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INSTRUCTIONAL DESIGN AND ASSESSMENT

A Course-based Cross-Cultural Interaction among Pharmacy Students in Qatar and Canada

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Objective. To develop, implement, and evaluate a course-based, cross-cultural student interaction using real-time videoconferencing between universities in Canada and Qatar.

Design. A professional skills simulation practice session on smoking cessation was run for students in Qatar (n=22) and Canada (n=22). Students role played cases in small group situations and then interacted with colleagues from the other country regarding culturally challenging situations and communication strategies.

Assessment. Students were assessed on analytical content and communication skills through faculty member and peer evaluation. Cultural competency outcomes were assessed using a postsession survey. Overall, 92.3% of respondents agreed that learning was enhanced through the cross-cultural exchange, and 94.9% agreed that insight was gained into the health-related issues and needs of people from another culture.

Conclusion. A course-based, cross-cultural interaction was an effective method to incorporate cultural competency principles into student learning. Future initiatives should increase direct student interaction and focus on culturally sensitive topics.

Keywords: culture, cultural competency, pharmacy education, technology

INTRODUCTION

Modern day health care professionals are being challenged to adapt to increasingly culturally diverse practice environments through interactions with patients and other health care providers.^{1,2} Pharmacists rely on effective communication skills to provide professional services.³ Communication skills are essential for promoting medication adherence, understanding, and safety to patients and for providing drug therapy recommendations and education to physicians, nurses, and other members of health care teams. Pharmacists must ensure their verbal and nonverbal communication is clear, correctly interpreted, and effective. If not, patients may be at risk of improper medication use or pharmacists may risk damaging relationships with other team members.^{4,5} The highly multicultural settings around the world in which many pharmacists practice make effective communication an even greater challenge.

Cultural competency is rapidly becoming a core curriculum element for health professions, especially in regions

with high cultural diversity.⁶⁻¹² The goal of this project was to integrate cultural competency in the pharmacy programs of 2 diverse universities: Qatar University in Doha, Qatar and The University of Saskatchewan in Saskatoon, Canada. Cultural competency concepts within pharmacy include understanding patients' culturally unique attitudes and beliefs regarding disease and medication use, interpretation of verbal and nonverbal communication elements, and health care professional attitudes and beliefs towards providing care.^{4,13,14} For example, Canada has increasing numbers of foreign-trained physicians and prescribers who may not be familiar with clinical pharmacy services and practice models and may have strong beliefs regarding the roles of health professionals and team-based care, which differ from the beliefs of locally trained professionals. In 2001, 17% of physicians in Saskatchewan were trained in South Africa.¹⁵ Additionally, Canada has many diverse cultural groups, including immigrants and Aborigines. In 2011, 15.6% of the population of Saskatchewan self-identified as Aborigines.¹⁶

In Qatar, health care practitioners and patients come from many different countries and represent a diversity of cultures, beliefs, and attitudes. A population report from 2012 indicated the overall working population in Qatar consisted of more than 90% expatriates, and the majority

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of this population originated from South Asia (eg, India, Nepal).¹⁷ General population demographics from 2011 listed Arab (40%, Qatari and nonQatari), Indian (18%), Pakistani (18%), Iranian (10%), and other (14%) as the largest ethnic groups.¹⁸ Thus pharmacists in Canada and Qatar must be equipped with skills and abilities to work within culturally challenging settings in order to ensure care is not compromised.

The University of Saskatchewan and Qatar University are 2 schools with entry-to-practice degrees (bachelor of science in pharmacy) accredited by the Canadian Council for Accreditation of Pharmacy Programs (CCAPP).¹⁹ As such, these 2 institutions follow the Association of Faculties of Pharmacy of Canada (AFPC) Educational Outcomes for First Profession Degree Programs in Pharmacy (entry-to-practice pharmacy programs).²⁰ The importance of cultural competency is described within this document, specifically under the “communicator” learning outcome, which states graduates must “demonstrate sensitivity, respect, and empathy in intercultural and interprofessional situations.” The importance of cultural competency is also reflected in the “professional” learning outcome, which states graduates must “integrate patient preferences related to culture, beliefs, and practices.”

In order to integrate cultural competency into our respective curricula, we reasoned that a direct skills-based interaction between students from 2 CCAPP-accredited schools in Canada and Qatar would enhance learning and offer an innovative instructional method for teaching cultural competency. The objective of this project was to develop, implement, and evaluate a course-based, cross-cultural interaction through use of real-time videoconferencing technology.

DESIGN

The course-based, cross-cultural interaction was designed to assess focused learning objectives that could be evaluated and monitored. A list of specific learning

objectives is provided in Table 1. These learning objectives were designed to facilitate student achievement of the AFPC learning outcomes related to cultural competency (communicator and professional).²⁰ In addition to these student-specific learning outcomes, a program-level outcome was to establish a partnership between 2 culturally diverse (both within program and between programs) pharmacy schools that may serve as a prototype for other programs attempting to incorporate cultural competency into education and practice.

The instructional design was a 2-hour interaction run concurrently via videoconferencing technology between Qatar University and the University of Saskatchewan. The College of Pharmacy at Qatar University offers 3 academic programs: a 4-year bachelor of science (BS) in pharmacy (after 1 year of general science and core curriculum courses), an entry-to-practice PharmD degree (1 additional year post-baccalaureate), and a master’s of science in pharmacy. The college enrolls up to 25 students per academic year in the undergraduate program. Students complete 173 credit hours throughout the undergraduate degree. The College of Pharmacy and Nutrition at the University of Saskatchewan offers a 4-year BS in pharmacy degree (after 1 year of general sciences and core curriculum courses). Ninety students are enrolled each year and complete 137 credit units of material by the final year.

Students in Qatar participating in the study were enrolled in their final professional year of the pharmacy BS program, while those in Canada were enrolled in their second year of a 4-year program. Although the total number of students per year in Canada is 90, those participating in this program were enrolled in a single laboratory section (22 students). These groups of students were chosen based on exposure to the topic of interest (had all studied smoking cessation therapeutics in previous coursework) and logistical convenience. Although there was a 2-year discrepancy in the students’ professional year between sites, all students had been exposed to simulated

Table 1. Expected Student Learning Outcomes at the End of the Session and Method of Assessment

Learning Objective	Method of Assessment
1. To assess patients in terms of smoking cessation	Peer and faculty evaluation (all cases)
2. To recommend appropriate therapeutic interventions to patients attempting to quit smoking	Peer and faculty evaluation (all cases)
3. To communicate effectively with patients presenting for smoking cessation advice	Peer and faculty evaluation (all cases)
4. To describe strengths and weaknesses of skills-based, cross-cultural exchanges	Large group discussions postsurvey
5. To develop insight on the effects of culture on providing clinical pharmacy services	Large group discussions postsurvey

professional laboratory sessions through previous curriculum activities. Both groups also had exposure to experiential training through clinical internships or service learning. As the focus of the session was on communication skills and cultural diversity, this discrepancy should have had minimal impact on student learning.

Two faculty members facilitated the session in Canada and one in Qatar. The facilitating faculty members were chosen due to their coordination roles within the skills-based or case-based learning courses in each program and all 3 were licensed pharmacists who maintained clinical practices in their respective countries. Consequently, all 3 faculty members had significant experience with the teaching methodology, along with a strong link to clinical practice. The session was integrated into the existing curriculum of Integrated Case-Based Learning V in Qatar and Nonprescription Drug Therapy in Canada. The 3 faculty members involved in this initiative knew each other professionally prior to the session, which expedited the collaboration and the subsequent development of this new course-based student interaction.

The idea for the session was conceived in July 2013, and faculty members corresponded throughout the following 7 months to design the content of the session and organize the logistics of the videoconferencing technology. The major challenges faced in design and implementation were overcoming the time difference between the 2 countries (9 hours) and ensuring the technology was available and able to facilitate interaction between the 2 programs. In order to accommodate timing, students in Qatar were asked to attend the session outside of regular class time (5:00 pm-7:00 pm), while Canadian students were asked to arrive one hour early (at 8:00 am). Videoconferencing technology was arranged and supervised by information technology personnel in both universities and was comprised of a large centralized screen in both locations that allowed for observation, interactive large group discussions (with real-time audio and video), and one-on-one interactions between students (including an initial exchange of greetings in both Arabic and English—Arabic-speaking students were present in the Canadian class).

Smoking cessation was chosen as the therapeutic topic due to overlapping curricula and the likelihood of promoting discussion based on suspected cultural differences. The sites were linked through centralized videoconferencing equipment, which provided reasonable interaction between students and faculty members from each region. The session began with introductions from both Qatar and Canada and a brief description of the activities to be completed. Students were organized into groups at each center (7 groups of 3 or 4 students in Qatar

and 8 groups of 2 or 3 students in Canada) and given the same 3 patient case scenarios (Table 2) and peer evaluation forms. All cases were based on a patient approaching the pharmacist in a community setting to request assistance with quitting tobacco use. Cultural competency components were incorporated into both the case description (alcohol use, relationships) and further emphasized in context of communication skills.

Students role played within the small groups for each patient case, either as the pharmacist (with no access to or knowledge of the information provided within the patient case), the patient (with access to the patient case information), or the peer assessor (who evaluated the pharmacist performance using the evaluation form). Groups of 4 students alternated roles ensuring each student had the opportunity to be the pharmacist and peer assessor at least once. Students acted out the case over 10 minutes and the peer assessor provided feedback at the end. Faculty members facilitated by walking around the room observing the individual sessions and offering feedback for communication skills and analytical thought processes to each group.

Peer evaluations occurred immediately following each case role-play. The student designated as the peer assessor used a standardized rubric to assess peers. The assessment was discussed among the small group members and all members had a chance to contribute feedback. Finally, results from the peer assessments were discussed in large group with students from both schools in the context of recommendations students had for peers that could improve performance on this case scenario.

Both sites then participated in an interactive large group discussion, in which the major principles from the case were discussed and were related to real-life patient situations. Challenges from each center were described, and input was sought from the partner school, focusing on the case related cross-cultural challenges and differences between the 2 countries. For example, Qatar students were interested in the Canadian students' thoughts regarding water pipe smoking cessation programs and how to address more recreational drug use, while Canadian students sought advice from Qatar students dealing with patients who are uncooperative, non-interactive, or disengaged (as community pharmacy practice is still developing in Qatar). The same process was repeated with 2 additional patient cases so students could assume each role once, and the facilitated large group discussion was repeated after each of the 3 case role-plays. The second and third cases incorporated additional patient assessment aids and smoking status inventory documents supplied by the Canadian school, which allowed for interesting large group discussion regarding

Table 2. Description of Cases Used for Role Play Sessions

Component	Case 1	Case 2	Case 3
Initiating Statement	“I would like to try to stop smoking. What would you recommend?”	“Is there any good product on the market for smokers yet?”	“I would like to try to stop smoking. What do you recommend?”
Patient Data	Male, 40 years old, married with 2 kids, wife does not smoke, medium-stress job	Female, 50 years old, married with 3 kids, husband smokes, engineer	Male, 50 years old, divorced with 2 kids, girlfriend does not smoke, grocery store manager
Smoking History	Smoked since grade 10 (3/4 ppd*) but lately have chronic cough and sore throat	Smoked since college (1.5 ppd) but are worried about osteoporosis and smoking	Smoked since high school (1 ppd). Just had a mid-life crisis and smoking is part of it.
Quit History	Five quit attempts but only successful for 2 days. Never tried a product. Ready to give a good try this time.	Ten quit attempts but only successful for 1 day. Coffee is a trigger. Tried patch 2 years ago but had allergic reaction. Ready to try again but does not plan on telling anyone.	Thirty quit attempts but only successful 1 week. Tried patch, gum, and bupropion once each. Ready to try again.
Medical History	Seasonal allergies, no medications but MD watching blood pressure. Drinks coffee regularly and alcohol socially.	Taking calcium supplements. History of eczema. Drinks coffee regularly and alcohol socially.	Seasonal allergies. Using NSAID for chronic back pain. Drinks alcohol socially and no coffee.
Preference	Not interested in gum due to taste and does not need hand-mouth action. Cost is not an issue.	Would try gum and hand-mouth action appealing. Cost is not an issue.	Did not like gum and bupropion gave rash. Patch was ok but gave nightmares. No need for hand-mouth action. Needs cheapest alternative.

* packs per day

applicability to patients and practice settings from other cultures (Middle Eastern and beyond).

The session culminated in a final patient role-play between one of the Canadian faculty members (using a new case that was based on a recent real-life scenario from the faculty member’s clinical practice) and 2 Canadian pharmacy students, which was observed by all students in both sites. This method was chosen for this intervention so students from both schools could observe and give feedback simultaneously. Also, the faculty member in Qatar was Canadian-trained, and it was deemed redundant to have the case acted out separately in both locations. The faculty member played a highly disengaged patient who was dismissive and uncooperative with the 2 students, who played the role of pharmacists. This role-play was followed by a large group discussion between both sites. While the Canadian students found the situation challenging and not commonly encountered in their laboratory scenarios to date, the Qatar students were somewhat more comfortable with the scenario since they expressed that this was one of

the most commonly encountered patient types in their practice. Qatar students advised to be persistent and explain the pharmacist role, capitalize on opportunities for interaction (at cash register, etc.), and to ask questions regarding smoking habits or favorite types of tobacco products in order to build a trusting relationship.

Prior to the session, students were asked to review their clinical therapeutics course work relating to smoking cessation to ensure that they were familiar with the clinical and therapeutic content that was applied in the session. Additionally, students were directed to textbooks such as *Patient Self Care*²¹ and online resources such as UpToDate (an online medical information database).²² The project was deemed to be exempt by the institutional review board.

EVALUATION AND ASSESSMENT

Peer evaluation was used to assess the analytical and communication skills portion of this course based, cross-cultural interaction. The assessment tool was a standardized rubric and consisted of multiple scoring points relating to

both analytical and global assessments. Students provided each other with peer feedback after each role-play session using this tool. We did not assess therapeutic competency for this exercise, as our focus was on cultural aspects.

Facilitating faculty members assessed students using a direct observation and feedback technique by rotating between small groups at each respective site. Faculty members at each site were asked to describe their observations. In Qatar, they noticed that students were not probing to determine patients underlying concerns and expectations. This is likely reflective of community pharmacy practice in Qatar, where pharmacists have not traditionally provided extensive counseling or clinical support. Observations of positive aspects of the interactions included the students' ability to select, recommend, and counsel patients on appropriate smoking cessation aids. In Canada, students had some difficulty incorporating smoking cessation tools into their session and were indecisive about how to be supportive, but were competent in selecting products and advising on usage. Results of peer evaluations discussed by students during the large group portions were similar to faculty observations.

In order to directly assess the learning outcomes relating to cultural competency, a postsession online survey was designed to gather both quantitative and qualitative assessment data. Questions were designed based on content and were meant to gather recommendations for future initiatives. A SurveyMonkey survey (SurveyMonkey

Inc., Palo Alto, CA) was sent by e-mail to all students participating in each center (n=22 in Qatar and n=22 in Canada).²³ Completion of the questionnaire was voluntary and no compensation was offered for participation. Students could withdraw their participation at anytime, as incomplete responses were not tabulated in the final results.

The results of the student survey were positive and justified pursuing future sessions and educational research plans. We obtained 39 responses (n=18/22 from Canada and n=21/22 from Qatar), with an overall response rate of 88.6% and response rates of 81.8% and 95.5% in Canada and Qatar, respectively. Results are summarized in Table 3. Student interest was high in this type of instructional method (with 92.3% desiring continuation of the activity) and confirmed the value of integrating cultural competency activities into existing curricula. Overall, 92.3% of respondents agreed or strongly agreed that learning was enhanced through the cross-cultural exchange in the learning activity, and 94.9% agreed or strongly agreed that insight was gained into the health-related issues and needs of people from another culture.

In addition to the questions summarized in Table 3, 2 open-ended questions were asked that assessed what students liked best about the activity and what students felt should be changed in the future. Representative quotes are provided in Table 4. Student responses regarding positive

Table 3. Summary of Student Perceptions Regarding a Pilot Cross-Cultural Skills-based Exchange

	Strongly Agree/Agree n (%)	Neutraln (%)	Strongly Disagree/Disagree, n (%)
My learning experience in this tutorial was enhanced by the videoconference discussions that occurred between the 2 universities.			
Canada (n=18)	18 (100)	0 (0)	0 (0)
Qatar (n=21)	18 (85.7)	2 (9.5)	1 (4.8)
Overall (n=39)	36 (92.3)	2 (5.1)	1 (2.6)
I gained insight into health-related issues and needs of people from another culture.			
Canada (n=18)	18 (100)	0 (0)	0 (0)
Qatar (n=21)	19 (90.5)	1 (4.8)	1 (4.8)
Overall (n=39)	37 (94.9)	1 (2.6)	1 (2.6)
Student interaction was critical to the success of this exercise.*			
Canada (n=17)	17 (100)	0 (0)	–
Qatar (n=21)	20 (95.2)	1 (4.8)	–
Overall (n=38)	37 (97.4)	1 (2.6)	–
The right amount of student interaction occurred across countries.*			
Canada (n=18)	17 (94.4)	1 (5.6)	–
Qatar (n=20)	17 (85.0)	3 (15.0)	–
Overall (n=38)	34 (89.5)	4 (10.5)	–
We should continue to offer these videoconference links between the two universities.*			
Canada (n=18)	18 (100)	0 (0)	–
Qatar (n=21)	18 (85.7)	3 (14.3)	–
Overall (n=39)	36 (92.3)	3 (7.7)	–

* “Yes” or “No” Response Questions

Table 4. Representative Student Quotes from Session Evaluation

Questions	Responses from Canada	Responses from Qatar
What did you like best about the videoconferencing linkage between the 2 universities?	<p>“It was really interesting to hear from another culture on such a common and problematic topic. I never would have thought of shisha as being a concern in the same sense as cigarettes. It’s a country/culture I never thought I’d be in any sort of communication with.”</p> <p>“It was really interesting to learn about their culture and to learn about the different types of issues they have to overcome such as the location of pharmacies and the difficulty of making people find time to talk with the pharmacist.”</p> <p>“It was very awesome to hear their perspective on smoking cessation as compared to ours. It was somewhat similar, but I feel like they had a few other great insights that we would have never thought of on our own. It was a really great idea and I hope it continues more in the future! It is just so great to see that our profession is so similar and has the same standards across the world.”</p>	<p>“The opportunity to get feedback from other students overseas and from more than one professor. We also got to know the health-related problems are similar whether here or anywhere else, meaning a wide application of our classroom knowledge.”</p> <p>“It was a great experience learning about what the practice of pharmacy is like in another culture. It was interesting to learn how they approach counseling and the issues they face with patients there.”</p> <p>“I liked that we had a chance to learn from other instructors at another country and being able to discuss with the students the same cases and what solutions made at different countries.”</p>
What should we change for next time?	<p>“I think more of our class should get to participate because it was a good learning experience.”</p> <p>“It would be cool to see a complete student counsel from Qatar and then they watch a full student counsel from Canada.”</p> <p>“Maybe a better screen to allow us to see the students better.”</p>	<p>“We would like to have student interaction from Qatar and Canada in which one is pharmacist and the other is patient and learn what each instructor thinks about each counseling session.”</p> <p>“Selecting a topic with more controversy, so a good discussion can be generated.”</p> <p>“I think more student involvement would be better.”</p>

aspects of the activity included the opportunity to learn about similarities between each culture, while being exposed to thought-provoking challenges, interaction with colleagues from far away, and exposure to case scenarios incorporating cultural components. The respondents recommended greater interaction between students in both countries, along with an expansion of the activity to all students within each program (not all 90 second-year students in Canada participated), and more convenient timing of the interaction.

DISCUSSION

To our knowledge, this is the first report of this type of course-based interaction between 2 culturally diverse pharmacy schools and is the first of its kind to describe student interaction between 2 Canadian-accredited programs located in different countries. The practicality of our methods paired with motivated facilitators make the learning experience replicable in most international settings. Based on our assessment and evaluation results, real-time shared learning opportunities between students in Canada and Qatar led to greater understanding of culture and enhanced learning.

This program resulted from gaps identified within our respective curricula regarding cultural competency, which led us to believe that other programs may be encountering similar challenges. As described, cultural competency is becoming a core component of health curricula, and changing societal demographics re-emphasizes the importance of graduating pharmacists proficient in this area. These concepts are applicable not only to North American or Western regions but also to regions worldwide. For example, the population in Qatar is primarily comprised of expatriates from all around the world. Similar trends exist in other world regions, including North America and Europe, where diversity is increasing. The changing demographics of these populations, high rates of immigration, and increased global travel opportunities challenge health providers to provide competent care in diverse settings, and students must be prepared to face these challenges upon graduation.

We consider this method to be a pilot project for future expansion. Based on evaluation results and instructor self-assessments, we believe increased student interaction will better support the objectives and lead to measureable outcomes. For example, creation of integrated care plans through direct student interaction may facilitate greater learning and positive attitudes towards culturally dissimilar situations. Collaboration through patient case discussions, or care plan creation, regarding substance use disorders or sexually transmitted infections

would likely better support the learning of students in Qatar. Conversely, care planning for Middle Eastern patients with focus on drug selection that considers religious beliefs and societal values would likely benefit Canadian students and help them better understand patient perspectives when counseling and strategizing for optimal medication understanding and adherence. We also recommend these activities be followed by self-reflection exercises, focusing on cultural competency concepts. The interpretation of “culture” is diverse, so this method is effective as an evaluation mechanism compared to structured checklists or rubrics.²⁴

The greatest challenges for this method of addressing cultural competency were time differences, matching course topics, and facilitating direct student-to-student interaction. However, we believe these considerations can be overcome with distance-based, small-group interactions via personal videoconferencing software (Skype, FaceTime, etc.). This would facilitate interaction and direct collaboration among students. Also, requiring a shared assignment as part of small working groups would foster direct student interaction and help create an integrated care plan that could address culturally challenging situations. Therefore, we propose this model as a viable method of creating dynamic partnerships between pharmacy programs worldwide.

SUMMARY

The goal of this project was to initiate and evaluate a course-based, cross-cultural interaction through use of real-time videoconferencing technology. Our hypothesis was confirmed that direct skills-based interaction between students from 2 accredited schools in Canada and Qatar would enhance learning and offer an innovative teaching method for exposing students to cultural diversity within pharmacy practice. We encourage other programs to initiate similar models of cultural exchange and to expand the model by increasing direct contact between students through assignment-driven tasks. Future studies and initiatives may want to focus on assessing learning outcomes related to cultural competency through course assessments, such as OSCE stations and/or practical examinations. Overall, this program was effective, met our respective course objectives, and was perceived favorably by participating students.

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