



THE DEVELOPMENT OF MASSIVE OPEN ONLINE COURSE (MOOC) IN TRADITIONALLY TAUGHT COURSE OF EMERGENCY NURSING AMONG NURSING STUDENTS A CONCEPT PAPER

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Abstract: *Education plays an important role in the development of a country and is only the bridge to create the better future of citizens. As technology is a very powerful tool in education, it provides new and innovative forms of support to teachers, students and the learning process more broadly. As web-based education and technology integration continue to increase, innovative approach to deliver online learning will also occur. One of the approach is Massive open online course (MOOC) and it is a technological based learning tool that is recently emerged in the higher educational landscape to provide additional learning opportunities for learners, teachers and educational institutions. The use of MOOCs in nursing education is currently under evaluated area of pedagogy, with only an emerging evidence base to support the wider integration into relevant undergraduate curricula. Although MOOCs have been available for almost a decade, and courses continually becoming available on commercial platforms, there remains a paucity of empirical evidence to support their utilization. Specifically, in nursing education, numerous roles for MOOCs have been proposed for both on- and off-campus learning, however, a clear rationale for their effective utilization is still nascent. This study aims to develop MOOC course and investigate the effectiveness of this integrated MOOC course of emergency nursing subject among nursing students. In addition, this study goes to identify the experiences of students and lecturers in this MOOC course. The course will be developed by applying the phases of Design Developmental Research (DDR) method such as phase 1- need analysis, phase 2- design and development, phase 3- implementation and evaluation. This study will contribute the critical thinking skills and innovative ideas among nursing students thus enhancing the students' learning abilities and equips the nursing students with innovation concepts and creative skills for an ever changing technologically-driven health care environment.*

Keywords: Massive open online course, traditionally taught course, emergency nursing, nursing students, Design and developmental research method

1. Introduction

Education is the foundation of society and gives us knowledge and changes it into something better. It plays an important role in the development of a country and is only the bridge to create the better future of citizens. If a country does not have proper education, it may leave behind by other countries which have good education system. Therefore, it should be considered which factors are affecting on the education system. Culture, technology and economic of country give much impact to education system. As technology is a very powerful tool for education, it

provides new and innovative forms of support to teachers, students and the learning process more broadly. As web-based education and technology integration continue to increase, innovative approach to deliver online learning will also occur. One of the approach is Massive open online course (MOOC) which is a technological based learning tool that is recently emerged in the higher educational landscape to provide additional learning opportunities for learners, teachers and educational institutions.

1.1. Background of the study

E- Learning is one of the effective teaching approaches and it can help teachers by diversifying teaching methods to facilitate students to understand in their teaching and to achieve outstanding students' achievement (Cheok, et.al, 2017). Glance over the past, educators have always been interested to help in transforming education and improve students' learning in line with advanced technology (Cheok, et.al, 2017). Moreover, educators expected that the progress of teaching techniques could provide a method to know more about how students perceive and distribute information (Cheok, et.al, 2017). In order to be in line with the technology changes, it is a must for higher learning institutions to continuously figure out latest and innovative solutions to improve the current teaching and learning process (Andone, et.al, (2015). One of the solutions is by adapting teaching and learning process with online learning (Safana, & Nat, 2017). MOOC is one of the most rapidly growing online educational based learning. It is a new form of online education delivery that aims to promote active learning and develop educational communities incorporating with thousands of students (Parkinson, 2014). The emergence of MOOC technology provides new opportunities to support the learning process. MOOC offers an innovative approach in healthcare education and are expected to challenge traditional pedagogy and foundational knowledge acquisition practices. However, their application in healthcare education is still in early stages of investigation. As universities strive to develop innovative strategies to maintain teaching and research excellence in health care education and practice in an increasingly competitive environment, developed MOOCs and participating collaboratively that may prove valuable in facilitating students' understanding the importance of patient perspectives to drive patient-centred quality care.

Moreover, on seeing complex medical field, innovative technologies are also an important aspect of health care system and increase the quality of health care education process. Recently, technology is rapidly entering in health care education including nursing education which is more focus on competence based education to prepare qualified nurses for health care institutions (Safana, & Nat, 2017). Coinciding with the Malaysia Educational Blue Print 2013-2025 through the ninth surge of Global Online Learning, the development of Massive open online course (MOOC) was also built in Malaysia (Ismail, et.al, 2018). Moreover, today's traditional higher education prepares the students to learn independently and digitally throughout their lives. Therefore, there is needed to plan for integrating MOOC courses into traditional education as an open education approach. Many studies have confirmed that blended learning with MOOC environment has a positive impact on teaching and learning (Bralic&Divijak, 2018).

Students who enroll in MOOCs have an opportunity to become independent learners as the nature of pedagogy of MOOC provides learners with a positive impact considering the self-driving mastery of the course (Milligan & Littlejohn, 2017). Moreover, MOOC provides various platforms for collaboration among the learners enabling the sharing experiences and development of ideas within MOOC course is highly applicable in health care professionals to develop and discover new knowledge. There are no studies to date have been implemented that the integration of MOOC with blended learning especially in nursing courses (Shang & Liu, 2018). Nursing is a global profession and nursing education is a soft-applied discipline. The

knowledge learned in this discipline is applied for the health of human being. Emergency nursing is a specialized area of professional nursing which focusing on the care of patients with medical emergencies and other emergencies, that is, those who require prompt medical attention to avoid long-term disability or death. Therefore, it requires critical thinking, problem solving and collaborative skills for nursing students when they are learning emergency nursing (V. Swigart, Z. Liang, 2016).

Therefore, in this study, MOOC will be used as an innovative technology teaching tool and integrate into Emergency, Theatre and Intensive care nursing course that has been taught by traditional teaching methods such as face to face lecture method and group discussion.

1.2. Statement of the problem

Together with technological improvements, innovation for teaching aids are an important requirement to make sure the teaching and learning process to run smoothly. However, in recent education system, there is a problem of not being at the desired level that could be a modern problem of existing societies. Teaching with technology makes a big challenge in higher education (Daradoumis, et.al, 2013).

Technology is also important in nursing education. There has been a significant increase in the use of technology in nursing education. (Merrill, 2015). Technological advancement is likely to provide even more opportunities for non-traditional delivery of education. MOOCs may alter the delivery of nurse education. This emerging method could increase the scope of educational opportunities available to practicing nurses in the future, leading to greater choice and educational autonomy (Milligan & Littlejohn, 2017). There are some successful stories of using MOOCs with traditional courses embracing blended learning concept. When integrating MOOCs into blended learning, the students are exposed to the high-quality material from expert tutors all over the world, educational technologies and the opportunity to participate in a collaborative global environment (Kiviniemi, 2014). However, studies done by others have shown that new skills and tasks are required for teachers facilitating blended courses integrating MOOCs (Andone, et.al, 2015). In contradictory, the findings of Bab-son survey mentioned that e-Learning is not better than traditional learning in terms of quality and outcomes and still argued that learning by doing is better (Redona, 2013). MOOC content will not replace traditional education but will instead create supporting content that strengthens the complete education experience (Belfus, 2015).

In health care education, MOOCs may have a bright future in healthcare, however, they are unlikely to replace all traditional medical and clinical education (Shang & Liu, 2018). Medical and clinical education demands patient engagement and small-group involvement. Medical training schools, institute and content companies must explore how to plan, implement, manage and evaluate MOOC courses in health care education. The use of MOOCs in nursing education is currently under evaluated area of pedagogy, with only an emerging evidence base to support the wider integration into relevant undergraduate curricula. Although MOOCs have been available for almost a decade, and courses continually becoming available on commercial platforms, there remains a paucity of empirical evidence to support their utilization. Specifically, with-in nursing education, numerous roles for MOOCs have been proposed for both on- and off-campus learning, however, a clear rationale for their effective deployment is still nascent. (Liyana-gunawardena & Williams, 2014).

Furthermore, it is not realistic to expect all nurse educators to seek out and adopt new technologies and teaching innovations. Every nursing faculty needs a few creative nurse educators who take the leader and are early adopters of MOOC course as they can serve as role

models for the rest of the faculty in the technology driven educational environment (Merrill, 2015).

Recently, Ministry of Higher education, Malaysia has urged higher education institutions to be more proactive in adopting new technology for teaching and learning. Ministry of Higher education (MOHE) aimed for 30% of courses at public higher education institutions to be offered online by 2015 and encouraged them to be actively involved in MOOCs, which is in line with the blueprint of life-long learning for Malaysia 2011-2020 (Ministry of Education Malaysia, 2015). As a result, International Islamic University Malaysia (IIUM) joint with other public and private institutions offer MOOCs on Open learning.com. Therefore, IIUM students should have the awareness of MOOCs and participation of MOOCs is also critical.

In Malaysia, students can access MOOC course at Openlearning.com. IIUM is one of the public institutions that offer several MOOCs on this platform. Yet, Students are not aware about it because there is no much attention given on MOOC from the university and government to the students in Malaysia ((Nurul Amira HusnaAmrang, 2016, Mat.jizat, et.al, 2014). Similarity, there are very few literature on MOOC awareness and integrated MOOC in traditionally taught course among students especially nursing students in Malaysia is still lacking.

Up to now, there is still limited MOOC integration in traditionally taught course in Malaysia higher education, including nursing education. The nature of nursing education is strongly reliance on face-to-face teaching and the essential aspects of hands-on learning in laboratories and clinical settings. Emergency nursing subject also has the same nature and practical based subject. Therefore, in this study, using the blended approach, students will gain theoretical knowledge during MOOC course and practical and discussion via face to face teaching with lecturers. Moreover, there is addressing critical gaps in emergency nursing education requires an innovative approach, as there are limited numbers of qualified nurse educators with emergency nursing specialty experience. Therefore, if MOOC course of emergency nursing integrates into traditional teaching, there will have some benefits for learners and institution because massive open online courses (MOOCs) are technological innovations have been successfully applied in a wide variety of disciplines to deliver quality online education (Robinson, 2018).

In this study, the MOOC course of emergency nursing that will integrated into the traditional taught course of emergency, theatre and intensive care nursing subject via design and developmental research (DDR) approach. This is a pragmatic type of research that offer a way to establish new tools, procedures and techniques based upon a methodical analysis of specific cases. The design and development of instructional product and program is considered as the heart of the instructional design and technology field (Richey &Klevin, 2007). Therefore, this MOOC course of emergency nursing can be used as instructional intervention in a wide range of nursing education and training environment.

1.3. Aim of the study

The purpose of this study is to develop MOOC course and investigate the effectiveness of this integrated MOOC course of emergency nursing in traditional taught course of emergency, theatre and intensive care nursing among undergraduate nursing students.

1.4. Objectives of the study

Based on problem statement, the researcher wish to create MOOC course of emergency nursing using design and developmental research (DDR) approach. This study will conduct by three phases based on DDR principle. The following are the objectives of each phase of this study.

Phase 1: (Need analysis Phase)

1. To identify the current teaching methods in emergency nursing.
2. To describe the current practice of on line learning in nursing education.
3. To examine the awareness of MOOC course among nursing students.
4. To assess the learners' and lecturers' opinions regarding the needs of developing MOOC course of emergency nursing in undergraduate nursing education program.

Phase 2: (Design & Development Phase)

1. To investigate the relevant and required contents to design the MOOC course of emergency nursing for nursing students based on experts who have been experienced in teaching emergency nursing subject.
2. To develop the MOOC course of emergency nursing based on experts' consensus.

Phase 3: (Implementation & Evaluation Phase)

1. To deliver the MOOC course of emergency nursing among nursing students.
2. To evaluate the effectiveness of MOOC course of emergency nursing among nursing student.
3. To identify the experiences of learners and lecturers in MOOC course of emergency nursing.

1.5. Research Questions

Based on research problem and objectives, the followings are the research questions of phases of design and development research approach of this study.

Phase 1: (Need analysis phase)

1. What are the current teaching methods in emergency nursing?
2. What is the current practice of online learning in nursing education?
3. How is the awareness of MOOC course among nursing students?
4. What are the learners' and lecturers' opinions regarding the needs of developing MOOC course of emergency nursing in undergraduate nursing education program?

Phase 2: (Design & Development phase)

1. What are the experts' opinions regarding the required contents of MOOC course of emergency nursing in terms of course objectives and learning outcomes, topics of MOOC videos and MOOC platform?
2. What are design characteristics of MOOC course of emergency nursing based on experts' opinions and consensus?

Phase 3: (Implementation & Evaluation phase)

1. Is the MOOC course effective in learners' knowledge and skills of emergency nursing?
2. What are the experiences of learners and lecturers in MOOC course of emergency nursing?

2. Literature Review

2.1. Technology and Higher education

Nowadays, technology has played a tremendous role in shaping the current state of higher education. In higher education, new education 4.0 identifies the creative and innovative people (Puncreobutr, 2016). It is also a challenge for educators and learners to be prepared who are ready with these life skills of creative and innovative. Education 4.0 is providing to the need of the society in the innovative era. It is in accordance to the changing behaviour with the special characteristics of parallelism, connectivism, and visualization (Goldie, 2016). This learning management must help to develop the learner's ability to apply the new technology, which will help the learners to adapt the changes in society. Sinlarat (2016) identified that the learning management of this era is a new learning system, allowing the learner to grow with knowledge and skills for the whole life, not just to know how to read and write. Therefore, Education 4.0 will be more than just an education (Sinlarat, 2016). In addition, the focus of education has shifted from a teacher-centred model to a learner-centred one, offering stronger learning motivation and interactivity. Interactivity maintains learners' interest and provides a means for personalized learning and reinforcement. Evidences proposed that e-learning is more efficient in most cases because learners gain knowledge, skills, and attitudes faster than through traditional instructor-based methods (Jethro, et.al 2012). As e-learning has become an important part of education system and the students' life have been tied by advanced technology, the students can choose the course, college to study via online, complete and submit their works by online and they can learn everything as they wish for their career development and lifelong learning via MOOC courses. Technology has not only impacted the students but also educators and industry of higher education as a whole because traditional passive learning model is broken and teacher becomes the encourager, adviser, and coach (Hussin, 2018).

2.2. E- Learning and nursing education

The use of innovative methods in health care institutions has the potential not only to improve education, but also to empower people, strengthen governance and galvanize the effort to achieve the human development goal for the country (Jayalaxmi, 2016). Innovations depends on the teacher that how they utilizes the instructional strategies while delivering lectures or teaching in clinical. Nursing is a field which requiring clinical knowledge and skills to care for the patients and their family in real life situations (Kalaivani, 2014). Nursing graduates must be prepared as competent healthcare professionals in a highly complex, diverse, and ever-changing environment. The learning process in nursing is very unique because nursing student should be able to perform the activities of the profession in live situations (Nabors, 2012). Critical thinking is crucial to providing safe, competent, and skillful nursing practice. During any course of nursing, clinical experiences are considered as lifeblood of nursing education. Nurse educators and faculties have a responsibility to provide most efficient clinical instruction to aid best learning to nursing students during their course (Sharma, 2017). Nurse educators are obligated to create learning environments that support students' critical thinking. Not only it is important what students learn, but also equally important that how they learn (Nabors, 2012). For these reasons, traditional teaching methods should be transformed to improve learning experiences and facilitate lifelong learning. Technological advancement is likely to provide even more opportunities for non-traditional mode of education. Zolfaghari, et.al, (2013) presented preliminary outcomes of blended learning program in educating of nursing and midwifery students in Iran. The results showed that there is a positive effect on students'

learning outcomes and participation. In addition, in Chong, et.al (2015) study showed that Malaysian nurses agreed that e-learning was important to increase their knowledge and technical skills as well as to improve their attitudes toward nursing care, competency, and clinical performance.

2.3. MOOC in Malaysia

In Malaysia, MOOC has been developed with two different platforms since 2014 in five higher education institutions, four of them are public universities and one (OUM) is private institution. Taylor's University is the first institution in Malaysia that launched the MOOCs in 2013 (Fadzil&Latif, 2015). At the moment, there are a total of 36 MOOCs currently offered by the six above mentioned higher education institutions in Malaysia. The public universities planned for furthering MOOCs development in order to be outlined with the preliminary Malaysian Education Blueprint for Higher Education. Therefore, Ministry of Education (MOE) announced that online learning initiatives will receive budget allocations under the 11th Malaysia Plan (2016-2020). For private higher education institutions like Taylor's University and OUM, embarking on MOOCs projects are an institutional commitment that requires investments in funding, manpower, infrastructure, content development, and other relevant areas (Fadzil&Latif, 2015). Most of the MOOCs offered by prestigious academic institutions in Malaysia are free. Students can choose any courses that they are interested. A lot of courses are self-paced, enabling the students to learn the courses anytime, anywhere convenient to them using devices of their choice. Students can register in Malaysia MOOC by going to this website: <https://www.openlearning.com/malaysiamoocs> (Hussin, 2018). Lessons are delivered via video lectures, PDF or PowerPoint slides. Learners are assessed through various course activities such as forums, discussions, quizzes and practices (Fadzil&Latif, 2015).

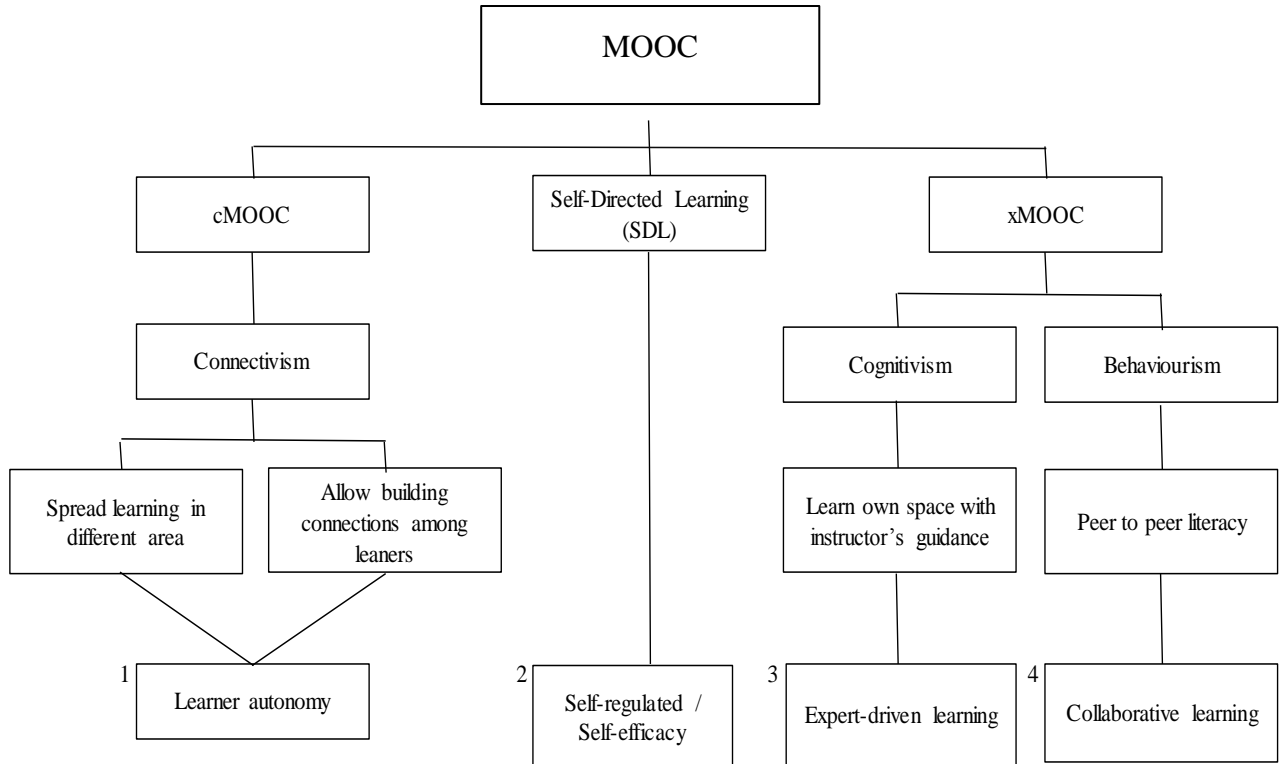
2.4. MOOC and Emergency nursing Education

As MOOC is a new revolution in classroom teaching based on information technology and network resources, it offers opportunities for nursing education in conformation the learning needs of students. In addition, MOOC provides ready to access the continuing professional and inter-professional education and explore innovative teaching model for students' learning (Goldberg & Crocombe, 2017). However, it also has some limitations that cannot completely replace traditional teaching methods. On the other hand, traditional teaching methods have not fully mobilized the active participation of nursing students, and the theory and practice are not closely combined (Zhang & Hu, 2017). Therefore, careful planning and implementation of content and methods of nursing education are necessary to ensure that it is suitable and fitting for changing healthcare needs (Thorne, 2007). Blended learning is a combination of the advantages of both traditional learning and E-learning (Zhang & Hu, 2017).

Regarding emergency medical education, it has three principle groups in teaching such as basic training at the foundation level for undergraduate students, advanced training for specialists and continuing professional development (CPD) for career staff like emergency doctors and nurses (Roe, Carley, & Sherratt, 2010). Emergency nursing subject in undergraduate nursing program is basic training at the foundation level and that is based on theory as well as practical skills. By blended approach in this subject, theory based topics like prehospital care and disaster management can be taught via online MOOC approach and skill based topics like immobilization, ventilation and cardiopulmonary resuscitation can be taught by face to face teaching and demonstration. These undergraduate nursing students are becoming emergency nurses in future. They should be well equipped with competency knowledge and skills in this

field in order to remain functional in evolving clinical practice and to communicate efficiently and credibly with patients and their families who are in life threatening and emergency situation (Katsusuke, et.al, 2017).

Theoretical framework



3. Methodology

3.1. Research Design

The main inquires of this study are how is the awareness of MOOC course among nursing students? ,what are the learners’ and lecturers’ opinions regarding the needs of developing MOOC course of emergency nursing in undergraduate nursing education program? , what are the design characteristics of MOOC course of emergency nursing based on experts’ opinions and consensus?, how well this MOOC course of emergency nursing?, to what degree is effective in students' learning due to this integrated MOOC?, is the MOOC course effective in learners’ knowledge and skills of emergency nursing?, and what are the experiences of learners and lecturers in MOOC course of emergency nursing?. In this study, MOOC course of emergency nursing will be designed by analysing needs of learners and lecturers and then will be implemented this MOOC course and evaluated the effectiveness of this course. Therefore, this study will use type one category of design and development research.

Type one category of design and development research is research on Product and tool or program typically involves situations in which the design and development process used in a particular situation is described, analyzed and a final result is evaluated (Richey & Klein, 2014). Generally, this study will develop the MOOC course of emergency nursing that is blended into the traditional taught course of Emergency, Trauma and Intensive care nursing

subject. Three phases of design and developmental research, namely; Phase 1-need analysis Phase, Phase 2-Design and Development Phase and Phase 3- Implementation and Evaluation Phase will be conducted.

The Phase 1 of this study is need analysis phase where the current practice of online learning in nursing education and the awareness of MOOC course among nursing students will be identified. Moreover, the learners' and lecturers' opinions regarding the needs of developing MOOC course of emergency nursing in undergraduate nursing education program will be assessed. Phase 2 is design and development phase where the relevant and required contents in designing the MOOC course of emergency nursing based on experts who have been experienced in teaching emergency nursing subject will be investigated and then will develop the MOOC course of emergency nursing based on experts' consensus. Phase 3 is implementation and evaluation phase in which the effectiveness of implementation of MOOC course of emergency nursing among nursing students will be evaluated and also will identify the experiences of learners and lecturers in this MOOC course.

3.2. Data collection procedure in each phase

In phase 1, need analysis phase, the purposive samples of ten nursing students from year three at faculty of nursing in IIUM will be taken as the participants as the emergency nursing subject will be taught in that year. Moreover, two lecturers who are going to be taught this subject and had academic qualification with at least master degree in nursing science and with the specialty in emergency nursing and also has experienced at least 3 years in teaching will also be selected as the respondents of this study. Face to face interviewing using semi- structure interview guided questions will be conducted for collecting the data. Semi-structured interviews will be used to gather a focused, qualitative textual data for exploring the needs of developing MOOC course in emergency nursing from the perspectives of students and lecturers. The rich descriptive data of nursing students' and lecturers' opinions will be uncovered during semi-structured interview session and these data can move to design and development of MOOC emergency course for nursing students.

In phase 2, design and development stage, the MOOC course will be designed through six experts' opinions and consensus who are an emergency medical doctor, two nursing lecturers who are teaching emergency nursing subject, one educationalist, one IT expert and one from expert in MOOC and its platforms. These experts will be selected by purposive sampling method and their opinions and consensus will be collected via face to face meeting and discussion with these experts. After that, their consensus will be taken by asking to fill up the consensus form to design the MOOC emergency course. All discussion data are recorded and noted.

Phase 3, implementation and evaluation phase, the MOOC course that has been designed and created in Phase 2 will be launched via open learning platform. Before launching the MOOC course, the researcher will announce to the participants who are year 3 nursing students at IIUM that registration is open and regularly post on university networks. When a course starts, the researcher will manage platform interactions and also monitor interactions via social networks including facebook and email, group whatsapp. Once the course is over for 4 weeks, the researcher will evaluate the effectiveness of MOOC course among nursing students by a one-group pretest–posttest design. And also, the researcher will identify the experiences of learners and lecturers in this MOOC course via interviewing with semi-structure questions.

Validity and Reliability

In this study of phase 1 (need analysis) and phase 2 (design and development), subjective, interpretive and contextual data will be achieved by interviewing. This method is based on qualitative studies. In qualitative studies, unlike quantitative researchers, who apply statistical methods for establishing validity and reliability of research findings, qualitative researchers aim to design and incorporate methodological strategies to ensure the 'trustworthiness' of the findings (Noble & Smith, 2015). To determine the 'trustworthiness' in qualitative study, there are five criteria as proposed from the framework of Lincoln & Guba such as credibility, dependability, confirmability, transferability and authenticity (cited in Polit & Beck, 2012).

Firstly, credibility involved two criteria which are firstly the researcher do their study in a way that enhances the believability of findings and then, the researcher also trying to show the believability of their research to the readers (Lincoln & Guba, 1985). To assure credibility (internal validity), the appropriate strategies such as triangulation, prolonged contact, member checks, saturation, reflexivity, and peer review can be used (Simon & Goes, 2016). In this study, the study findings and analysis will be confirmed with informants to ensure credibility (internal validity) of the research. According to Polit & Beck (2012), dependability is the reliability of data instead of time and condition. Meaning that, the data is true at any time and condition and can be used on the same person despite of the similar context. On the other hand, the other also can make the research as their guidelines also refer to dependability. Dependability is the qualitative counterpart to reliability that can be established through audit trails and triangulation (Simon & Goes, 2016). To make sure the dependability of research, the data will be submitted and discussed with the expert and supervisors and also review the related literature.

Transferability (external validity) is the way the result of the findings can be used in another setting. As stated by (Lincoln & Guba, 1985), it is researcher's responsibility to give enough data to validate the applicability of the research. Then for the transferability of the research, interviews are recorded (audio). To obtain the data, researchers have to listen to it and transcribing the content of the recorded audio and interview again till to data saturation. Data saturation is important to make sure transferability in the research. To ensure authenticity in this study, first the researcher will build a trust-relationship with the informants and make sure that informants are very clear on the nature of the research. Then the researcher will let the participants to express their feelings and emotion according to the context of the phenomenon.

Regarding the validity of Phase 3 (implementation and evaluation phase), the researcher will use a One-group pretest-posttest design to evaluate the effectiveness of MOOC course. History and maturation become more threatening to internal validity as the time between pre- and post-test increases (Price, et.al, 2017). Therefore, to ensure the internal validity of this design, the researcher will do post-test as fast as possible after the MOOC course. Reliability refers to the aspect of stability or repeatability. It concerns if the measurement can give consistent results over time (Golafshani, 2003). In phase 3, reliability will be ensured by the stability of topics of MOOC course over the 4 weeks and strictly follow the course timeline. The researcher intends to submit the assessment instruments of (30) multiple choice exam questions to lecturers who has an emergency specialty for experts' advice and will use these questions for every students in this study to answer within 45 minutes in pre-test and post-test measurement.

Ethic review

In this study, phase 1 and phase 2 will follow the qualitative studies and phase 3 will apply one type of quasi-experimental research, one group pretest and posttest design. For qualitative studies, anonymity, confidentiality, informed consent will be included in ethical considerations. In this study, the researcher will protect the respondent's identity and hold the information strictly confidential. As the nature of qualitative studies, confidentiality involves elaboration of the form of outcome that might be expected from the study (Sanjari, et.al, 2014), the participants will have been informed well nature of the study, objective of the research, an advance of the research and all the data collected and data on how it will be used. Informed consent has been recognized as an integral part of ethics in research (Sanjari, et.al, 2014). The researcher seek the approval from relevant ethical committee of university before taking the informed consent from the participants to seek documented proof of consent in a written, signed, and ideally, witnessed form. Moreover, the researcher will take responsibility of protecting all participants in a study from potentially harmful consequences that might affect them as a result of their participation such as their scores are not influenced on their final exam grade.

For phase 3 of this study, in quasi-experimental research, one group pretest and posttest design, ethical principles are primarily centred on protecting research participants and the guiding foundation of "do no harm". The researcher will follow the following ethical principles related to the protection of participants.

1. Respect for persons – Respect the autonomy, decision-making and dignity of participants by allowing voluntarily participation.
2. Beneficence – Minimizing the risks (physically, psychologically and socially) and maximizing the benefits to research participants by integrating MOOC course.
3. Justice – Participants should be selected from groups of people whom the research may benefit by only selecting the year three nursing students group as they are being taught emergency course (Smith, 2013). However, concerning the ethical issues in MOOC, the students recognize that they will be easily identified by teachers and other students and they are rarely able to be anonymous when they enter a MOOC. Moreover, MOOCs require caution regarding legal concerns, particularly copyright of any materials created for the MOOC and the privacy of student data and contributions. The researcher will consult the IIUM press regarding copyright issue.

4. Conclusion

This study will use design and developmental research (DDR) with type one category that is research on product and tool or program. In this study, MOOC course of emergency nursing will be a teaching learning tool that is blended into traditional taught course of Emergency, Theatre and Intensive care nursing subject that is one of the compulsory subjects in undergraduate nursing program. There are three main phases such as need analysis phase, design and developmental phase, and finally implementation and evaluation phase. Different methodologies such as face to face interview and one group pretest- posttest design will be used in related phases. Moreover, in this study, various types of participants like nursing students, nursing lecturers and experts in the field of emergency medicine and emergency nursing, educationalist, IT experts and experts in MOOC course will be involved.

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