of a teaching strategy that emphasizes practice and professionalism. A broader range of clinical applications can be achieved by integrating SLMs with SIMs.

KEY WORDS: Pharmacy Practice, Students, Implementing, Professionalism Skills.

INTRODUCTION

The goal of effective interprofessional collaboration is achievable only through effective communication skills among health care professionals. Based on the KSC taxonomy, learning can be considered from three perspectives: knowledge, skills, and competences. Skills can be viewed as a person's capacity to accomplish tasks or apply knowledge and understanding. Knowledge, understanding, and application are perceived as a person's knowledge, understanding, and application [2]. According to the National Competency Standard framework for Pharmacists, a communicator is capable of effectively communicating information arguments and analyses in English. The student must also be able to articulate complex relationships between ideas and purposes in written texts in addition to engaging in sustained, complex oral interactions [2]. Health-related simulation-based training has proven to be effective in promoting social and emotional learning [4-7]. These modified tutorials are more engaging for students and standardised patients by using standardised patients over time and by using simulated learning modules [5,4]. Several aspects of the SBE discipline have been highlighted in a comprehensive report by Health Workforce Australia about the discipline's importance in clinical education [8]. Communication between students and professionals, clinical decision making, and teamwork are all valuable aspects of SBE since they are centered around the student. The classroom and placement learning will be enhanced when students possess good communication skills [9,10].

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The most effective method of teaching health education communication in most studies is context-specific, making it a challenge for academics and clinicians. Optimizing clinical placements to improve interprofessional practice motivated the present study's innovative method. According to literature, the researcher's experience as a Pharmacy Placements convenor led to consistent reports of communication challenges and practice challenges from students and preceptors [11,12]. Based on the Excellence in Cultural Experiential Learning and Leadership (EXCELL) Program, a schematic, evidence-based professional development resource was used to improve participants' communication skills. A variety of ways of seeking assistance, expressing disagreements, joining a group, providing and receiving feedback, and refusing requests were discussed. Nursing, psychology, pharmacy, and business curriculums have effectively integrated communication skills into the development of successful professional development [13-15]. An investigation of effective classroom methods for integrating SLMs was conducted as part of a larger study in pharmacy education. Pharmacy practice and placement are addressed by SLM competencies. Hospital and community pharmacy professionals faced a variety of challenges. A key component of SLMs at EXCELL was communication. In a study involving SLMs, practice skills (i) and professionalism (ii) were evaluated as being effective for pharmacy students.

METHODS

Advanced Practical Experience part of the Master of Pharmacy program, used SLMs throughout the course. Pharmacy practice courses prepared students for pharmacy practice before completing a three-week block placement in a hospital or community pharmacy. The mean age of the participants was 23.0 years (SD=3.10). There were 22 men and 23 women involved in this study. In this school, 79.3% of students were Indian citizens/permanent residents, 63.0% of whom were born here, and 20.7% of whom were from overseas. We had students from 20 different countries; 28.3% weren't native English speakers, spoke 16 languages at home, and only 66.0% spoke English as their first language. There were two four-hour workshops separated by a week and three hours of lectures for the students (N=45). Students were provided with information sheets explaining the voluntary nature of SLMs and the filming component according to ethics protocols. There is a possibility that students will be required to participate in research as part of their coursework in the future. A lecture on the SLM concept and the knowledge components that underpin each scenario introduced students to the concept and core knowledge components. As part of Scenario 2 ('expressing disagreement'), students were tested on their knowledge of laws related to returning medicines to pharmacists. It was essential for students not to have any understanding gaps that would prevent them from maximizing their professional communication skills in the SLMs. In order to develop the SLM scenarios, researchers used competencies from the National Competency Standards Framework for Pharmacists in Australia, EXCELL, along with their own clinical and educational experiences. There are six skills in SLM: seeking help, expressing disagreements, collaborating with others, giving feedback, and refusing requests. In every SLM, trainee actors performed roles.

It is provided in Table 1 an explanation of the SLM competencies, the scenario, the personnel/roles involved, the teaching process, and the teaching personnel (pharmacists, patients, other health care professionals, and pharmacy preceptors) involved in the SLM. SLMs were conducted with varying levels of difficulty by the students, with all scenarios being scripted and including suggestions for modifying communication approaches. Assisting the facilitators were small groups of teachers who conducted role-plays with actors, and the actors assisted in the debriefings of the facilitators. Before the SLM workshops, actors were auditioned and briefed on scenarios and variations. SIMs (Social Interaction Maps) were assigned to each SLM.

Table 1: Scenarios for SLM (each practiced in a workshop at various levels of difficulty)

Scenario	Competency in SLM	Personnel	Description of the scenario	Procedures of teaching
1)	Looking for Help	Pharmacist working in hospitals and communities.	To arrange a discharge, hospital and pharmacist role-play.	A two-actor model scenario is watched by the whole group, then small groups practice.
2)	Unanimity in disagreement	Patient, pharmacist, pharmacy owner.	Pharmacy disagreement regarding the return of medication by a customer. Uncertainty.	Legal requirements are clarified. Small group observation and modeling.

3)	Group participation	Nurses, pharmacists, and doctors (consultants and residents)	Ward round/clinical review. Cross-sensitivity of allergies needs to be discussed by the pharmacist.	Consultant doctors either act dominatingly or accommodatingly. Required are role cards.
4)	Getting feedback	A pharmacist and a customer	A veterinarian's (animal's) prescription was incorrectly dispensed, according to a customer complaint	First, a negative scenario is modeled, then a discussion takes place. A more effective way is modeled by students.
5)	Requests that are refused	Customer, pharmacist	Restrictions are requested by the patient. Deny sale by pharmacist.	Various types of customers are encountered, including old and young, rude and friendly, as well as abusive.
6)	Students acting as preceptors - giving feedback	Pharmacist student, young pharmacist	A young pharmacist provides constructive or negative feedback verbally to an older pharmacy student.	Actors playing the role of students receive feedback from preceptors (played by students).

Table 2: An example of a social interaction map is the following: 'Refusing a request in a professional manner'

Stages	Verbal behavior	Non-verbal's	Values
Approaching / Attending		An employee of the pharmacy approaches the patient at the counter	Medication safety is crucial
		Contacts the patient by making eye contact	Requirements for legal/ethical compliance Patients should be respected
Creating a bridge	The dispensing system provided me with your medication records	Voice that is calm and firm, but with a pleasant face	Taking care of patients as a professional with respect and self-respect
Commenting	Because of these reasons, I am unable to supply you with this medication...	Keep eye contact, be unemotional, and speak clearly	Having professionalism, ethics, and legality as well as concern for the wellbeing and dignity of customers is a requirement for any healthcare professional
Departure/development	It's unfortunate I can't provide what you requested, but I hope you find this useful.	Ensure that you are maintaining eye contact and displaying a pleasant voice and a smile	Establishing and maintaining a relationship with the patient that fosters respect and professionalism

scenario. As opposed to providing prescriptive advice on how to interact socially, SIMs were used in this study primarily to complement role-play activities. A set of maps was presented to students to assist them in increasing their nonverbal and verbal repertoires in professional settings. Having the ability to decline a request professionally is a requirement of this competency. As part of the debriefing process, teachers used SIMs to discuss verbal, non-verbal, and value behaviors that they observed throughout the role-play. Students were asked to complete qualitative and quantitative questionnaires four times: prior to the start of

the first SLM workshop (T1), after the completion of the first workshop (T2), following the completion of both workshops (T3), and following the completion of the pharmacy placement and semester (T4). There are only a couple of questionnaires reported in the paper at T1 and T4. During the Measure of Pharmacy Professionalism measure, pharmacists are measured on 18 items that measure altruism, accountability, excellence, duty, honor, integrity, and respect. There is satisfactory reliability found in the instrument.33 Items included "I treat all patients equally, regardless of their perceived social standing or ability to

pay" (Item R), and "I respect individuals from different backgrounds" (Item N). A SD rating indicates that the respondent strongly disagrees (rating 1) while a SA rating indicates that the respondent strongly agrees (rating 5). As shown in Table 4, an overview of the 11 items used in the study is provided. Measures of pharmacy practice skills were used in the present study. By comparing graduates' practice skills with Australian Competency Standards, we were able to assess graduates' practice skills.

Table 3: Pharmacy professionalism measurement

Items	Level of agreement				
	1	**2**	**3**	**4**	**5**
Helping others is not an expectation on my part.	SD	D	N	A	SA
It is necessary for me to attend class/placement/work on a daily basis.	SD	D	N	A	SA
I notify the appropriate individual as soon as I become aware that I will be late.	SD	D	N	A	SA
If I do not follow through with my responsibilities, I readily accept the consequences.	SD	D	N	A	SA
I want to exceed the expectation of others.	SD	D	N	A	SA
It is important to produce quality work.	SD	D	N	A	SA
I complete my tasks independently and without supervision.	SD	D	N	A	SA
I follow through with my responsibilities.	SD	D	N	A	SA
I am committed to helping others.	SD	D	N	A	SA
I would take a job where I felt I was needed and could make a difference even if it paid less than other positions.	SD	D	N	A	SA
It is wrong to cheat to achieve higher rewards (i.e., grades, money).	SD	D	N	A	SA
I would report a medication error even if no one else was aware of the mistake.	SD	D	N	A	SA
I am able to accept constructive criticism.	SD	D	N	A	SA
I treat all patients with the same respect, regardless of perceived social standing or ability to pay.	SD	D	N	A	SA
I address others using appropriate names and titles.	SD	D	N	A	SA
I am diplomatic when expressing ideas and opinions.	SD	D	N	A	SA
I accept decisions of those in authority.	SD	D	N	A	SA
I am respectful to individuals who have different backgrounds than mine	SD	D	N	A	SA

Table 4: Practice Skills Measurement in Pharmacy

Items	Level of agreement				
	1	2	3	4	5
A. I am capable of contributing to the optimal use of medicines.	SD	D	N	A	SA
B. I am effective in terms of my communication in the workplace.	SD	D	N	A	SA
C. I am effective in terms of my collaboration in the workplace.	SD	D	N	A	SA
D. I am effective in terms of my self-management in the workplace.	SD	D	N	A	SA
E. I have sufficient awareness of possible ethical and legal dilemmas in Pharmacy practice.	SD	D	N	A	SA
F. I am effective in interacting with people with culturally and linguistically diverse backgrounds.	SD	D	N	A	SA
G. I have effective spoken English communication with:					
a. Other pharmacy staff	SD	D	N	A	SA
b. Health professionals	SD	D	N	A	SA
c. The preceptor	SD	D	N	A	SA
d. Patients and customers	SD	D	N	A	SA
e. Other people (suppliers, representatives, receptionists)	SD	D	N	A	SA

Multiple relevant domains are reflected in the standards [2,34]. Pharmacy students were asked to rate their perception of their effectiveness in communicating with pharmacy staff, healthcare professionals, their preceptor, patients and customers, as well as other people (suppliers, representatives, receptionists), in accordance with the

original format of the communication skills section [34]. The changes in pharmacy practice skills and professionalism over time were analyzed using repeated-measures t-tests. A quantitative analysis of SLM responses is further conducted before (T1) and after (T4). Based on a general assessment of the quality of SLMs, students at T4 evaluated them qualitatively. Data were analyzed using MAX computer software.21 Open, axial, and selective coding methods were used to categorize the data [22]. The coding scheme and the questions were explained and coded by an independent rater. Both sets of coding were independently examined by an independent third party with knowledge of their contents. Coding accuracy consistently exceeded 90%, indicating an appropriate level of inter-rater reliability [23]. On several occasions, the second person reviewed the transcript and adjusted the code/s when there were disagreements.

RESULTS

Between T1 and T4, pharmacy practice skills showed a significant improvement, $t(54) = -2.54$, $p=0.008$, $d=0.36$, and pharmacy professionalism showed a significant improvement, $t(54) = -3.98$, $p<0.001$, $d=0.64$. (Table 5)
In addition to learning about the importance of non-verbal communication skills and confidence, students appreciated the opportunity to practice different scenarios pharmacists encounter on a day-to-day basis. The students also found it beneficial to be able to give and receive feedback. The newly acquired communication strategies enhanced their professional skills, enhanced their ability to collaborate with other professionals, and helped them gain more professionalism.

Table 5: Means and Standard Deviation for pharmacy practice skills and pharmacy professionalism at T1 and T4.

Measure	Time	Mean	SD
Pharmacy professionalism	1	4.03	0.39
	4	4.24	0.38
Pharmacy practice skills	1	4.04	0.49
	4	4.19	0.47

The quantitative findings indicate that SLMs had no negative impact on the practice skills or professional behavior of students. SLM role-plays were particularly valuable for the students because they learned new communication skills, particularly how to make appropriate assertions, received clear feedback on how to improve their interaction skills with actors, and received clear feedback on how to improve their interaction skills. With SLMs, ABCD demonstrated the importance of structured communication at different levels of complexity, which was also emphasized in Social Interaction Maps. As a result of the newly acquired communication skills, they were also able to interact more effectively with other professionals. Based on

the qualitative comments of the students, three major themes were identified. We emphasized SLMs as teaching tools, and we discussed appropriate assertiveness and practice strategies.

Theme 1: Using simulated scenarios to teach

Students benefited from the SLMs in a variety of ways, including their 'real life' interfaces, behavior feedback (which will be useful in future practice), and how they were challenged by the novel scenarios.
SLMs were praised heavily by students for their time-efficiency and effectiveness. The School of Pharmacy should hold a workshop of this type during semester 1 of the Master's program to teach these skills. Some recommended earlier integration into the curriculum:

Theme 2: Using assertiveness appropriately

Anger management was a common theme among student responses. Through SLMs, students were more assertive, had a stronger voice, and did not become passive when confronted with aggressive situations. I had the opportunity to see the way interactions and conflicts escalated into conflict & damaged relationships over time through SLMs. In practice, I recognized when I wasn't being aggressive or passive by seeing the "not to do" responses. Several students have commented on how SLMs have positively impacted their placement, as shown in the following example:
As a result of attending SLMs, I was able to deal with angry customers better during placement.

Theme 3: Practice Approaches

SLMs often resulted in students improving their practices, which was a common theme in their reflections. The following additional thoughts were expressed by students regarding dealing with angry customers:
Before responding to another person, I should listen to their response and consider why and how they are answering.
In addition to stating a fact, explaining "why" was very helpful. Moreover, I learned that looking ahead is better than reacting immediately to a specific situation A demonstration of the effectiveness of different communication styles in professional settings.
It is possible for situations to escalate quickly if you use the wrong techniques.
Consider the following comment from a student regarding how it impacts practice and professionalism:
The skills I acquired in problem solving and handling certain situations have been useful. It is also necessary to improve professionalism.
Furthermore, students suggested aligning SLM activities with course assessments to increase student engagement in the future. Several students would not have allowed their pictures to be taken, nor would they have allowed their role-play to be performed in front of the entire workshop group. The SLM engagement helped students

understand how interpersonal dynamics can impact pharmacy practice outcomes and how this can be improved. Additionally, they said that SLMs helped them learn how to deal with the complexities and challenges of pharmacy practice in addition to helping them develop communication skills.

SLMs were judged negatively by several students due to their length, repetition of scenarios, and timing. Positive feedback was received regarding SLM workshops, with comments intended to increase their frequency. Also, SLM workshops featured smaller, more intimate group scenarios and role-plays. Additionally, students believed that SLMs should be linked more closely to course assessments. Some students found conflict resolution and communicating with colleagues irrelevant since they didn't encounter these situations during placement.

DISCUSSION

Students' practice skills and professionalism were assessed through simulations in this study. M Pharm Pharmacy students had the opportunity to participate in pharmacy placements and role-play in a safe, informal laboratory setting during SLMs. There was a successful completion of study objectives. The inclusion of SLMs in health curricula is beneficial and they have been well received by students. The workshops provided students with an opportunity to apply their knowledge and skills to simulated role-playing in a safe workshop setting. It was possible to achieve both aims of this study by balancing quantitative and qualitative findings, which were both extremely positive. Previous research has documented that students appreciate simulations of communication in the classroom [24,25]. The quantitative and qualitative responses of students demonstrated that SLMs helped them to improve their communication skills and professionalize themselves [24-27], as well as complementing the traditional curriculum and its challenges effectively (as demonstrated in their qualitative and quantitative responses) [28]. Due to SLMs, students' qualitative responses reveal nuanced understandings of professionalism and the multifaceted nature of pharmacy practice. It seems that students gained insight into the gray areas of sometimes complex, uncertain, challenging sociological aspects encountered in pharmacy practice through SLMs. Despite their 'common' understanding of pharmacy practice, they were able to go beyond it. Similar pedagogical challenges have been faced in the past by pharmacy education [29-31]. In terms of acquiring key professional pharmacy skills, most students considered SLMs relevant. As well, these results need to be interpreted in light of the fact that students had a chance to try their new skills after completing a three-week placement block (T4). To ensure students develop the skills they need to practice professionally and efficiently, professional training is provided [26,32-34]. In this study, the generic skills outlined in the EXCELL Program are demonstrated to be effective in enhancing the learning process of practitioners-in-training in a challenging field of communication when they are utilized in conjunction with the modified 'Social Interaction Maps'. After the SLMs were completed, the four SLM facilitators conducted a structured debriefing about how they were designed and implemented. Using SLMs enabled participants to participate in relaxed, flexible paced role-playing exercises, individual and group reflections, and feedback through relaxed, flexible pacing, informal and formal role-playing exercises. Interprofessional interactions were among the topics covered by students during their exploration of different professional practice environments. In addition, students were able to practice in an environment they perceived as 'more professional', based on their own words, due to the presence of trained actors and simulated scenarios in interprofessional healthcare settings they were unfamiliar with in the classroom or on placement, as reported in the literature [7,28,34]. SLMs possessed inherent limitations because of their novel approach. In order to improve their abilities, students may wish to project the impression that they are more competent than they actually are. SLM perceptions were subjective and unvalidated due to students' self-reports. The validity of similar endeavors would be enhanced by the inclusion of objective evaluations (blind raters). The inclusion of validationd questionnaires into future studies would also improve generalizability and enhance the validity of the results in pharmacy education by adding a control group and a larger sample size. A person with specific skills and experience may be able to engage and enact the desired behavior in interactions more consistently and appropriately. SLM workshops were required for students to participate in, but grades were not dependent on their attendance (although most perceptions were extremely positive), which may have affected their perception of their roles in the curriculum. It was a major curricular innovation in terms of time and staff resources. The implementation and planning of SLMs must be carefully considered in order to ensure their quality, feasibility, and long-term sustainability.

CONCLUSIONS

EXCELL SIMs and simulated learning have been well received by students and staff alike. SLMs proved effective as pedagogical strategies. Several SLM scenarios focused on professionalism and practice were highly rated by faculty and students. In a supportive and constructive environment, this kind of SLM gives students the opportunity to gain real-world experience and get immediate feedback on their performance. Student practice and professionalism skills can be improved in a number of areas of professional practice confidence. Despite the fact that the study was limited to a single cohort and largely self-reported, it suggested that EXCELL-influenced SLMs could be included in more health disciplines.

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