

A Proposed Blended Course Design for Inter-Professional Education:

Using Inquiry to Develop Critical Thinking for Inter-Professional Practice in Undergraduate Students

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Abstract— The purpose of this proposed blended course design is to develop inter-professional communication and collaboration in critical thinking, inquiry, and learning. Implementation of inter-professional education between undergraduate students from different faculties enables a building of connections and relationships which could lead to improved collaboration in future inter-professional practice. Critical thinking has been acclaimed as essential in the provision of competent healthcare. The proposal of a blended-learning format provides a means to accommodate the inherent scheduling challenges between different faculties, and captures the potential of cultivating critical thinking in learning experiences during face-to-face, simulation, online learning, and social media interactions. Proposing a blended inquiry-based approach would seek to utilize various educational strategies in presenting an innovative means to teaching and learning within inter-professional healthcare education.

Keywords—inter-professional education, critical thinking, inquiry, blended learning

I. INTRODUCTION

Today's healthcare environment has become more complex and challenging, heavily influenced by technological advances and complicated by the severity and intensity of medical conditions [1], [2],[3]. Being responsible for providing safe and competent patient care is demanded of healthcare professionals [4]. Universities are expected to graduate health care professionals capable of higher order thinking able to practice and function in our multifaceted healthcare environment [3]. Critical thinking, as such, has been claimed by learning scientists, educators and researchers as one of the necessary competencies of the 21st century learner, deemed as a valuable and essential learning outcome and indispensable to professional practice [5], [6], [7]. Higher education is therefore very much aware of the need to graduate critical thinkers [8], [9], [10], [11].

Similarly, inter-professional collaboration has been recognized as an important strategy to providing quality healthcare for positive patient outcomes [12], [13].

Competence and capability to engage in collaborative inter-professional practice can be enhanced by students from the various healthcare disciplines experiencing inter-professional education with each other. Inter-professional education can be the opportunity for these students to learn about, learn from, and learn with each other, to cultivate practice ready professionals who are competent and capable of working collaboratively together to provide optimal care to patients. "Shared learning facilitates team collaboration" [14]. Mutual learning and development of critical thinking and inquiry now could prime students for effective inter-professional thinking and inquiry together in the future.

The purpose of proposing a blended course design is to facilitate communication and collaboration in learning, cultivate critical thinking, initiate relationships, and advance the capability to function inter-professionally in clinical practice between the undergraduate students from the faculties of medicine and nursing. A blended-learning format has the potential to accommodate the inherent scheduling challenges between different faculties, and afford students opportunity to develop critical thinking together from face-to-face, and technologically enhanced learning experiences.

The course design proposed would incorporate a face-to-face session including a high-fidelity simulation to afford the students opportunity to interact and function side by side in a representation of a healthcare situation. A discussion forum occurring online, utilizing a Learning Management System, would extend the learning initiated during the face-to-face and simulation learning experiences, and could foster a community of inquiry enabling the students to develop the necessary critical thinking and reflection skills of a healthcare professional working in an inter-professional team. The social media forum is proposed as a means to further develop social relationships begun during the face-to-face session.

II. THE PROPOSAL

Proposing a blended approach integrating face-to-face and online learning was to advance higher-order thinking and discussion, develop reflection, and facilitate collaboration and inquiry in learning between undergraduate students from the faculties of medicine and nursing. A blended learning design has the ability “to engage participants in critical reflection and discourse by creating a flexible and sustainable community of inquiry” [15].

The purpose of designing this inter-professional course was to encourage necessary communication and collaborative thinking and inquiry between students from medicine and nursing to potentially improve performance between the two healthcare disciplines in future practice and enhance quality and safety in patient care. If we are serious about building an effective healthcare system, “...we need to be training professionals in a collegial and collaborative manner” [12].

The intent of incorporating a face-to-face component is to provide students with opportunity to initiate communication, develop rapport, and engage in effective relationship-building with each other. The simulation experience would potentially facilitate collaborative teamwork and critical thinking, and afford students a situated learning inquiry experience by providing them with an example of a real-life situation. The simulation can advance student learning in communication, critical thinking and discussion, engagement in inquiry, decision-making and implementation of interventions together inter-professionally. The creation of the online community of inquiry can further develop the valuable thinking, collaborative inquiry, and reflection essential to their future practice. The online forum for discussion can encourage the students to develop written communication skills which demonstrate clarity when sharing and building knowledge with each other.

By integrating face-to-face and online components in this course, it is anticipated that this can enrich the collaborative learning for these students, and generate greater potential to cultivate the critical thinking and reflection necessary to develop practicing professionals capable of clinical judgment and critical decision-making beneficial for patient health and safety.

III. THE RATIONALE

The challenge of scheduling and organizing learning opportunities for students from different faculties can often be a deterrent to inter-professional education. However, a beneficial factor to inter-professional practice would be opportunity for inter-professional education enabling students to build relationships with each other, and collaborate in thinking and inquiry to learn together. In learning together, these students could become familiar with each other's roles, and identify with each other's stressors and difficulties.

In designing this course with a blended design, it was anticipated that undergraduate medicine and nursing students would benefit from learning with, learning about, and learning from each other. This collaboration in learning could initiate understanding of the roles of each other's profession and develop a foundation for future inter-professional practice. As educating healthcare professionals in “academic silos” likely contributes to segregating them from the other professions, it also prevents them from building knowledge of the expertise of those they will work with in the future [12]. It would therefore be deemed important that interactions and relationships be built between them as learners in hopes that this would improve their future working relationships, and enable the provision of more effective patient care.

Incorporating inter-professional simulation learning experiences into the face-to face component of this blended design would provide students with active experiential learning and develop their competence in working together [16]. Utilizing the situative perspective inter-professional simulation learning can provide enables improved communication and collaboration within and between various healthcare professionals [17], [18].

To extend and further expand on the learning from the face-to-face and simulation learning experiences, an online community of inquiry would be cultivated. This online component would afford learners with opportunity to continue to develop critical thinking and inquiry with each other in their own time and space, overcoming constraints which time and space can place on achieving learning between different faculties. In generating opportunity for medical and nursing students to engage in an online community of inquiry, their learning can be enriched and strengthened [19] with the potential for developing these students into future professionals competent and capable of reflective critical thinking and inquiry to collaboratively provide quality patient care.

IV. THE COMMUNITY OF INQUIRY

Inquiry-based learning is “an umbrella term, encompassing a range of teaching approaches which involve stimulating learning with a question or issue and thereby engaging learners in constructing new knowledge and understandings” [20]. Inquiry-based environments are designed to promote active engagement and learning, and stimulate students to use questioning to explore and develop knowledge, and engage in critical thinking to apply theory to practice and internalize learning [21]. Inquiry thus compels the learner to question, to enquire, to explore, and to examine. Human inquisitiveness is focused towards learning and knowledge building. “Inquiry is the active search for meaning” [15]. Inquiry can therefore be a strategy to encourage students to be autonomous, motivated, and active in acquiring knowledge. As inquiry encourages a “learner-centered” perspective, students are supported to develop higher-order thinking and participate in collaborative community learning [15], [22].

The community of inquiry framework, encompassed in a blended inter-professional course would encourage collaborative practice that promotes critical thinking, encourages inquiry and discourse, and enhances reflection. A Community of Inquiry (CoI) framework as presented by Garrison [15] integrates three components to create a “deep and meaningful (collaborative constructivist) learning experience”. Teaching presence, social presence, and cognitive presence together create “a sense of identity through interpersonal communication” [15] to initiate and sustain a learning Community of Inquiry from face-to-face interactions to the online discussion forum.

The nature of the learning environment established can have a significant impact on the learning outcomes of the students. Social presence can facilitate a supportive, safe, sensitive community built on trust and respect and empower a more conducive environment for inquiry and reflective learning. Without perceiving acceptance and inclusion [15], the learner can have difficulty wanting to share, inquire, or contribute to genuine reflection and learning.

The initial face-to-face meeting and simulation learning experience would foster the development of social presence [15], and enable the students to identify with each other to realize a community of learners. Through the initial in-person interactions, the learners could potentially build rapport, share personal perspectives, and develop respectful and trusting relationships, which could be extended and enriched through online communication.

The cognitive presence strives to attain higher-order thinking, to construct meaning through reflection, and to realize understanding through community discourse [15]. To achieve this authentic deep learning and cultivate critical thinking, a safe environment of trust and communication needs to be created founded on social presence and facilitated by teacher presence.

To realize the attainment of deep learning, teacher presence needs to “design, facilitate, and direct” the course outcomes within the community of inquiry [15]. Effective facilitation is essential in initiating and stimulating inquiry, thinking, discussion, and reflection to develop a knowledgeable cognitive presence of higher-order thinking and discourse. “Subject matter expert ... is an important teacher-presence responsibility” [15], identifying the importance that both the perspectives of medicine and nursing are captured by shared facilitation between these two professionals. This shared instruction between the two faculties would additionally model collaborative teaching and learning for the students, demonstrating effective, cooperative team facilitation.

V. COURSE SCENARIO

The proposed course would incorporate a blended approach established through a Learning Management System, amalgamating face-to-face, simulation, formal online discussion, and informal social networking interaction. The premise of using a blended design is to

connect students from medicine and nursing who would not easily or commonly interact during their undergraduate educational experiences due to scheduling, time, and space limitations. The Learning Management System would integrate the in-person and online learning, and offer an arena for organization of course materials and assessment of learner outcomes. Social networking technology can afford students with an alternative avenue to connect informally and interact in a more relaxed social environment, still sharing learning and knowledge of each other and with each other. Having opportunity to associate and bond relationally and socially could create and sustain long-term relationships between students from both faculties and lend itself to improved future practice together as colleagues from different professions.

As the Learning Management System would be a more formal forum for discussion and reflection, it would be the location for the assessment of learning, with a discussion board designated for sharing thinking, inquiry, reflection, and responses. The Learning Management System would also serve as the repository for the submission of assignments, peer feedback, and instructor feedback. The utilization of a social networking technology has the potential to modernize learning to enable students to share, interact, and exchange thinking and reflection with each other in a more relaxed arena [23]. The addition of a social networking technology has the potential to provide social and cognitive stimulation to students and educators in the online setting [24].

VI. COURSE DESIGN

As time and scheduling are often the limiting factors in bringing these two groups of learners together, it would be suggested that this course be offered condensed in a six week time frame, offered to students in a senior year in their respective programs. Minimizing student group size and ensuring equal representation by both faculties will facilitate valuable and meaningful learning. The limitation in the group size would enable the instructors to create a more cohesive collaborative community of inquiry, and afford all participants greater availability and ease communicating and collaborating with each other. With the limitation in group size, greater learner participation and reflective contributions may be precipitated in this more “intimate” group.

The social networking technology chosen would function as a more open community, with learners socializing and building social presence, which can be transferred back to the more formal Learning Management System forum.

A. Course Outline

A course outline would be posted on the Learning Management System detailing all necessary information for the course, and defining the approach to be undertaken in teaching and learning, and outlining participation responsibilities. The outline would also describe the objectives and expected learning outcomes, explain the

assessment process, and provide direction to guide the communication process between all course participants, instructors and students.

The first in-person meeting between all the participants will be vital in setting the climate of the learning environment. It will be essential that trust, openness, engagement, motivation, and inquiry be established, fostering the creation of a social presence which will benefit the creation of a successful community of inquiry and facilitate cognitive presence [19]. This first meeting will be foundational to the rest of the learning in the course as it will serve as the introduction to inter-professional education, collaborative inquiry learning, and cultivation of critical thinking.

At the first meeting, it would be important to review the outline with the students to provide an opportunity to discuss the learning activities, assignments, assessments, and expected learning outcomes in depth, respond to questions, and provide as much preparation and clarification as needed to allay anxiety and stress. This would also be the opportune time to establish expectations for student behaviours, build a collaborative, supportive community of inquiry, and initiate critical thinking, with emphasis on facilitating learning.

Learning activities and assignments would be developed and available on the Learning Management System to capture the learning objectives and facilitate the achievement of the learning outcomes. These activities have potential to encourage student awareness and inform understanding of each other's future professional practice roles, promoting effective communication and collaboration in practices, and appreciation for each other as fellow students and future practice partners. The assignments would focus on promoting collaboration in learning, inspiring inquiry, stimulating critical thinking and instigating contemplation and reflection.

B. Simulation

Simulation is an educational strategy which creates a scenario modeled on a real-world experience for interactive inquiry learning [25], and would be the first structured inter-professional learning activity for the students. In preparation for the learning experience, a pre-briefing session would precede the simulation to orient the students to the simulation scenario and the simulation environment. The pre-briefing session can be a time to prepare the students for the learning, to promote inquiry, and to initiate necessary critical thinking.

The simulation scenario developed would reflect a situation the students could potentially find themselves in when in actual practice on a hospital unit, thus placing their learning in a real-world context. The learning experience would provide an opportunity for the students to interact, communicate, inquire, critically think, and collaborate in providing appropriate patient care. In concluding the learning with a debriefing session, the students would be afforded the opportunity for emotional release, to share and discuss the scenario, to have clarification of thinking, to connect the simulation

experience to real life, and to be provided with encouragement and guidance in reflection [26], with facilitation from the instructors and peer feedback. It is anticipated that the learning from the simulation experience can be further developed with extension to the online community for discussion and reflection.

VII. THE POTENTIAL OF THE COURSE

Educational faculties can encounter challenges of time and infrastructure in designing and implementing course designs, which can become compounded when endeavouring to create inter-professional educational experiences. As such, the course presently designed was striving to support inter-professional faculty instruction and student learning, but has not currently seen realization and remains a proposal, a conception. A conception founded on professional experiences of inter-professional education, simulation learning, online instruction, and current practice with collaborative multidisciplinary healthcare teams, postulated on available research.

The proposal of a blended learning design is an effort to overcome time, space, and scheduling limitations by offering a combination of in-person and online learning. By minimizing the need for infrastructure and limiting in-person meeting time, opportunity for instructor and student interaction within and between the different faculties might be facilitated. The blending of face-to-face and online learning can be opportunity for students to better manage their time, and for faculty opportunity to offer inter-professional education amidst the stress of time and space restrictions. Blending learning designs can have the advantage of advancing learner engagement by gaining the benefits of both in-person and online learning.

The focus of proposing an inter-professional course was to afford students opportunity to engage and connect with students from different faculties, and foster inter-professional educational experiences to prepare students for future inter-professional practice.

VIII. CONCLUSIONS

Inter-professional education facilitates inter-professional practice and advances patient safety and the provision of competent and effective patient healthcare. The premise of inter-professional education in designing collaborative learning for undergraduate students from medicine and nursing could be considered disruptive to the traditional teaching and learning in the separate faculties. The blended design takes advantage of technology and offers benefits as being innovative, but would also be considered disruptive to traditional teaching and learning. While the proposal endeavours to express the value of a blended inter-profession course, unless there is acceptance and uptake by faculty, it remains an idea without potential for implementation.

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