

Nursing students' experiences with clinical communication using a virtual program

by

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BSN, University of Victoria, 2011

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of the requirements for the degree of

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Supervisory Committee

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Abstract

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The accrediting and nursing organizations are promoting patient safety and wellbeing by emphasizing clinical language proficiency. This presents a challenge for English as second language (ESL) nursing students in learning language skills for the clinical environment. This study explicates the experiences and reflections from nursing students, who are not native English speakers that used a virtual simulation program called vSim in relation to clinical language skills. Five students participated in this study. A qualitative study utilizing hermeneutic phenomenological methodology was used to collect experiential data and then was interpreted according to Van Manen's (1990) data analysis method. Themes of confidence, patient safety, knowledge transfer from classroom to clinical, communication within the clinical environment, and acquisition of language skills emerged from the interviews and reflective journals. This research study shows that the use of a non-immersive virtual simulation provides a positive contribution to ESL nursing students' experiences with clinical language skills and can provide nursing educators another teaching strategy to assist ESL nursing students achieve clinical language competency.

Keywords: ESL, clinical nursing, communication, virtual simulation

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Dedication

I would like to thank my family for being so supportive of my pursuit of my master degree. To my husband, I give you my wholehearted gratitude for your never-ending encouragement that provided me the stamina and fortitude to succeed. For my children Sarah and Andrew, thank you for your understanding, kind-heartedness and the ability to keeping me sane. I would like to thank my Mom and my late Dad who instilled me a strong work ethic, determination, and to rely on my spiritual strength. To my sisters who provided emotional support, I am truly thankful as it meant a lot.

Chapter 1: Background

Diversified Canadian Population

Canada is been undergoing a significant transformation due to immigration over the past decade and is one of the most ethnically diverse countries in the world (CNA, 2009). This diversity is directly influencing nursing education and client care. The new evolution of immigration has created a different emergent group within the population because immigrants are younger and their population rates of growth are higher than those of Canadians (stats.ca, 2011). The linguistic landscape has also been affected from this change as immigrants are arriving in larger numbers from countries that do not speak English or French (Roessingh & Douglas, 2012). Currently, the percentage of the population speaking English, French or both languages most often at home has declined since 1986; the decline has been greatest for French. The proportion of the population who speak neither English nor French in the home has increased (stats.ca). In 2011, among people who reported speaking a language other than English or French at home, 31.7% spoke that 'other' language exclusively (stats.ca). The proportion reporting a mother tongue other than English or French was 12.8% in 2011, compared with 12.3% in 2006. In 2011 (stats.ca) 20% of Canadians do not have English or French as their mother tongue.

Nurses Language Proficiency

Consequences of these dynamic population and language changes are that it has created a gap in nursing practice and education. Nurses must be prepared to provide inclusive care for people from every cultural background and safely use appropriate clinical language skills with

patients. There is a need “to ensure the recruitment, education, and retention of nurses who are culturally and linguistically diverse, nursing faculties must examine these areas and implement effective educational strategies for this group of potential nurses” (Choi, 2005, p.267). The availability of statistics on how many Canadian nurses in educational programs requiring assistance due to language is not readily available.

Regulatory Requirement

The importance of communication cannot be underestimated as it is directly linked to patient safety and comfort (Choi, 2005; Jeffries, 2012). The Joint Commission (TJC) in the United States determined that over half of the sentinel or adverse events that took place from 2004 – 2011 originated with poor communication (Forondo, Gattamorta, Snowden & Bauman, 2013). The Canadian equivalent to the American TJC is Accreditation Canada. It governs healthcare organizations to ensure safety, quality, and efficiency. Accreditation Canada evaluates a health care institution adherence to the guidelines such as the Required Organizational Practices Handbook. Accreditation Canada defines a Required Organizational Practice (ROP) as an essential practice that organizations must have in place to enhance patient/client safety in order to minimize risk. One of the practices in the guideline emphasizes information transfer. This highlights how communication must “improve the effectiveness and coordination of communication among care and service providers and with the recipients of care and service across the continuum” (Accreditation Canada, 2015, p.12). The guidelines for Canadian hospitals identified effective communication as a critical element in improving client safety, particularly with regard to transfer of information during shift change, department to department transfers, with the client and family and client movement to other institutions or community-based providers (Accreditation Canada, 2015).

Talking with patients is a skill that nurses begin to foster early in their nursing education. The College of Nurses of Ontario (CNO) and the Registered Nurses of Ontario (RNAO) developed educational modules and best practice guidelines to be used by practicing nurses and nursing educators. These organizations recognize the value of competent communication skills and the CNO (2006) states that, “nurses use a wide range of effective communication strategies and interpersonal skills to appropriately establish, maintain, re-establish, and terminate the nurse-client relationship” (p.5). Communication remains at the core of nursing (RNAO, 2002) as nursing educators identify challenges with the changing demographics of nursing students who do not have English as their mother tongue (Abriam-Yago, Yoder & Kataoka-Yahiro, 1999, Truong Donnelly, McKiel & Hwang, 2008). This emphasis on communication by accrediting bodies and professional organizations makes it imperative for educational institutions to participate in preparing nurses with the skills to make them effective communicators.

Nursing Education

Nurses have an obligation to ensure that patients are well informed and are able to understand information in order that they can make independent decisions about their own health (Carnevale, Vissandjee, Nyland & Vinet-Bonin, 2009). Nursing education programs need to reflect the change in Canadian demographics and find ways to help students succeed who do not have English as their native language. The goal is not to eradicate the primary language of the learner but to embrace it, meanwhile strengthening communication skills in English. This will improve cross – linguistic nursing (CLN) and provide clients with nurses who are able to provide competent care in multiple languages. “Therefore, there is need for an innovative pedagogical strategy that offers flexibility; one that can be applied to various types of educational contexts

and delivery modes, while simultaneously ensuring desired learning outcomes” (Park et.al, 2013, p.43).

ESL Students Challenges

Students in the academic environment who are not proficient in English are significantly more likely to be confronted with issues of higher attrition, prolonged times to complete their academic education and inadequate faculty training. Attrition rates of English as Second Language (ESL) students can be related to their frustrations with the lack of faculty and educational support in the classroom and clinical which subsequently results in poor academic performance. ESL students have difficulty passing the nursing registration exam, National Council Licensure Examination (NCLEX), differences in learning, personal challenges such as family obligations and economic hardships, perceived discrimination, cultural and language barriers and environmental discord (Giddens, 2008, Hansen & Beaver, 2012; Jalili – Grenier & Chase, 1997; Olsen, 2012). Prolonged times to complete education are as a result of ESL students not having adequate language preparation for the demands of university, cultural barriers and a lack of educational support (Donnelly, McKiel & Hwang; 2008 p.201; Roessingh & Douglas, 2012). Inadequate cultural competence faculty training and academic supports for teaching strategies to deal with non-traditional nursing students has been attributed to faculty discrimination and stereotyping about ESL students (Abriam-Yago, Yoder & Kataoka – Yahiro, 1999; Choi, 2005; Donnelly, McKiel & Hwang, 2008; Hansen & Beaver, 2012; Sanner & Wilson, 2008; Starkey, 2015).

Nursing students need to master the English language in two diverse levels. One can be considered social and the other academic. Nursing students are expected to learn abstract and scientific texts and be able to use this information to teach and take care of patients at the

bedside. They need to be able to transition this knowledge to an understandable level for patients who may have no health knowledge. This can be challenging for a native English speaker but even more difficult to overcome when speaking English as a second language (ESL). For instance, a fellow nursing colleague from South Korea stated that when she learned the term ‘vomit’ she knew the definition. However, she found that most of her patients did not respond to that term. She stated that she watched native English speakers and learned that most patients respond to “throw up” or “upset stomach”. She was not alone as an East Indian nurse said when she came to Canada she struggled to understand what a patient meant when she said she “wanted to pass her water”. She said that, had she said she wanted to go to the bathroom or urinate, she would have had no issues understanding what she needed. These are both excellent examples of how ESL nurses struggle to take theoretical and cultural concepts that are embedded in the language and be able to make them part of their everyday clinical language. These nurses, who were both ESL, demonstrated their ability to understand the clinical language but were unfamiliar with the language that the layperson may use to communicate their needs or feelings.

Nursing Education Programs

Due to the nursing shortage, many university and college programs developed training programs specifically for foreign trained nurses. Resources are being created by health institutions and provincial governments aimed to assist internationally trained nurses and ESL nurses integrate into the workforce. Programs such as Creating Access to Regulated Employment (CARE), is a Centre for Internationally Educated Nurses (IEN), and is funded by the Ministry of Colleges and Universities in Ontario that in partnership with many health organizations created a training program to bridge IENs into the workforce. Another example of the health industry identifying the need for education is the ESL Nurse Integration Project funded by the

Government of Ontario implemented at Hamilton Health Sciences in Hamilton, Ontario. However, there has been limited response to the gap in education towards students seeking nursing education who had already immigrated to Canada with limited skills in the English language and the 20 percent who did not speak English at home as their primary language. Many of these students are considered ESL. Currently, there are better terms to define language learners but the term ESL remains the most recognizable and understood. For this reason, it will be used as the term of choice for this thesis.

Nursing programs need to use teaching methods that can help students practice communication in a safe environment to explore the implications of eliminating language barriers between the nurse and patient. “Nursing education programs in cross linguistic nursing [CLN] need to be implemented in nursing schools as well as nursing care facilities, to ensure that nurses’ CLN expertise is optimized.

Nursing Educators

Nursing educators are concerned with limited academic support, patient safety, and creating a fair and equitable learning environment for all students learning needs (Truong Donnelly, McKiel & Hwang, 2008). “The students’ language barriers and different cultural understanding together with a non- supportive learning environment resulted in challenges in providing safe and competent care” (Truong Donnelly, McKiel & Hwang, 2008,p. 204). Further areas of concern for nursing instructors were charting, understanding orders for medication and procedures and communication and interacting with clients and colleagues (Truong Donnelly, McKiel & Hwang, 2008, Starkey, 2015). Educators have an opportunity to implement new learning strategies for the students who have difficulty with “lecture material, reading

comprehension, correlation written material with verbal lectures, interpreting colloquialisms, taking notes and academic writing (Starkey, 2015, p.718).

“The most common application of a nursing theory is that of Patricia Benner’s (1984) theory on clinical competence that describes the stages of novice to expert” (Nehring & Lashley, 2009, p.539). Benner’s (2010) Novice to Expert theory offers an excellent theoretical framework to guide course development. It focuses on taking the student’s theoretical nursing knowledge or nursing language and facilitates how to translate and use it in the clinical setting. The theory is a continuum of five levels towards proficiency. Nursing students are expected to reach the advanced beginner level by the time of graduation. Using an interpretive approach will provide a holistic assessment and evaluation of the outcomes of clinical knowledge competencies that are being accrued by the student (Benner, 2010).

Educators who provide learning opportunities for student nurses to build connections between theory and practice enhance the competency of the student nurse. “The process of reflecting on clinical practice experiences and theoretical knowledge learned in the classroom is ongoing and continues after graduation as the new graduate gains competence and eventually transforms into a highly competent expert” (Klimon, Brown, Ghosh, & Mikitiuk, 2010, p. 314). “Multicontextual learning environments hold the promise for meaningful educational reform” (Giddens, 2008, p78) and “it is consistent with the integrative-teaching approach advocated by Benner” (Fogg, Carlson-Sabelli, Carlson, & Giddens, 2013, p.390). “Integrative learning is foundational to developing a competent nurse who is fully capable to address multi-layered practice situations and to adapt the skills learned across practice situations. “Integrative thinking is foundational to skilled clinical reasoning and clinical judgment abilities in professional nurses,

as health care situations are generally unscripted and uncertain” (Rosenau, Watson, Vye-Rogers, Dobbs, 2015, p. 4).

Virtual Reality Simulation

Virtual reality simulation is a new innovative technological educational tool that can be used to enhance communication skills and provide a safe and ethical way to practice clinical language (Forondo & Bauman, 2014; Miller & Jensen, 2014). “Virtual reality (VR) experience is an interactive internet –based approach to providing clinical education which can combine the principles of distance education and clinical simulation in a safe, non-threatening environment. “The use of clinical simulation strategies and role playing could be pedagogically effective” (Carnevale, Vissandjee, Nyland & Vinet-Bonin, 2009, p.821). The use of simulation provides students the opportunity to progress to higher levels of expertise (Klimon, Brown, Ghosh, & Mikitiuk, 2010). Virtual simulation allows students to develop experiences to build on before working with live patients (Forondo & Bauman, 2014).

Due to the recent emergence of virtual simulation, nursing educators have the unique opportunity to shape an equitable pedagogy that considers all the needs of underrepresented groups (Beard, 2016) and create what Benner has called a radical transformation to the way we educate nurses (Dutile, Wright & Beauchesne, 2011). Educators can look to virtual simulation as a potential educational strategy to teach ESL students how to communicate in the clinical environment.

Virtual reality offers increased access and flexibility to the learner (Dutile, Wright & Beauchesne, 2011, p. 43). “Also, the virtual learning centre can be used as an alternative learning environment for students who need additional experiences to help master process, integrate

theory with practice in the clinical setting, manage patient care situations, and learn how to interact with patients and other health care professionals as a team” (Jeffries, 2012, p.202). In addition, virtual simulation offers the opportunity to incorporate cultural differences of how people communicate, see and interpret the world (Giddens, 2008). These culturally diverse learners can either be high or low context learners. High context learners use a multitude of communication modes such as verbal, nonverbal, association whereas low context learners use less communication modes and rely on emphasizing words and analytical thinking in how they understand the world (Giddens, 2008).

The following will be a discussion of simulation; how it is used, contributes to student learning and how the features of virtual simulation provides a provocative conversation of its feasibility of a teaching strategy for learning communication in the clinical environment for ESL students.

Simulation

Simulation is defined “as an experience that imitates the real environment, requiring individuals to demonstrate the procedural techniques, decision making, and critical thinking needed to provide safe and competent patient care” (Guimond, Sole, Salas, 2011,p.179).

Simulation has evolved and expanded within nursing instruction “to improve knowledge, clinical skills, clinical judgement, affective learning, communication skills, and confidence” (Nehring & Lashley, 2009, p. 529). Simulation has become more integrated into the education of nurses in “the past 20 years due to the Institute of Medicine’s report on nursing work environments which recommends simulation as a method to support nurses in the ongoing acquisition of knowledge and skills. The *Future of Nursing* report (a Robert Wood Johnson Initiative), simulation is mentioned as a strategy to support inter-professional education and the Carnegie Foundation for

the Advancement of Teaching report; *Educating Nurses*, highlights simulation as an effective strategy for the education of nursing students” (Aebersold & Tschannen, 2013, p.2).

Simulation Modalities

Simulation has a variety of modalities such as anatomical models, task trainers, part task trainers (physical; virtual reality) mannequins, role-playing, games, standardized patients, computerized assisted simulation and virtual reality (Cooper & Taqueti, 2004; Nehring & Lashley, 2009). Anatomical and task trainers were the first modalities introduced into nursing over a century ago. The task trainer was developed to improve clinical skills. The most noteworthy nursing task trainer was created in 1910 to help students learn injections, and “procedures on the rectum, urethra, and vagina” (Nehring & Lashley, 2009, p.530). This full body mannequin named Mrs. Chase, modeled after her namesake, began the evolution of change in mannequins. Over the years technology has improved and has become more sophisticated, thus allowing the mannequins to be engineered from being static to having moving parts and having the computer technology contained in the mannequin that allows the mannequin to respond in real time to specific care interventions and treatments thus contributing to a high degree of realism (Galloway, 2008). These mannequins used to be hard wired but now they are wireless and more mobile, creating more opportunities for their use. In the future we can look forward to seeing mannequins that imitate real life such as walking, skin texture and sensations (Jeffries, 2012).

Virtual Reality Simulation

The use of virtual reality simulation in nursing education began about 10 years ago with advances in computer technology and a movement towards online education. (Forondo &

Bauman, 2014). There are multiple interpretations of the term virtual simulation and for this thesis the context of virtual simulation will be known as “the use of web-based, synchronous, multiplayer, 3D, high fidelity virtual worlds to engage in life like experiences for education and training of nurses” (Forondo & Bauman, 2014, p. 413). There is limited research on the impact of virtual simulation in nursing education (Tschannen, Aebersold, McLaughlin, Bowen & Jon Fairchild, 2012) but it is promised as the next new high tech innovation in education that will revolutionize nursing educational training (Simpson, 2002).

There are two types of virtual reality: immersive and non-immersive. “Immersive virtual reality fully envelops users within a computer-generated environment. Users wear helmets with fully integrated multimedia peripherals such as visual display units and speakers. Using position and force sensors mounted on the helmet and handheld control device, data glove, and body suit, the system tracks the user’s responses to stimuli and modifies the simulation accordingly” (Simpson, 2002, p.14-15). One of the first virtual reality products was Second Life in 2003. Second Life allows participants to enter and create their own virtual world like a hospital. Scenarios can be created where the participant is asked to make critical clinical decisions in real time. Since its creation, and users difficulties with the “clunky environment, technical difficulties and limitless access” (Forondo & Bauman, 2014, p412), there have been an array of new products entering the virtual reality market. Since 2007, there has been an increasing focus on creating these virtual worlds to be educational friendly. Evidence of this movement towards education has been the introduction of such products like Clinispace, an On-Line Interactive Virtual Environment (OLIVE), Open Cobalt, Open Simulator, and Virtual Heroes (Foronda & Bauman, 2014). Immersive “is the most technically advanced and expensive application and may have a more lasting effect on nursing education because it can better emulate the care setting”

(Simpson, 2002, p.14). These products can provide synchronous experiences using 3D virtual worlds, avatars to walk through a virtual hospital, interacting with fellow students to role-play.

Non-immersive programs allow the student to work through a patient scenario independently unlike immersive virtual programs (Forondo, Godsall & Trybulski, 2013; Forondo & Bauman, 2014). “Non-immersive virtual reality users interact with a three – dimensional, computer generated display, but they don’t get the sense of being fully immersed with the simulated environment” (Simpson, 2002, p.14). Products such as ArchieMD, ClinicalCare, TINA, vSim, and Virtual Clinical Excursions (VCE) (Foronda & Bauman, 2014) “ delivered via conventional desktop computers and multimedia and distance learning systems, is more pervasive in nursing schools because it’s more practical and affordable” (Simpson, 2002, p.14). Vsim is an example of the affordability of virtual simulation. Each student can pay just over one hundred dollars, have access to at least ten differing case scenarios and the ability to practice charting in an electronic health record.

Virtual simulation can be used as a complimentary teaching strategy in the classroom and clinical practicums in conjunction with the existing curriculum. Virtual simulation provides a safe place for students to explore and think through clinical events. There is also the ability to practice skills over and over before working with patients and can incorporate “high risk, low incident training opportunities and those experiences not consistently available to students provides an important curriculum standardization so that all students are afforded the same access to educational opportunities” (Forondo & Bauman 2014, p. 415). Other results from the research literature were that students saw virtual simulation being effective in developing and increasing their knowledge, it was flexible with independent learning; effectively supported learning in the affective and psychomotor domains, and ethnic minorities noted the most

improvement in their grades (Forondo, Godsall & Trybulski, 2013). Virtual simulation also helped students embrace technology that is now an important component of clinical practice (Miguel & Rogan, 2013), and improved communication performance by using the mnemonic Identify, Situation, Background, Assessment and Recommendation (ISBAR) to safely transfer critical information (Forondo, Gattamorta, Snowden & Bauman 2014). These studies highlight the possibility that virtual simulation could be an effective teaching strategy for those who are ESL students and are learning communication in the clinical environment.

Some of the most common complaints with virtual simulation programs are the technical issues of it not working during a simulation, extra set up time for faculty, the text function was slow and difficult for poor typists and students were annoyed by the presence of ‘creepy people or ‘griefers’ in the immersive environment such as Second Life (Forondo, Godsall & Trybulski, 2013). As with any new technique for teaching, it needs to be supported by the academic institution. “Failing to adequately support faculty as they embrace new technology often leaves both faculty and students frustrated” (Forondo & Bauman, 2014, p.416). The obstacles that are currently present in virtual simulation programs are not daunting or discouraging enough to not use it. It cannot be known at this time with certainty the effect of non-immersive virtual simulation on communication for ESL students, as more conclusive and rigorous research is needed in this area.

Online Learning

Over the last 20 years, on-line learning has become more popular and academia needs to look for new ways to engage with the millennial learner, increase enrollment, and deal with inadequate physical space and limited availability of clinical sites for student experiences (Forondo & Bauman, 2014). “The availability of personal computers and software innovations in

the 1980s has resulted in a new generation of students who have been raised on complex innovations in science and technology in their everyday experience. These students are technologically savvy, anticipate immediate feedback, and have higher expectations for creativity in the delivery of new knowledge” (Dutile, Wright & Beauchesne, 2011, p.42). When it is accessible online, Virtual simulation also overcomes barriers such as distance, time, and separation of members (Tschannen et.al, 2012). Collaboration and connection of multiple disciplines to practice together is more convenient with virtual simulation (Forondo & Bauman 2014).

The increased flexibility and access to Web – based education for the learner is creating a paradigm shift toward online pedagogy (Forondo, Godsall & Trybulski, 2013; Dutile, Wright & Beauchesne, 2011). Traditional methods of teaching online are mostly didactic content and limited in providing skills based education in clinical areas of nursing (Dutile, Wright & Beauchesne, 2011).

Virtual clinical simulation (VCS) environments is a “promising teaching method or cybergogy, to bridge the gap of theory to practice in nursing” (Forondo, Godsall & Trybulski, 2013, p. e279). The pedagogical approach of simulation teaches nursing students, in a non-threatening environment, critical events, or situations that they may or may not encounter while in the hospital setting. Virtual simulation has the ability to provide nursing students the opportunity for deliberate practice and to take knowledge they have learned in the classroom and transfer it into the clinical setting (Tschannen et.al, 2012). “The virtual environment can provide opportunities for practice of non – technical skills such as clinical judgement, teamwork, communication, and leadership skills” (Tschannen et.al, 2012, p. 23).

It is important that nursing educators remember that virtual simulation “is a technique (not a technology) to replace and amplify real experiences with guided ones, often “immersive” in nature, that evoke or replicate substantial aspects of the real world in a fully interactive fashion” (Lateef, 2010, p.348). This should guide how educators see its potential as a nursing teaching strategy with all students but especially those who need more experience such as ESL nursing students to practice and enhance their communication skills. There is limited research on virtual simulation but the studies thus far have had a significant positive contribution to the research field on simulation as an emerging learning and teaching strategy for nurse educators (Klimon, Brown, Ghosh & Mikitiuk, 2010).

Problem Statement

Due to the emphasis of communication within the American and Canadian accrediting bodies for medical institutions, it is vitally important that nursing educators take note of the students in their programs who do not have the skills to be proficient in meeting these guidelines for effective communication and patient safety. Educators need to support and meet the needs of their ESL students with strategies that enhance clinical competence in communication.

Virtual simulation offers the promise of helping students acquire stronger communication skills (Foronda, Godsall, & Trybulski, 2013). The future success of virtual simulation as an instructional strategy depends on it remaining learner - centred and possessing a theoretical foundation as it “provide[s] the structure that directs the development of strategies and activities of teaching” (Dutile, Wright & Beauchesne, 2011, p. 43). Theoretical frameworks have been used by nursing educators to support their usage of simulation in the curriculum. However, the research is limited with regard to its effectiveness as a teaching tool. As the research is sparse at this time “... one cannot make a strong endorsement for or against [Virtual Clinical Simulation]

VCS (Forondo, Godsall & Trybulski, 2013). Nurse researchers have the opportunity to conduct further studies to determine its effectiveness (Forondo, Godsall & Trybulski, 2013).

Purpose and Objectives

The purpose of this thesis is explicate the experiences of ESL nursing students who use a non-immersive virtual program and understand how it affects learning clinical language. A hermeneutic phenomenological methodology was used to collect experiential data and interpret according to Van Manen's (1990) data analysis method. The specific objectives are:

1. Understand ESL nursing students learning process in how they acquire clinical language utilizing a virtual program.
2. Understand and interpret the participants' experiences with the virtual program
3. Make recommendations for further research.

Chapter 2: Literature Review

Over the last decade, there has been a dynamic change in Canadian post – secondary classrooms. The increase of students who do not have English as their mother tongue has exponentially increased creating many challenges for these students and faculty. The challenges presented in the literature centred on the student’s academic, language, cultural and personal needs (Abriam-Yago et al., 1999; Donnelly et al., 2008; Roessingh & Douglas, 2012; Schoofs, 2012; Seogo & Spetz, 2005; Shakya & Horsfall, 2000). Faculty in academic institutions have encountered a slow response to this changing student population in regards to policies, curriculum, and financial backing for programs that support the faculty and students (Roessingh & Douglas, 2012). Removing these challenges will serve to prepare these students for the workplace, decrease the occurrence of academic failure, and improve their acceptance rates into advanced degrees. The research on virtual reality programs improving nursing clinical language is in its infancy but is showing that it is an educational tool that can be used to improve communication as the “potential uses for virtual simulation remain unlimited and for the most part, untested” (Foronda & Bauman, 2014, p.413).

For many years, the most used and understood term to describe learners that did not have English as their mother tongue was English as a second language (ESL). In reviewing the literature, I found there was a new description of these learners called English Language Learners (ELL). In order to comprehend clearly, what was meant by this, I opted for the reader’s digest version on you-tube. It was no wonder; it was confusing as I learned that there are five different terms with their acronyms to describe these English learners. The five terms used in this explanation on, you tube were English as a Second Language (ESL), English Language Learners

(ELL), and English Speakers of other Languages (ESOL), English for Specific Purposes (ESP), English as a Foreign Language (EFL) and English as an Additional Language (EAL). It became clear that ESL was no longer to be used as an all-inclusive term. These terms give a more accurate depiction of how the student is learning English. ESL does not describe those who came to Canada who were learning English as their third or fourth language. Another problem with the term was that it did not accurately define children who were born in Canada to immigrant parents who did not speak English at home. With all these deficiencies in the term ESL, it made sense to use more terms that clearly define what kind of learner of English represented. In this literature review, I will be only using two terms for the literature review. First, will be English as a second language (ESL) which represents learners who have come to Canada to learn English and ELL who are children of immigrant parents who do not speak English at home. In the literature, the variances in the terms ESL and ELL show that they have an impact on how colleges and universities help these students achieve success (Roessingh & Douglas, 2012). Nurse educators should be aware of these terms, what they mean, and how to structure an approach to successful learning for the ESL/ELL student.

My interest in knowing more about how to support ESL/ELL students in the academic environment is both personal and professional. On the personal level, there are two reasons. First, I grew up in Quebec during the language wars and still harbour some scars from that experience. Due to this experience, I made poor choices in where my children would go to school. There was this raw feeling of anger when thinking about putting my kids into a French immersion school and I was determined they learn in an English school. After some reflection, I can trace that back to the feelings of my parents trying to fight for my right to stay in an English school. It is one of those things that you wish you could do over with your present wisdom. The

second reason is that I married an ESL student and have seen firsthand the struggles and fortitude it takes to learn in another language and have minimal academic supports to accommodate your learning.

On the professional level of being a nurse educator, the first class that I taught at a local college really caught my attention of how diverse the student population had become since I was a student. There was a significant portion of the class that did not have English as their mother tongue. This change made me acutely aware of their learning needs and the lack of resources I had to help them to succeed. It was these reasons that led me to believe that all nurse educators need to improve their personal and professional development in teaching ESL/ELL learners. The energy that educators put into understanding their own shortcomings and embraces new ways of teaching these students will benefit oneself, nursing and the global community. A critical review of the research literature was conducted using a search that is described in further detail in the next section. Consistently identified key ideas in the articles were chosen and used to structure the literature review. Common themes such as challenges and strengths of the ESL/ELL learner, faculty challenges and academic teaching resources for teaching ESL/ELL students were the main large concepts and used as the headings to structure the information found in the literature. A similar review of virtual simulation was carried out and the headings highlight the main themes or key ideas in the literature.

Information Sources

Upon embarking upon this literature review, it quickly became evident that a new approach would be needed as there were many unsuccessful attempts using CINAHL and Google Scholar to identify an adequate amount of literature that specifically concerned “virtual reality”, “English as Second Language and “Nursing”. Removing the keyword nursing and

replacing it with “clinical language competency” failed to provide any further results in both CINAHL and Google Scholar. A decision was then made to divide the literature review into two parts. The first would deal with the issues surrounding ESL nursing students and the second would be virtual reality and nursing education. The benefit to this approach was a clearer detailed understanding of these concepts.

The initial search for literature in regards to ESL nursing students was initiated using google scholar. The keywords used were “simulation”, “ESL,” and “nursing students”. The result was 2210 references. One article found during this search focused on explaining ESL learners and using simulation as remediation. The references that the author used were explored and another search was done using google scholar. The new common key words in the second google scholar search were, ESL, nursing students, Cummins model and nurse educators which provided 165 results. The result obtained was encouraging and manageable but lacked sufficient references for Canadian ESL students and nurse educators. The word North America was added to the keywords that garnered 60 results. Nine articles were chosen from the google scholar search for the literature review.

The second search for literature about virtual simulation, Google Scholar and CINAHL were visited with the keywords ‘virtual reality’, ‘education’ and ‘nursing’. This returned 233 entries on CINAHL and 73,500 on Google Scholar. Changing keywords was used until a practicable amount of literature was returned and deemed appropriate for the review. The most successful keywords were “virtual reality”, “nursing education”, and “clinical”. This search returned 74 results on CINAHL and Google Scholar 43,500. Only the first five pages were reviewed and there was a significant overlap of articles between CINAHL and Google Scholar.

Challenges and Strengths for ESL/ELL Students

Academic Needs

The academic needs of the ESL/ELL student centre on the issues of the student's previous learning experiences, learning styles and frustration in theoretical and clinical nursing. Many students from high school who enter post-secondary academic setting are ill equipped to deal with the workload demands and expectations placed upon them (Roessingh & Douglas, 2012; Seago & Spetz 2005). ESL/ELL students have come from strict home environments where structure, rote memorization, and lecture based teaching are valued (Sanner & Wilson, 2008; Schoofs, 2012). These methods of learning are quickly challenged, as academic programs are "cognitively demanding and "context reduced" (Abriam –Yago et al, 1999, p.145). This approach makes it difficult for ESL/ELL students to comprehend textbooks and retain the information. It is much better for the student to be taught in a "context embedded" way where there is an increase in visual tools and the textbook is not just read for information but used as a mechanism to answer questions (Abriam- Yago et al. 1999).

It is a common expectation in the academic environment that students can formulate their own ideas, understand complex concepts, actively participate in class, group work, and deliver oral presentations. This is contradictory to the learning styles of the ESL/ELL student who is more comfortable with auditory, visual, and kinesthetic learning activities (Sanner & Wilson, 2008). These differences in learning styles have negatively affected nursing ESL/ELL students by decreasing their retention and increasing attrition rates. This is due to being unable to keep pace with complex material, learning medical terminology, course failures and subsequently the inability to complete the program (Donnelly et al., 2009; Jalili-Grenier & Chase, 1997; Schoofs, 2012; Seago & Spetz, 2005). The frustration of these students mounts when it takes longer for

them to graduate due to failed courses, being put on academic probation, inability to take a full course workload and having to spend more money on retaking courses. These difficulties have led students to take courses that are easier for them so that they can improve their GPA and increase their chances at graduating. Students are aware of the significance of their GPA score and how it will affect the possibility of future studies for advanced degrees (Abriam-Yago et al., 1999; Donnelly et al., 2008; Roessingh&Douglas, 2012; Seago&Spetz, 2005).

Language Needs

Nursing is a profession where strong communication skills are fundamental to provide safe and competent care to patients. In order to understand the process of how someone becomes proficient in English, the Cummins Model of language acquisition is explained by Abriam-Yago et al., 1999. According to the Cummins Model, there are two types of language proficiency. There are “basic interpersonal communication skills” (BICS) and “cognitive academic language proficiency” (CALP) (Abriam-Yago, 1999, p.145). BICS is the language that we speak every day and ESL/ELL students can master it within two years. CALP is more challenging and requires the student to interact with the language in areas like oral presentations and written assignments. It is believed that it takes the student 5-7 years before coming skilled at this level (Abriam–Yago et al., 1999; Roessingh & Douglas, 2012). Many ESL/ ELL students face a variety of challenges with language as they transition from social to academic language (Abriam-Yago et al., 1999) as they devote large amounts of time to learning and comprehending medical terminology (Shakya & Horsfall, 2000). Nursing students enter clinical placements where staffs are impatient with an accent that is difficult to understand and as a result, the student chooses not to participate or initiate communication (Sanner & Wilson, 2008). The students’ abilities are more difficult to communicate in the clinical practice area than in the classroom (Jalili–Grenier

& Chase, 1997). Communication is further complicated by colloquialisms and difficulty clarifying patient responses (Donnelly et al., 2008; Rogan & San Miguel, 2013). Researchers have found that achieving proficiency in both area of BICS and CALP is a key learning need and required for success in the nursing program. However, this is not easily done as it is not until they reach the academic setting that gaps in their language skills begin to show evidence that they are not able to achieve the higher level of CALP proficiency (Sanner & Wilson, 2008). Due to the stereotypical perception that ESL/ELL learners have poorer communication skills they are at a disadvantage in being recruited into nursing programs (Schoofs, 2012). Academic faculty who have a better understanding of the student's proficiency in English makes it clearer on how to identify and address the students' needs for succeeding in the nursing program.

Cultural Needs

ESL/ELL students' enter the nursing academic environment with their own social values and expectations. Many ELL students come from homes that have parents who have achieved a degree in their country of origin and it is expected that their children will attend university and obtain a professional degree. Education is revered as a way to financial success and a better way of life (Donnelly et al., 2008). Students who follow their parents' wishes can be unfamiliar with North American ways of learning in University and consequently, spend a significant amount of energy into contextualizing social norms in and out of the academic/clinical environments. The lack of ethnic faculty role models combined with a Eurocentric curriculum makes it difficult for students to fit into many nursing programs. Many students suffer from social isolation and alienation, which negatively impacts their academic learning and success (Rogan & San Miguel, 2012; Schoofs, 2012; Seago & Spetz, 2005; Shakya & Horsfall, 2000). An example of a potential conflict for ESL/ ELL students is that the nursing curriculum has an emphasis on holism,

therapeutic touch, and eye contact. This can be contradictory to many cultures that perceive maintaining eye contact and entering someone's personal space as being insulting and confrontational (Donnelly et al. 2008). Despite the student's discomfort with these approaches, she/he will not question the authority of the instructor in order to please and not appear uncooperative (Sanner & Wilson, 2008). Culture plays an important part in the literature of how ESL/ELL students are challenged with figuring out how to fit in to their new culture without losing their own identity.

Personal Needs

In many situations students who have recently moved from another country, studying abroad, or children of immigrants may have multiple obstacles to overcome in order to gain academic success. Schoofs (2012) cites that the personal needs of ESL/ELL students are "financial support, insufficient time, family responsibilities, and language difficulties" (p.156). Shakya and Horsfall (2000) discovered that ESL students had difficulties joining classroom groups and were more likely to be excluded during required projects and oral presentations. Another example from Donnelly et al. (2009) demonstrated that although ESL students are committed to learning, they require additional time to read and comprehend the material than their peers. One instructor in this article noted this barrier by stating, "There aren't enough hours in the day for them to do their work" (p.205). This same instructor also recognized that many of her full time ESL students were not only struggling with reading and comprehension, but that they had small children at home to care for, or were becoming nurses in order to help support family in their country of origin. Notably, the inherent lack of support, feelings of loneliness and alienation is indeed a cause for major concern for the academic success of an ESL/ELL student.

Strengths of ESL/ELL Students

A prevailing theme that was woven into the literature was the character traits of an ESL/ELL student. Words used to describe these students were “determined”, “perseverance”, “persistence,” “resiliency,” “respectful”, “positive,” and “strong work ethic,” (Donnelly et al, 2012; Roessingh & Douglas, 2012, Sanner & Wilson, 2008; Shakya & Horsfall, 2000). The students’ personal attributes help students excel and graduate despite the hurdles that they need to overcome in order to gain success.

Digital Natives

The term digital natives can be used to describe a characteristic of the millennials. The millennials were born from 1980-2000 and have the skills to use technology fluently. These digital natives are now becoming the majority of the student population (Forondo & Bauman, 2014). Educators are faced with a new challenge with this generation as their previous experience with technology frames how they learn. This type of learner embraces technology and approves of it being a central part of nursing practice (Foronda, Godsall, & Trybulski, 2013).

Challenges & Support for Faculty Teaching ESL/ELL Students

Personal and Professional Development

Nurse educators face numerous challenges in teaching ESL/ELL students. They are ill prepared, lack cultural knowledge and having difficulty adjusting to the new student–teacher relationship that the ESL/ELL learner present to them. However, the educator is committed to knowing herself, embracing, and learning how to meet the challenges that will create a successful learning environment for all students. Many educators are truly unaware of the cultural bias that is in the curriculum and how it impacts ESL/ELL students. Many have not

made the connection that the nursing curriculum has a cultural bias and is exhibited by the high rate of failure of ESL/ELL students on the national registration exam, NCLEX (Seago & Spetz, 2005; Schoofs, 2012). On a personal note, I vividly remember in nursing school my German friend struggling with a question related to pediatrics and appropriate toys. She had no idea of the brand name “tinker toys”. These moments help illuminate the cultural bias or the “whiteness of the curriculum” (Schoofs, 2012, p.158). It is not unusual for faculty to complain that they are ill prepared to take on the new wave of ELL students that are coming into higher learning (Donnelly et al., 2012). Faculty lack the skills of how to teach and be able to recognize differences and assess student needs in relation to ESL/ELL learning styles, issues around knowledge versus language, balancing the demands of ESL to non-ESL students in the classroom and clinical (Donnelly et al., 2008; Jalili-Grenier & Chase, 1997; Roessingh & Douglas, 2012). In building a student–teacher relationship, faculty must be careful not to use stereotypes or discrimination. Focus must be on the individuality of the student and supporting the student’s learning challenges. Educators must continually remind themselves in the midst of all it takes to teach an ESL/ELL student that it is their responsibility to ensure the student has the proper resources for learning and is valued and respected (Sanner & Wilson, 2008; Skakya & Horfall, 2000). These highlighted challenges in the literature serve to make the educational experience better for the educator and student.

Academic Program Support

Despite the positive personal attributes of the ESL/ELL student, there are significant academic challenges to overcome. The lack of trained faculty, academic resources, and support create barriers on how to best educate ESL/ELL students. Most of the articles in the literature report on qualitative research (Donnelly et al., 2008; Shakya & Horsfall, 2000). The benefit of

this type of research is that it captures the personal reaction of those that are directly impacted by the issue. The resolutions to the issue are coming from those who see the deficiencies and are able to give their insights on what they feel would work in removing these challenges and barriers. Faculty identified the importance of improving their knowledge about other cultures and languages (Sanner & Wilson, 2008), and that the availability of quality trained faculty mentors could provide a support system to the students.

Many academic institutions are eager to accept foreign students, especially with a nursing shortage, but it requires the academic institution's commitment to provide financial support for services for students (Shakya & Horsfall, 2000). Finances support a network of services that provide intercultural awareness, academic counselling for students on how to arrange courses on their timetable, teach students mutual respect and tolerance, skills training in academic, learning strategies, and increase faculty cultural foundational knowledge (Roessingh & Douglas, 2012; Shakya & Horsfall, 2000). Strategies that are coming from faculty and students hold promise for change in the education of ESL/ELL students.

Curriculum/Pedagogic Changes

Some of the most innovative ideas described in the literature are about curriculum. Researchers provide some solutions in turning the situation around and making education less stressful for ESL/ELL students and educators. Some of these methods use the Cummins Model of language acquisition as the framework for curriculum to create language proficiency (Abriam – Yago et al., 1999; Roessingh & Douglas, 2012; Sanner & Wilson, 2008). Seago and Spetz (2005) believe that the nursing curriculum must undergo a transformative change by eliminating the “white” cultural bias. They encourage nurse educators to remove questions from the NCLEX that are discriminatory towards other cultures in order to retain the integrity and respect of the

profession. Other educational improvements and ideas are having nursing clinical educators and mentors from the same ethnic group as the student and assign them to patients that speak the student's language (Donnelly et al., 2008). Medical terminology courses using vodcasts and podcasts (Rogan & San Miguel, 2013, Shakya & Horsfall, 2000), providing curriculum that attends to the learning styles of ESL/ELL students such as videos, demonstrations and provided written materials i.e. power points (Jalili–Grenier & Chase, 1997), and simulation as a means with remediation for students having difficulty in their clinical placements (Schoofs, 2012). Academics can, also, look to their counterparts in the US who according to Roessingh and Douglas (2012) have been building successful curricula.

Virtual Simulation

Educational Innovation

In 1993, the concept of virtual reality in nursing education was new and unknown. It has become challenging to find nursing students hospital clinical opportunities to develop their competencies (Forondo & Bauman, 2014). Discovery of new ways need to offer students the ability to learn clinical skills such as critical thinking skills and simulation was a promising alternative (Park, McMillan, Conway, Cleary, Murphy, & Griffiths, 2013). Virtual reality offers “telepresence” to the student where they have enough sensory feedback that they feel their virtual environment mimics real life and can perform different tasks (Phillips, 1993). The potential uses for simulation seem boundless and mostly untested research on this new method of education that created new opportunities to collect data (Forondo & Bauman, 2014; Phillips, 1993). It is the approach to interpretation of data that made Phillips (1993) set out some questions to consider when foraying into this new area of research. Researchers need to resolve if they will create a science of nursing with ‘stereoscopy, a view with three dimensional data, or a

panoscopic which reveals data with the science of wholeness. Another important question that is raised by Phillips (1993) is how our philosophy of nursing will shape how we use virtual simulation and that the curriculum is based on a sound educational pedagogy. The pedagogical framework of the nursing curriculum must safeguard the principle of critical thinking.

Simulation that is provided in this curriculum must adhere to providing an opportunity for nursing students to gain competency in the skill of critical thinking (Park, McMillan, Conway, Cleary, Murphy, & Griffiths, 2013). Virtual simulation is being promoted by the Institute of Medicine (IOM) report that deals with the future of nursing indicated that the trend that educators must acknowledge is that the use “simulation and web – based learning” can “break down traditional barriers to learning together” (Forondo, Godsall & Trybulski, 2013, p.e279). Virtual simulation is unique in that it offers the exciting possibility to teach clinical and cognitive skills which was limited by traditional online learning methods. It has been shown to be successful in the teaching leadership, triage, communications skills, and the art of instruction in nursing (Forondo & Bauman, 2014). The pedagogy that virtual clinical simulation incorporates are the concepts of social and experiential learning theory, problem based learning, constructivism, self-directed learning and andragogy (Forondo, Godsall & Trybulski, 2013; Forondo, Gattamorta, Snowden & Bauman, 2014). It remains the focus of any new educational innovations to improve professional skills. An example is improved communication and decision-making skills that consequently result in better patient satisfaction (Libin, Lauderdale, Millo, Shamloo, Spencer, Green, & Groah, 2009). According to Benner’s (1984) theory, it also provides an opportunity for students to practice and develop experiences prior to working with real patients. High stake or rare events are replicated in a virtual environment that induces less stress and anxiety and improved learning. (Forondo & Bauman, 2014; Miller & Jensen, 2014).

“VCS is a practical innovation that engages students, incorporates technology in a convenient setting, and results in student learning. VCS transforms the previous conceptions of online education and is a warranted pedagogy worth future exploration in nurse education (Forondo, Gattamorta, Snowden & Bauman, 2014, p.e56).

Patient Safety and Communication

Communication is one of the most significant areas that cause serious consequences to patient outcomes. The emphasis on communication must become an educational priority. Simulation has been used since 1910 as a training method to help reduce errors and improve safety but healthcare did not embrace using simulation to teach effective communication until 1960 (Salas, Wilson, Burke, & Priest, 2005). The American Association of College of Nursing (AACN) and The Joint Commission (TJC) (Guimond, Sole & Salas; Forondo, Gattamorta, Snowden & Bauman, 2014) have endorsed the move towards increased use of simulation concerning communication. The TJC made it a national goal to improve communication among caregivers and make it a responsibility of healthcare professions, healthcare, and educational institutions to develop programs that teach standard methods of communication like ISBAR, (Forondo, Gattamorta, Snowden & Bauman, 2014). Accreditation Canada in the Required Organizational Practices Handbook (2014) has outlined similar goals. The AACN made communication and patient safety a priority in the *Essentials of Baccalaureate Education for Professional Nursing Practice* (2008).

There is limited research on the how effective virtual clinical simulation (VCS) can impact nursing skills like communication but the known advantages are making it favourable. Students are reporting that the “use of virtual worlds improved learning, communication and time management skills (Miller & Jensen, 2014, p.40). A properly designed simulation

curriculum will help to reduce errors and improve patient safety (Salas et al. 2005). Future research will determine its effectiveness and allow educators to make an enlightened decision on the use of virtual simulation for the task of teaching communication (Forondo, Gattamorta, Snowden & Bauman, 2014).

Technical Issues

Virtual reality is built on advanced technology platforms and with this comes some inherent issues with the technology and the users' difficulty learning the program. Many students and faculty state that there is a steep learning curve. Compared to other types of simulation, this type of learning on how to use the technology is the most time consuming. Students also complain that there are technical issues like students wanting more participation in choosing avatars and student attitude about the avatar not being the real thing. There is computer lag time, disruptions due to delays, echoing, difficulty with audio, manipulation of the avatar, navigation through the virtual world and limitations of using type to speak technology (Forondo, Gattamorta, Snowden & Bauman, 2014; Miller & Jensen, 2014).

Online Learning

Over the last ten years, online learning has been steadily increasing. Reasons for this increase are attributed to student convenience, advancing technology, changing student demographics, and learning preferences. These reasons give virtual simulation the potential to meet the educational needs of online learners. The creative technological innovations that are occurring are promising for online education. The image of the lonely online learner can dissipate with virtual synchronous clinical environments (Forondo & Bauman, 2014; Forondo, Gattamorta, Snowden, & Bauman, 2014).

Summary

There is a need for more research to inform nurse educators on how to best serve their ESL/ELL students; many teachers and students will continue to struggle with overcoming the challenges noted in this paper. However, Schoofs (2012) and Rogan and San Miguel (2013) role model for nursing educators the initiative to implement a strategy to benefit ESL/ELL learners within the academic and clinical environment. Lou (1994) as cited in Abriam–Yago et al. (1999) stated that educators must endeavor to teach all nursing students fairly and be open and receptive to new ways of teaching. Furthermore, it is imperative that educators be conscious of our own underlying assumptions and biases, which may ethically impact how we teach and relate to others, and stray away from unethical teaching practices such as cultural dominance. Creating a culturally safe teaching environment ensures that all ESL students become successful nurses, and allows both students and teachers to learn from these dynamic learning experiences.

Chapter 3: Methodology

The purpose of this study was to explicate the experiences of nursing students who use a non-immersive virtual simulation program and understand how it impacts learning clinical language. In particular, this study examined how ESL nursing students learn to communicate in the clinical setting by using a virtual simulation program. ESL nursing students were also asked to describe how the experience of using virtual simulation might be a meaningful way to learn clinical language. It is the intent of the researcher to ask questions directed at the knowing of the essence or nature of the learning experience, to inspire richer descriptions that help us to clearly understand the meaning of this experience for these ESL nursing students (Van Manen, 1990, Creswell, 2013).

Although many use the words phenomenology and hermeneutics interchangeably, it is important to understand the relationship and philosophical underpinnings of each of these approaches to research (Dowling, 2004). The development of phenomenology started at the turn of the twentieth century and has evolved into three identifiable philosophical approaches. Descriptive or eidetic was based on the works of Husserl “which aims to obtain fundamental knowledge of phenomena and has a strong psychological orientation” (Dowling, 2004, p. 32). The second approach is hermeneutics, which was informed by German philosophers Heidegger and Gadamer. It “has as its aim the interpretation of phenomena to uncover hidden meanings” (Dowling, 2004, p.32). The final approach was developed by the Dutch school of phenomenology with major scholars like Max Van Manen and “is a combination of descriptive and interpretive phenomenology” (Dowling, 2004, p.33).

“The research methodology chosen depends on the research questions and the philosophical perspectives from which the question will be investigated” (Ajjawi & Higgs, 2007, p. 616). Quantitative and qualitative methodologies were explored to identify the best research methodology that would render the most useful information. Quantitative research failed to have an accurate instrument to measure ESL communication skills particular to nursing students. This discovery made me reflect on what I really wanted to know because of this research. Did I truly just want some numbers to prove my research question or did I want to hear the stories from the participants’ using the virtual program? I was more excited by the thought of discovery in student stories than mere numbers. I wanted to describe, understand, and know about all the dimensions of student experiences when using virtual simulation program. As a result of this revelation, quantitative methodology was abandoned and inquiry that is more intensive was made in qualitative research. This search was exciting and led to a deeper understanding of the varying types of qualitative research: narrative, ethnography, phenomenology, and grounded theory. These helped me to question and understand clearly what I wanted to know. The gained knowledge of what I wanted to know or needed to know helped me to create and refine my research question, and I became acutely aware of how well it fit within qualitative methodologies. It was then I needed to decide on which methodology would best serve my research question. Research conceived to understand the nature or essence of the phenomenon of the learning experience of ESL nursing students using a virtual simulation program and how they acquire communication skills for clinical practice lends itself to phenomenology.

“Phenomenology aims at gaining a deeper understanding of the nature or meaning of our everyday experiences” (Van Manen, 1990, p.9). A further exploration of phenomenology using the works of Creswell (2013), Moustakas (1994) and Van Manen (1990) provided the

opportunity to reflect on the philosophical purpose of the research. The purpose, as mentioned previously, fits within the philosophy, methods, and purposes of the interpretive research paradigm, therefore, hermeneutic phenomenology was chosen as the most suitable methodology.

The research methodology of this phenomenological hermeneutic study was guided and informed by the works of Van Manen. His philosophical convictions are based on the descriptive traditions of Husserl and interpretive principles of Heidegger, which “is a search for the fullness of living, for the ways one can experience the world” (Van Manen, 1990, p.12) (Burhans & Allgood, 2004). “His approach follows Gadamer as his philosophy is that language reveals being (or existence) within some historical and cultural context” (Sloan & Bowe, 2014, p.1300). He believes that every description of an experience or phenomena holds within it a meaningfulness of that experience (Van Manen, 1990). “The goal of hermeneutic phenomenological research is to develop a rich or solid description of the phenomenon being investigated in a particular context” (Ajjawi & Higgs, 2007). “Hermeneutics adds the interpretive element to explicate meanings and assumptions in the participants’ texts themselves may have difficulty in articulating, for example, tacit practice knowledge” (Ajjawi & Higgs, 2007, p.616). Hermeneutics allows a way of understanding human experiences by opening the communication and language towards the discovery of meaning locked within the words.

Participant Recruitment

The research was conducted at a local community college, Seneca College, in the Greater Toronto Area (GTA). Seneca College, according to their website, is Canada’s largest college and has numerous campuses located throughout the GTA. Seneca College claims to have more than 90 countries represented within their student population. The campus that offers the nursing

program is located in King City, which is a geographic area of Toronto that services a diverse cultural mosaic.

Third semester Bachelor of Science in Nursing collaborative students in a medical surgical course were initially approached in October of 2015 and offered the opportunity to participate in this research. Seneca College's Academic Acting Chair of Applied Arts & Health Sciences, Jennifer Graham and Acting Dean, Faculty of Applied Arts & Health Sciences, Maria May, are supporting this research. Ms. Graham promoted this research project with the nursing faculty and asked for their support to encourage student participation and provide class time for me to access students. Ms. Graham provided me with email access to Professor Martin Galloway who in turn enthusiastically provided me time in his medical surgical course, Processes of Human Disease 1 (HDP 301), to conduct participant recruitment. Participant recruitment was done during the week seven of the fall semester, October 19-23, 2015.

These students were given a short ten minute PowerPoint presentation about the research at the beginning of their class. Any questions about the program or research were fielded after the class presentation. It was at this time that I asked for volunteer participants to contact me via email if they were interested in participating in the study. At the end of the presentation, an information sheet outlining the research, eligibility and contact information was distributed to all third semester HDP 301 nursing students. The result of this recruitment process was that there was an inadequate response rate to participate in the study and it was decided in conjunction with my thesis supervisor, that I postpone the research project and initiate recruitment as early as possible in the winter semester of 2016. This plan was shared with Ms. Graham, Academic Acting Chair of Applied Arts & Health Sciences in a personal meeting and she agreed.

A second call for participants for the study was initiated by contacting Professor Galloway. Again, he agreed to facilitate access to students in Processes of Human Disease 11 (HDP 401) course. HDP 301 is the prerequisite to this course. Professor Galloway is responsible for teaching HDP 301 and 401 and has the majority of the class population. He teaches five of the seven sections of these courses. According to Professor Galloway, each section contains a minimum of 40 students and to a maximum of 45. Participant recruitment began in week two, January 11- 15, 2016, of the winter semester. As many of the students had already received the Power Point Presentation, it was decided that it did not need to be repeated but rather present a five minute oral presentation (Appendix B) and give all students another Information Sheet (Appendix A) and allow them time to spend reading it in class. Along with the information sheet was attached a participant questionnaire and consent form. After reading the information sheet, students who wished to participate in this research needed to meet the following criteria.

- 1) Nursing students at Seneca College
- 2) Registered in fourth semester Medical Surgical course (HDP 401)
- 3) English is not mother tongue
 - I. English was not the first language learned at home
 - II. This includes students who have immigrated to Canada and learning English and those who were born in Canada but did not speak English at home as a primary language.
- 4) Have participated every week in the virtual program for the past thirty days.
- 5) Are willing to participate in an interview for one hour, share their reflective journal entries and read the transcript of the interview for errors and view the tape for clarification of gestures.

- 6) Willing to have the interview video – recorded for transcription purposes only. This will capture language expressed verbally and non-verbally.

Students identified themselves to the researcher as being qualified and willing to participate in the study by filling out the questionnaire and providing their email address. This questionnaire identified two important aspects of the study. Firstly, that they were a student enrolled in the HDP 401 course and secondly, that English was not their mother tongue. This was explained in detail what it meant as to not have English as your mother tongue. It meant that English was not your first language learned whether you were born in Canada or not. Students replied with a check mark to either yes or no (Appendix C). As students completed this form and found themselves meeting the criteria of the study, students signed a consent form (Appendix D) that was also attached to the Information Sheet. The consent form that was used for this study was provided by Seneca College. This form ensures that participants were informed of the purpose of the study, what time involvement was required, and what methods would be used to collect data. Participants were made aware that their identity would be treated as confidential information and that they must volunteer freely. Participants may withdraw at any time without explanation, fear of retribution or penalty. The consents were signed prior to data collection and reviewed with the participant on the day of the interview. Students could keep information sheets if they wanted to take time and think about if they wanted to participate. The contact information to the researcher was highlighted to the students and that they could email me to discuss or join the study. All information sheets, questionnaires and consent forms were collected at the end of the presentation time so as not to identify those in the class of their intentions towards the study. After attending three of the five sections, ten students qualified for the study. As one student

stated, “I really wanted to participate last semester but the workload in semester three is very heavy compared to fourth semester”.

The vSim® product is described on Laerdal’s company website (www.laerdal.com/ca/vsim) as a program that will “develop clinical reasoning skills, competence, and confidence in nursing students through vSim® for Nursing. Designed to simulate real nursing scenarios, vSim for Nursing, co-developed with Wolters Kluwer Health, allows students to interact with virtual patients in a safe, realistic online environment. Based on National League for Nursing (NLN) scenarios, students accessed curriculum resources and practice patient-centered care for a variety of case studies.

vSim® for Nursing Fundamentals includes 10 fundamentals patient scenarios, authored by the National League for Nursing. Medical-Surgical Scenarios that currently exist as Laerdal simulator scenarios:

- Carl Shapiro Acute Myocardial Infarction – Ventricular Fibrillation
- Doris Bowman Post-op Abdominal Hysterectomy – Opioid Intoxication
- Jennifer Hoffman Acute Severe Asthma
- Kenneth Bronson Pneumonia – Severe Reaction to Antibiotic
- Lloyd Bennett Post-op Hip Arthroplasty – Blood Transfusion Reaction
- Marilyn Hughes Lower Leg Fracture – Compartment Syndrome
- Skyler Hansen Diabetes – Hypoglycemia
- Stan Checketts Preoperative Bowel Obstruction – Fluid & Electrolyte Imbalance
- Vernon Watkins Post-op Hemicolectomy – Pulmonary Embolism

- Vincent Brody COPD – Spontaneous Pneumothorax (Source: www.laerdal.com/ca/vsim)

Laerdal Canada, offered a minimum of ten access codes to the vSim Med – Surg program at no cost to the researcher, participant or Seneca College for 180 days. The students were asked to use the vSim program as an adjunct to what is in the present curriculum. It was found that the curriculum of HDP 301 was more closely aligned to the content of the virtual program than HDP 401. This would mean that students would have an opportunity to review material that was covered in the pre-requisite course and had already covered the theory of each disease process.

Methods

Twelve students returned to the researcher completed questionnaires and consent forms that identified them as meeting the criteria of the study. On Wednesday, January 20, 2016, Laerdal Canada provided to the researcher ten access codes to the vSim program. The participants were provided the vSim program to use at no cost to the student, Seneca College, or the University of Victoria. An email to the ten randomly chosen qualified participants was sent on January 21, 2016. Using the email address the student provided on the questionnaire, all ten were sent an email with information and instructions on the research study (Appendix D). One email kept being returned to the researcher. After numerous attempts to correct and find the student's email address, it was decided that contact with this participant was not possible and to move forward with a random selection of the two remaining qualified participants.

The initial email sent to participants, included a copy of the Participant Information Sheet, Reflective Journal, step by step instructions provided by Laerdal on how to access the virtual simulation program and a timeline of completing the scenarios. The email described a way to sign up for the virtual program that did not identify them to the Laerdal Company or me.

The program allowed the student to set up an account for the web-based software in a manner that generalities could be used to protect the identity of the student. Students were also provided a timeline of completion of four case scenarios. This timeline was created keeping in mind that the HDP 401 syllabus stated that curriculum tests began in week four and that there was another test due in week eight. As it was the end of week three of the semester, it was strongly encouraged to start completing scenarios as soon as possible. A timeframe of 4 weeks was given so that the study would be completed before winter break and midterm. Students had access to the program for 180 days, which allowed for flexibility in this timeline. The scenarios to be completed were chosen by the researcher as they best fit into the nursing curriculum. The scenarios to be completed were:

1) Carl Shapiro – Acute Myocardial Infarction – Ventricular Fibrillation

This case presents the patient Carl Shapiro with acute coronary syndrome who is being monitored on a Progressive Care Unit. The patient suddenly progresses to cardiac arrest with a presenting rhythm of ventricular fibrillation (VF). The students will be expected to follow local facility protocol for the treatment of cardiac arrest (VF) within their scope of practice. Depending on the students' skill levels, the instructor may choose to have an AED available in the room for students to defibrillate, before the code team arrives to give instructions and take control of the situation. This scenario is programmed to encourage students to assess and manage the patient, identify and prioritize patient problems, and perform key interventions for safe and effective patient care.

(<http://www.mysimcenter.com/Product/coronary-artery-disease-acute-myocardial-infarction-sms6563.aspx>)

2) Kenneth Bronson – Pneumonia – Severe Reaction to Antibiotic

This case presents the young, male patient Kenneth Bronson who has been admitted to the Medical Unit with pneumonia. The patient will develop a severe anaphylactic reaction after administration of IV ceftriaxone. Students will be expected to provide the basic standard of care with regard to administration of the medication and to recognize the signs and symptoms of a severe anaphylactic reaction, with prompt notification to primary provider and rapid emergency treatment. This scenario is programmed to encourage students to assess and manage the patient, identify and prioritize patient problems, and perform key interventions for safe and effective patient care.

(<http://www.mysimcenter.com/Product/adverse-reaction-to-antibiotic-anaphylactic-reaction-sms6557.aspx>)

3) Vernon Watkins – Post Operative Hemicolectomy – Pulmonary Embolism

This case presents the postoperative patient Vernon Watkins on the Medical-Surgical Unit who has been no adherent with ambulation and incentive spirometer use. He suddenly experiences respiratory complications associated with pulmonary embolism. The students will be expected to provide postoperative care and recognize and manage critical respiratory complications. This scenario is programmed to encourage students to assess and manage the patient, identify and prioritize patient problems, and perform key interventions for safe and effective patient care. (<http://www.mysimcenter.com/Product/postoperative-hemicolectomy-pulmonary-embolism-sms6553.aspx>)

4) Skylar Hansen – Diabetes – Hypoglycemia

This case presents the adolescent patient Sklyer Hansen with recently diagnosed type 1 diabetes who presents to the Emergency Department with hypoglycemia. The

students are expected to recognize symptoms of hypoglycemia and treat it appropriately. The students are also expected to maintain confidential patient information. This scenario is programmed to encourage students to assess and manage the patient, identify and prioritize patient problems, and perform key interventions for safe and effective patient care.

(<http://www.mysimcenter.com/Product/diabetes-hypoglycemia-sms6565.aspx>).

A follow up email was sent on January 30, 2016 to all ten participants to ensure that there were no questions or issues with the program. One responded that they had completed all the scenarios and were ready to book a time for an interview. Two responded that they were progressing with the study. However, one indicated that there were some issues around completing the study on time. Modifications to the timeline were proposed and the participant eagerly agreed. One participant indicated a need to withdraw. An email was sent on February 1, 2016 to the remaining qualified candidates that had not been initially contacted to ask if they would still be interested in participating in the study. After a waiting period of two weeks, there was no response, so it was considered that there was no interest.

A further follow up email was sent on February 11, 2016 to those six participants who did not respond to the email sent on January 30th. This was to clarify intention to continue the study or indicate the need to withdraw. One participant responded that they needed to withdraw and two participants indicated they were progressing but requiring more time. This was discussed and completion was achieved by allowing the participants to set their own schedule. During the study, three students never responded to emails despite several attempts to reach out and determine if they no longer wanted to participate. A reason for not participating was not required and this was made clear to all participants. In hindsight, clarifying who wanted to participate should have been done by sending an email to the student on the day that they signed the

consent form for the study. The email could have thanked them for volunteering for the study and that they had been confirmed as a qualified participant. At this point, I should have asked confirmation of participation so that if the participant had reconsidered and no longer wanted to participate, I could have continued recruitment in more classes. This would have ensured that those who received access codes to the program were fully willing and able to participate in the research study. The remaining five continued with the study to the end with the help of modifying the timeline and allowing them to finish within the demands of home, school, and work. This modification was extremely well received, as they were eager to finish the study. The study was completed by the third week of April.

At the end, data collected consisted of interviews, written reflective journals and field notes. These strategies were chosen as they are congruent with the methodology of hermeneutic phenomenology, (Van Manen, 1990) and created a diversity for richer data collection.

Data Collection

Interviews

The interview in hermeneutic phenomenology serves very specific purposes. First, “it may be used as a means for exploring and gathering experiential narrative material that may serve as a resource for developing a richer and deeper understanding of a human phenomenon” and secondly “the interview may be used as a vehicle to develop a conversational relationship with a partner (interviewee) about the meaning of an experience” (Van Manen, 1997, p.66). The interview is van Manen’s preferred method of data collection of reflective recollections of experiences that have already have been lived through or passed (Sloan & Bowe, 2014).

As a novice researcher, I take van Manen's advice of caution regarding the interview that one must be closely aligned and understand the research question rather than have the methodology dictate the type of questions and style of interview (van Manen, 1997). As the researcher, I must acknowledge my level of proficiency in my skill level of conducting interviews. "...budding researchers must learn the skill of comprehension; the complex aptitude and competence of reflection and representation are perhaps ultimately unteachable by any method that trial and error" (Dilley, 2004, p.128). The use of trial and error for interviews represents to me the novice to advanced beginner stages of Benner's (2001) Novice to Expert theory. I acknowledge this to by my skill level for qualitative interviewing and view "craftsmanship here includes a shift from method to the person of the researcher, relating science to art, a skill model of transition from novice to expert, and the learning of research through apprenticeship" (Dilley, 2004, p.131).

For this qualitative research a semi – structured interview format (Appendix E) was chosen as it "provide[s] greater breadth and richness in data compared with structured interviews, and allows participants freedom to respond to questions and probes , and to narrate their experiences without being tied down to specific answers" (Ajjawi & Higgs, 2007, p.619). Conversational interviews provide a window into how the participant felt or thought about how the virtual program they used made a difference on their language abilities. The interview allowed the opportunity for the participant to help me understand their experiences and what it meant to them.

"The art of the researcher in the hermeneutic interview is to keep the question (of the meaning of the phenomenon) open, to keep himself or herself and the interviewee orientated to the substance of the thing being questioned" (van Manen, 1990, p.98). A single 45 – 60 minute

interview with each participant was allotted for each participant. However, the average length of the interview was 20 – 25 minutes. The interview was arranged following the completion of the four scenarios in the virtual program at a mutually agreed upon time. One student was not able to complete all four scenarios but was eager to participate in an interview and share her experience. Face to face, interviews were conducted at Seneca College in the debriefing room of the simulation lab where privacy and confidentiality were easily maintained with a locked door, interruptions were negated with choosing a time when the lab was not in use. One student due to scheduling issues between the researcher and participant was done on skype at the researcher's home office where the door was closed during the entire interview.

All interviews were conducted and video recorded by myself using my own equipment. Video recording allows the ability to see nonverbal cues and use of expressions when fluency in English is difficult. It allowed students the ability to use signs to express what they mean. van Manen “states that reflective interview transcripts require interpretive analysis by the researcher in order to produce a human science (phenomenological) description of the experience of the interviewee” (Sloan & Bowe, 2014, p. 1303). The video – recorded content was transcribed verbatim into text with the addition of descriptions of the participant's gestures used to help emphasize or elaborate when having difficulty expressing themselves verbally. These descriptions were put in parenthesis and inserted exactly where they occurred in the conversation while the participant was talking. These transcript documents were sent to the participants by email for confirmation that the content was accurate. Instructions were given to the participants in the email that any inaccuracies identified by the participants were to be modified in a red colour. As time has elapsed from the time of the interview to receiving the transcript, participants were told that by reading the text it might bring forward further insights. The participants were

told that these insights were welcomed and could be added to the document and highlighted in yellow so that the researcher can distinguish between a correction and new insight. These modifications were included in the transcripts prior to analysis. There were only two participants who took this opportunity to return the document. Those who did not return or comment had the researcher's transcription used in the data analysis.

Written Reflective Journals

All students, after they used the virtual simulation program, on a weekly basis prepared a short reflective note (one page). This reflection was guided by 2-3 open-ended questions that fostered critical thinking and brought to consciousness how the virtual program influenced how they practiced communication. These questions can be found in appendix F. The reflective process allows time for ESL students to thoroughly investigate their thoughts and have time to put it into a meaningful statement. van Manen (1990) sees these journals as a way for the student to discover connections between their learning and the insights gained by self-reflection. The participants were asked to bring the reflective journal to the interview and some more than others used it as a reference to some of the questions. Three participants submitted a paper copy of their reflective journal to the researcher at the time of the interview. These participants were given the option of having the journals returned to them by mail after the completion of the research study. The researcher had envelopes where participants could address them and postage costs would be handled by the researcher. All three participants declined as they stated they had electronic copies on their own computers. Two participants submitted electronic journals to the researcher's email and were treated the same as a paper copy. Paper and electronic journals that were used for data analysis will be simultaneously discarded within three months after the oral defense of my research thesis. Similarly, all electronic files of research data and personal information of

participant (i.e. contact information such as email) would be permanently deleted from the researcher's computer.

Field Notes

The field notes consist of data collected throughout the research process, during interviews and used as part of the analysis. The field notes are meant as a way to contribute to my own development and understanding. These notes describe my story. They record my first experience with hermeneutic research and cause me to reflect and construct personal meaning of the experience of being a researcher.

These notes are divided into three different files to maintain organization of material collected. There is a transcript file, personal file and cognitive file (Ajjawi & Higgs, 2007). The transcript file contains raw data collected. Verbatim transcripts from the interviews, any notes taken during the interviews and student reflective journal entries are included in this file. Corrections to the transcripts and any post interview participant feedback are included. The personal file contains information on participants (consent forms, eligibility to participate, and demographic information), the chronological progression of the research and my own reflective journal entries regarding the research experience and issues regarding methodology. The cognitive file contains those insights gained throughout the research process that needs the input of my supervisor and committee.

Role of Researcher

An essential part of qualitative research is remembering the role of the researcher in data collection. This dilemma when having the researcher being the tool of data collection makes it

imperative that the researcher addresses what Moustaka (1994) calls *Epoche*, or van Manen (1990), *Hermeneutic alertness* or Creswell (2013), van Manen (1990), *bracketing*.

In designing this research, it was essential for me, as the researcher, to be able to identify my strengths, weaknesses and assumptions that would interfere with interpreting the data. As Moustakas (1994), van Manen (1990) and Creswell (2013) remind the researcher that they must be able to step back, refrain judgment, reflect, and suspend one's own personal understanding or typical ways of perceiving. Interpreting the data takes a natural curiosity and a fresh view on what we see before us so that it is distinguishable and describable. In this research, as the principal investigator, I am a researcher, nursing student, nursing instructor and member of the nursing profession. These roles help to develop a trusting relationship and rapport between the ESL nursing student participant and myself. This has the advantage of being able to understand the participant's responsibilities in relation to school, home, and work. However, it may have the disadvantage that students may put me in a position of authority. There was a conscious effort on my part to inform and encourage the nursing student that they are a co-researcher and that there is no status assigned. Although the research has a large component related to ESL, I am not an ESL student. I am not fully aware of the issues that are related to learning as an ESL nursing student. I need to be aware that my fluency in nursing language may be used as students look for clarification and reassurance of the proper use of language. This may be a disadvantage as I may attribute certain meanings to words or slang, actions and behaviours. This did occur in one interview where I helped a student find the word she was searching for but in turn, there were times I asked the students to clarify meanings of what they were saying so that I did not misconstrue or misinterpret what they meant.

The research was conducted at a college where I taught more than two years ago. I have no other connections to this college and do not have any previous associations with any of the students. Any coincidental or discovered student connections related to the researcher are to be disclosed in the study. At the present time, to the best of the researcher's knowledge, there were no connections to any of the participants.

In the fall of 2015 after failing to secure enough participants, the acting chair of Health Sciences at Seneca College asked me to fill an urgent need in the simulation lab during the winter semester of 2016 and teach Practical Nurses (PNC 320) and fourth semester BScN (Nurs 420). These are nursing clinical courses that provide each student with a two-day simulation learning experience. I agreed to teach as long as there was a way to ensure that I did not have the participants of the study in my simulation lab. I did not want the participants to feel uncomfortable in the Simulation Lab while being taught by myself and take on the view of a power relationship of teacher/student rather than a fellow nurse asking for their contribution to research. The acting chair and the three simulation teachers were agreeable to make this accommodation and I accepted the teaching assignment on these terms. The class list for the simulation lab was confirmed during the third week of January and by then I was aware of what fourth semester students were participating in the study. I checked my class lists for the names of the study participants and found that there were no conflicts and thus no changes were made to any class roster. An advantage of teaching at the college during this semester was that it gave me access to an interview room that was quiet and easy to limit distractions. The participants were also aware of when and where I taught at the College and if they were having any issues, they were encouraged to meet with me after my teaching time in the Simulation Lab.

The nursing professor that was assigned to the HDP 401 course involved in this study willingly gave his consent in an email that confirmed that the researcher had access to the students and permission to have the research conducted in his course. Other academic or non-academic Seneca College staff did not take part, in any way, in data collection.

An important component of the research design and process is reflexivity. Reflexivity is the “continual process of critical self – reflection on one’s personal biases, preconceived notions, assumptions, theoretical predispositions, and ideological commitments” (Burhan & Alligood, 2010, p.1693). This was an ongoing process of taking the opportunity to conduct thoughtful analysis of how my personal assumptions are affecting the research process and findings. This approach was used to ensure rigour and trustworthiness of the research (Burhan & Alligood, 2010). Time was allotted to evaluate how relationships are being forged between the researcher and participants, researcher and the research and participant and research. By taking this time, it created a fluidity to the research that allowed for the acceptance of change.

Data Analysis

The purpose of phenomenological data analysis is to “transform lived experience into a textual expression of its essence – in such a way that the effect of the text is at once a reflexive re-living and reflective appropriation of something meaningful” (van Manen, 1997, p.36). The research data collected through interviews, student reflective journals and field notes were “analyzed, interpreted and synthesized using van Manen’s (1990) qualitative hermeneutic approach that specifies six research activities” (Burhan & Alligood, 2010, p.1692). First, “turning to a phenomenon which seriously interests and commits us to the world’ (van Manen, 1990, p. 30), is asserting my interest and belief that it is valuable to research the experiences of

ESL nursing students who use a virtual simulation program and what that experience means to them in relation to their clinical language.

The second and third research activities, “investigating experience as we live it rather than as we conceptualize it” (van Manen, 1990, p.30), and “reflecting on the essential themes which characterize the phenomenon” (van Manen, 1990, p.30) was combined to actively explore the data in numerous ways to bring out all variations of the experiences of the students. “The researcher moves in the ‘hermeneutic circle’, between part of the text and whole of the text, to establish truth by discovering phenomena and interpreting them” (Sloan & Bowe, 2014, p.1300). These explorations lead to the identification of emerging themes. The undertaking of a thematic analysis is to spend time and reflectively labour over the texts provided by the nursing students’ journals, interviews and field notes and determine elements or ‘themes’ that occur frequently throughout the text. The hermeneutic circle “... is the process of understanding a text by reference to the individual parts along with the researcher’s understanding of each individual part, by further reference to the whole document” (Sloan & Bowe, 2014, p.1300). These themes described aspects of the lived experience and provided emerging meanings. van Manen (1990) provides three approaches for analyzing phenomenological data to isolate thematic statements; “the wholistic or sententious approach; the selective or highlighting approach; and the detailed or line-by-line approach” (p. 92-93). For the purposes of extracting essential and emerging themes, the highlighting approach was used. The highlighting method was the median of all three approaches. It deals with data at a general and specific level of detail. The data lent itself to this method of identifying thematic statements. Just the nature of the activity of highlighting makes data come to life on the paper and you could see the story developing in different shades of highlighters.

As the researcher progresses through the process of the hermeneutic circle, van Manen's next step in the research is "describing the phenomenon through the art of writing and re-writing" (van Manen, 1990, p.30). Van Manen (1990) equates hermeneutic phenomenology to human science and to him this is a form of writing. "Creating a phenomenological text is the object of the research process" (van Manen, 1990, p. 111). The text from the lived experiences of the ESL nursing students who used a virtual program was interpreted using semiotics. Semiotics "is used to develop a practical writing or linguistic approach to the methodologies of phenomenology and hermeneutics. Semiotics is the study of signs and, in this context, refers to the meanings (signs) in language (Sloan & Bowe, 2014, p. 1300). This linguistic interpretation uncovers and brings to life the hidden meanings contained in the narratives of the ESL nursing student. This deepens our understanding of the phenomenon of virtual simulation, and what this experience meant to the students' communication skills.

An extremely important part of the research process is "maintaining a strong and pedagogical relation to the phenomenon" (van Manen, 1990, p.31). Van Manen (1990) warns of wavering from the task, as qualitative research can be quite arduous for the researcher. The researcher must stay committed to the truth and be mindful of the temptation to become self-indulgent with their own agenda. The importance of the supervisory committee was imperative to ensure that I stay focused, passionate and maintain a natural curiosity so that the research is a rich textual representation of the narratives of the ESL nursing students.

It is vital to prove that the research has rigour in order that the findings are trustworthy. This is no different whether you are doing qualitative or quantitative research. However, a novice qualitative researcher anxious to learn and prove the rigour of their research has a daunting task to decipher the dearth of literature of how to best tackle this concept in qualitative research.

There are numerous terms to comprehend and some opposing points of view, so it took time and patience to put together a plan of rigour that best suits my research methodology. My research used “the concepts of credibility, applicability, consistency, and neutrality help to clarify the adherence to rigour in human science research” (Hills, 2000, p. 6). Steps were taken to ensure that these concepts of rigour were maintained and described throughout the research process.

The final step in the research process is “balancing the research context by considering parts and whole” (van Manen, 1990, p.31). This reminds me of the warning in a colloquial saying, “You can’t see the forest for the trees’. Sometimes we are so focused on each individual tree that we forget it is part of a larger forest. It is van Manen’s (1990) warnings that while doing research we must frequently step back from the details and take a look at the whole. This warning provided me the rationale of which method to choose when dealing with the data and determining thematic statements. I found the wholistic or sententious method to be overly general with data and the line by line approach too detailed so I was concerned that I would either provide overly general statements about the data (the forest) or too detailed (the trees) that essential themes could be missed. It is important not to drown in the details and make sure that the whole study is a composite of all the parts. Although this may be the last step in the research process, it can be started from the beginning. Stepping back and looking at the whole picture was done on a frequent basis so that I do not feel overwhelmed or lose perspective on the purpose of the research.

Ethical Considerations

Ethical approval for this research was obtained from the Human Research Ethics Board (HREB) from the University of Victoria (UVIC) and Research Ethics Board (REB) Seneca College. Certificates of approval are attached in Appendix G (UVIC) and H (Seneca College).

The requirement for human participants qualifies the research for the completion of a standard ethic review form. The approvals were received prior to the commencement of participant recruitment and the data collection stage of the study. After the receipt of the REB approval from the University of Victoria, I proceeded and followed the guidelines of Seneca College as an external researcher. This required that I complete a Seneca's Research Ethic Board Approval for Research Approved by Another Institution form and include a copy of UVIC ethics clearance (original application and the letter or certificate). This information was submitted directly to the Board Chair of the Research Ethics Board at Seneca College as per the directions on the Seneca College website pertaining to research. (Source: <http://www.senecacollege.ca/research/ethics-board.html>).

Ethical considerations raised by this research are related to informed consent, maintaining student confidentiality, the use of language that is reasonable and understandable to the learner, the responsibility of the researcher being sincere about personal values, beliefs and biases, acknowledging researcher influence, interviews conducted with respect and active listening, allowing participants' to be involved in the research process by allowing participants some say in drafting and editing material. (Koulouriotis, 2011).

“Informed consent is defined as the voluntary and revocable agreement of a competent individual to participate in a therapeutic or research procedure based on an adequate understanding of its nature, purpose, and implications” (Ajjawi & Higgs, 2007, p.620). Informed consent can be further broken down into four fundamental features: “disclosure (providing adequate information, comprehension (understanding of information), competence (ability of participants to make a rational decision), and voluntariness (no coercion) (Ajjawi & Higgs, 2007, p.620). “ Non-native language speakers may for cultural reasons feel they cannot refuse a request

to take part in a research because they may perceive the researcher as being in position of authority” (Koulouriotis, 2011, p.3). Verbal presentations and information sheets outlining the research objectives and process provided in the class provided ample opportunity for questions to be answered by myself. After receiving all the information and written documentation, students can independently decide without any coercion from the researcher, class professor or fellow classmates their willingness to participate. All participants were made aware that their withdrawal from the research would not negatively impact them in any way.

This was addressed in the informed consent form provided by Seneca College that volunteer participants sign prior to data collection. Please see appendix I for the signed consent forms. As the information is personal in a hermeneutic phenomenological study, students are assured of their anonymity and confidentiality by the use of pseudonyms and the removal of any identifiable characteristics of the participants. Examples of identifiers that may reveal the identity of the participant are details such as ethnicity, age, gender, or school. “Direct identifiers will be removed or destroyed at the earliest possible opportunity” (CIHR, 2005, p.75).

There was an ongoing commitment of the researcher regarding the importance of confidentiality of personal information and data provided by the participant. Access to this information is solely done by the researcher and technology safeguards were put in place to ensure that participant data is safe. The researcher’s computer has proper authentication measures such as computer password protection and unique log – on identification known only to the researcher. The researcher used the program Trend Micro as a virus-checking program and regular back-ups were made of data. Data was regularly backed up onto an USB in case of physical damage (water, fire, power surge, breakage due to fall) or hard drive crash. The USB

was stored in a locked safety cabinet in the researcher's home office closet and the data stored on the USB will be destroyed on the completion of the thesis.

Chapter 4: Findings and Discussion

This chapter used the data that was obtained from the participants' interviews and reflective journals to carry out a thematic analysis, which is "the process of recovering structures of meanings that are embodied and dramatized in human experiences represented in a text" (van Manen, 2014, p. 319). "Analyzing thematic meanings of a phenomenon (a lived experience) is a complex and creative process of insightful invention, discovery, and disclosure" (van Manen, 2014, p.320). According to van Manen (2014), the text can be viewed at differing levels of meaning by using holistic, selective reading or a detailed reading approach. With that in mind, the selective reading approach was appealing as it allowed for creatively using the data to effectively develop a thematic analysis that used the questions of the interview as a way to manage the data. The interview question presented itself as a unique structure to look within for emerging "statements, phrases [that] seem particularly essential or revealing about the phenomenon or experience being described" (van Manen, 2014, p.320). I will use an analogy to further clarify on how the data was handled. I see the thematic analysis as a house (the whole of the text) and the research participants go from room to room of the house (the interview questions) explaining their experiences about the room (the data).

During each interview, questions were used to guide the conversation. Interviews for all participants took the same format and the questions asked can be found in Appendix E. The researcher found it very successful to look at all the participant responses from each question and highlight or draw out common statements, ideas, or observations. The following was the analysis of data based on each question identified with a heading that summarizes the principle idea of the question that was asked in the interview. The six questions are addressed in a sequential order

under the headings of Impressions of the Virtual Simulation Program, Simulation program and its ability to help learn nursing clinical terms, How the virtual program contributed to learning communication skills, Communication with the Interprofessional Team, Discussion of Reflective Journals, and Recommendation of the Virtual Program to ESL Nursing Students. All participants were encouraged at the end of the interview to freely add any information that may have not been attended to under the guidance of the interview questions. This data will be used under the section of Recommendations in Chapter 5.

Similarly, the reflective journal questions in Appendix F were handled in the same manner as the interview questions. For continuity and inclusiveness, the data from the interview and written reflections were reviewed at the same time and included under the same heading, Discussion of Reflective Journals. There was significant overlap of what the participant stated in the interview and what they wrote in their reflective journals as most participants used their responses to support the question asked in the interview. The process of taking each individual question gave the researcher a way to manage the difficulty of handling the data and so it was decided to do the thematic analysis within the structure of the questions. This gave time and more importantly the ability to reflect and explicate common ideas and insights from the participants' writings.

Impressions of the Virtual Simulation Program

Overall, the participants were enthusiastic about the virtual program and its positive contribution to their learning of communication. The initial barrier was the technology but all mastered it at differing points throughout the research process. Participants approached learning the technology in two ways. Some took a methodical approach and learned the program prior to starting the scenarios but the majority took a trial and error approach and learned as they went

along with each scenario. The end result was similar in that they all mastered the technology and it was no longer causing a barrier or frustration in their learning process but that they were identifying and contributing suggestions where in their opinion the technology could be improved.

The participants found the program assisted in modeling communication. It helped them take the theory of communication from the written form to the practice environment. It was best said by a participant that,

Communication is not something you can just learn on paper, it's something you have to interact with people to do. I thought it was a great way for me to learn how to communicate and the important things to communicate for each patient with different diagnosis and things like that. The first time I used it I wasn't familiar with everything on the options, you know. But as I kept going through the scenarios, I kept seeing more options and more ways I could improve my communication to my patient and I felt like I did improve like in the last scenario I felt like instantly I knew what to choose, what I should say and when I should I say it and I felt like I did improve.

The participants were able to use the program to develop their abilities to know what to ask the patient and make those questions more relevant to gaining more information from the patient. The program had a pre-set bank of responses for the user and it was this that helped to shape the relevancy of what questions to ask and when. Participants used the example of a pain assessment as being very helpful in that the program helped them understand what questions to ask in order to assess what intervention needed to be done. One participant stated,

Now I know how to apply this to the clinical setting. I already started in my clinical setting using the knowledge I learned, for example pain assessment. That helped me a lot, because knowing which questions to ask, and when and what order and what is relevant now to ask about their pain and what I should not to ask. I learned a lot

The program modeled the communication with the patient and this built a sense of confidence within the users. As one participant explained,

For me, like, English is my second language, it was nice to have a pre-set of questions, so I did not have to, like, find the word in my brain to ask something. For example, pain, everything was there, everything you wanted to ask, it was kind of easy for me to find what I wanted to ask about pain, it was pre-assessed there, so I was able to do it. And then, the biggest part it is not an actual patient that you know, like it's, like when I go to clinical, it is a little bit different from this experience but still very good for me for vocabulary, for understanding, for having like a mental map for what I want to say, for what I want to do, it was very good in those terms and that was....

Many ESL nursing students struggle to find the appropriate words or have the confidence to speak with patients more openly (Donnelly, Mckee & Hwang, 2009, Shakya & Horsfall, 2000). This was pointed out by the participants when they stated that the program helped them to better define what they were thinking and now were able to ask patients questions without feeling unsure if they are asking the right question, feeling misunderstood by the patient, and not communicating at all in fear of offending the patient with their numerous questions. A participant explained her improving communication in this way,

Like ahh, like in the beginning, ok should I ask this, how will he react? But then, it's a little bit... I got conscious of every person is different but then it is some routine as well, so you feel comfortable that this is the right question to ask. If the patient does not understand what you are asking, but then you can explain it. So, he doesn't feel that he is you have gone behind the privacy of the patient, confidentiality. You can explain why you are asking this question. It's important for health purposes, nothing else kind of thing. I think that's important. I think the program helps me a bit on that too, you have the options there

As another participant explained,

I do get more information, I am not just guessing about their pain. I know what to ask them, how to think umm how to ask for the right information so I can get or come up the best therapeutic communication.

The modeling of communication also raised the awareness of the participants of how to garner important information in a timely manner but also communicating small actions. A participant observed that

It really helped me out with like what to communicate with patients, and it's the little things that the patient asks you, so for example umm when taking the blood pressure, like... oh you'll feel a little bit of tightness around the arm. Like, its things we know ourselves but we neglect to tell the patient because they might believe that they already know what's going to happen, but if it is the first time someone at the hospital they do not know what a blood pressure machine does, they do not know what oxygen saturation

machine is for. So, it really gave me the idea that you have to tell the patient more, like do not always believe that they are gonna know what they are going to experience.

The participants were impressed with the program of how it brought about improved communication by allowing them to practice knowing what to ask and how to ask it, when to ask certain types of question to gain relevant information, why this relevant information can accelerate a nurses assessment and experienced where effective communication can alter patient outcomes. A participant summed up this evaluation of the program by stating,

So, it really brought out that we should educate the patients. Everything that we do should communicate more with them, so that they feel more comfortable know and they what we are doing.

Virtual Simulation and Learning Clinical Terms

The participants interpreted this question as there being a greater ability to take what they learn in class and being able to communicate it to the patient. They stated that the program helped them to identify the importance of talking with patients and gave concrete examples on how to talk with their patients. One participant explained it this way,

...sometimes when you are in the middle of communication, you forget that specific word, or have to take longer to explain the same thing. Like you can still ask it, but you have to rephrase it different. Like for me sometimes, I forget something... like a specific word, I say how I can say something without using the word I forgot. That is how I do it in clinical, but here everything is there, so it I kind of having the words handed to me. And if I get used to it, I can bring to my practice in the future, so it is kind of there [pointing to her head], in my head...in my brain.

The participants reflected that they were doing their physical assessments and not talking with the patient and be uncertain on how to respond to certain situations during their clinical placements. The program created an opportunity for the participants to experience how a nurse speaks with a patient and this prompted them to see the value in being able to talk with their patients and not internalize their assessments. A participant conveyed her experience of speaking to the patient in terms of doing a simple nursing task,

like putting on the umm for the o2 saturation, the oximeter, umm like I would just like putting it on and I would just put it and I wouldn't know what to ask or tell the patient. Oh this is checking the oxygen in your blood or like umm I'm just checking a left pressure in your blood. Stuff like... it was telling the how to say it to the patient...

Another participant shared her communication experience with a patient in a different age group,

I don't remember what the patient's name, but it was the younger boy. Umm and he said something like , he was very agitated and saying something Like I don't want to be here and why do you think I want to be here and I've actually never, not even on a test, never had a scenario where a younger patient kinda was agitated like that. So I didn't know really what to say but then it said, it gave me an option or he said something like that and I think it said I don't know if it gave me I don't remember if it gave me an option but it showed the nurse responding to that. And I was Ok this makes sense of how to respond to more like a younger patient. I feel like that I feel like everything we learn is not, it's all like older patients...right. So that really helped me.

A participant revealed some personal insights on how the program helped to improve communication throughout the assessment of the patient.

So, with communication it just umm I think one main thing it helped me with just the fact that when you're doing the assessments, telling the patients, oh I'm doing this or I'm doing that. Just constantly talking to the patient and explaining stuff instead of just doing it and just in your mind being ok my assessment is this ok and you get like uh... ya, I guess just the whole scenario just spending the time explaining everything and like and then when the patient is talking to you asking the patients questions and just umm like even the history ask them about their ... ask them about their like their history, their disease process and like I don't usually ask that in the clinical setting so that was interesting.

Prior to the experience of using a virtual program, they were intimidated to speak with patients due to their status as a student which did not have the knowledge or experience, perceived as not having the proper language skills by the patient, and not being able to find the exact words to explain interventions or teach the patient.

I just personally because I'm student, or maybe I'm not like I'm not experienced with patients I feel like I don't want to disturb them or if they are in pain or if their like and I don't want to annoy them by asking them many questions. Oh you have pain, where is it, what does it feel like and they are like I have pain like why are you asking me so many questions but if you see them, I guess there is an importance to every single of those questions so I just try to not like ask questions or be like talk too much to the patients in case they don't want to talk.

I guess for some who might have an accent they might be like oh I'm not from this country, this person is like Canadian and they know English very well so they might not like my accent. Like it's just... people usually see me and they think I don't know English, so then when I speak they are very surprised... Oh, how long have you been here? I get that a lot from patients.

As for finding the exact words for explaining a task, a participant stated that "sometimes, it's hard for me to find a specific word when I want to describe something, so everything was kind of setup there" and another participant saw it as "the way we communicate, I am so used to saying P.O. and BID, and TID and stuff like that. It really brought that up when you are talking to the patient in simpler English terms".

The participants reported that the program assisted them in learning a language that was not too simple or complicated in order to ask for information or help educate the patient. As a participant stated, "so it gave me like a sort of midpoint of what I should say and what are the relevant things to say". The program provided an improved vocabulary for these participants and as one participant explained that "it basically a breakdown of everything I should say to the patient in the right ways about their diagnosis and treatment that we are doing ". The participants viewed the language used in the program as being applicable in the clinical environment and that practicing communication in the virtual program would enhance their ability to communicate more efficiently with the patients in their clinical rotations now and in the future. A participant related that,

the way that the nurse in the scenario would explain what is gonna happen, simple ...like... umm language that we might overthink, like, we're used to talking through our own sort of language that we forget that the patient doesn't understand it.

Another participant saw the value of the program for her clinical practice by stating, "... my vocabulary has picked up. It's like it, it didn't exist, I know what the words mean, but it just ahh kind of refreshes my memory to put it in my clinical practice at some point".

In summary, the scenarios provided a variety of age groups and the participants enjoyed the experience of having the challenge to provide effective communication to different age groups and differing levels of urgency such as CPR for the Cardiac Patient. The participants valued the experience of being able to assimilate what they have learned and being able to use the tool of communication to provide information on how to move forward on the proper interventions and provide safe care. The participants saw that communication is a valuable assessment tool. As a participant stated, "like I said it got better and better. But it it was a lot, it made a lot more sense applying everything and actually seeing it happening in a virtual, it just made more sense".

Virtual Simulation and Learning Communication Skills

Participants shared that the virtual program was a positive contributing factor to learning better communication skills due to the fact that it promoted the use of verbal feedback which in turn increased their verbal interactions with the patient. A participant stated that feedback could be prompted by the user in that,

I could ask the patient. How are you doing? Do you feel better now? How do you feel?
And sorta use the patient to guide me with my interventions. Should I change something, am I doing it right? Are they getting better or are they getting worse? Should I call the physician...so I started using the patient's feedback to guide my interventions and what I want to do next?

Participants as stated earlier, were hesitant to verbally interact with their patients. Participants gained more experience interacting with patients and observing nurse - patient interactions during the case scenarios. The students embraced these opportunities as they reported to increase their interactions with the patient and use their feedback to decide on what interventions to employ and reassess the effectiveness of the intervention. As a participant stated,

I think that is important to use the patient as a guide, as an aide because they are the ones feeling it. We can't just assume that this will make them better. If I give pain medication and it is not working, not making them feel better, obviously there is something wrong. Using the patient's feedback was very important and those options they gave to ask the patient about they are currently feeling will help guide you through.

All participants agreed that the virtual program assisted them in learning clinical communication, taking nursing language and translating it to a level that the patient could understand and increased their confidence in being able to handle situations by knowing what to say and would be less likely to refer the patient back to the primary nurse in clinical placements. This improved level of confidence by using the program was seen as improving their level and quality of communication. This was as an example of how a participant used the pain assessment tool to demonstrate how the program improved the quality of information that could be gained from better communication with the patient.

So, during the assessment, like for example, for pain assessment, when I go to the patient normally, I ask them just couple of questions like; are you having any pain? On a scale of 1-10. Sometime in pain assessment, if I am in a rush. But then, the program also allowed me to visualize how many more questions I can ask and it just gave me more thoughts of how I can ask those questions in a different way. It showed me a list of options and what

I can choose from and from that, you would get a more detailed answer rather than a vague “yes, I’m having pain.” It’s here, and it’s this number. I really liked how you guys had a lot of questions for every assessment, just that I can get more depth, so I can talk to my patient and get more information about that, more accurate information.

The program allowed the participants to practice communication and they saw this as an advantage in improving the information they were receiving from patients and being able to cope with each scenario as they knew what appropriate type responses to use. The program was a way that the participants could learn how to facilitate more precise answers that eliminated the unnecessary time they used over explaining in the clinical environment. The participants saw this as a valuable skill for not only students but as a practicing nurse. A participant expressed the benefits of efficient communication in her clinical practice as the following,

So, it kind of ahh saves you time, because in clinical, I mean, at some point, you do not have one patient, or two, you have like four or five patient you get, so it can save you time and you can be as precise and you can get the same answer, yes, with a little bit less time.

Students were aware of the importance of communication in nursing but the participants’ experiences of working with it in the virtual program made it evident to them that by improving their communication also improved patient outcomes. One of the participants summed this up best.

You can read about it all you want but if you are not there I felt this was more interactive way than just reading about it oh it’s good to have therapeutic communication with your patient but what if you had something like the patient said oh I’m feeling depressed or

I'm feeling this and then maybe having the nurse sit down and do stuff a nurse that makes it closer to the patient to speak about their problems Things like that allows you to know what to do instead of being like oh, oh ok you seem depressed ummm I'll let the nurse know or I'll let someone else know or I'll call the social worker. I guess it's more of what as a nurse you can do to address these kinds of problems

Another example of how a participant connected the program to improving communication and its importance for patients,

...communication is key to everything and when you are able to communicate with the patient it just makes, like I mean you could see, for us it was a grade but in real life it's the patient's health...right? So I can see as I am getting better with the communication aspect of this my percentage went up.

A key observation by the researcher was that all participants exhibited a self - awareness of their issues with language when it came to having fluency communicating with patients in the clinical setting. The participants' assessments of their abilities with language were honest whether they were negative or positive. This was shown in the statements they made and the confident body language they exhibited during the interview. Whenever speaking about language issues they maintained eye contact with the interviewer, continued in same tone of voice, had a relaxed posture and sustained engagement. A participant explained how the program helped to make communication more precise.

I think that's part because English is not my first language, I try to make clearer understanding what I want to say, but it can take too long, so the same question, the same thing you want to say, but a little bit shorter,

There was a decreased confidence level that they could translate their nursing language into terms that a patient could understand. They stated that they struggled with finding the appropriate phrasing of words and then rephrasing it so that the patient could understand. A participant stated, “Sometimes I have to reword things because it sounds right in my head. But the patients won’t really get it and I have to reword it so that they can understand it”. Another participant explained, “because sometimes when you are not sure what to say you just ramble on and it doesn’t even end up making any sense”.

Participants showed a clear distinction between being able to speak the language and how that differed in the clinical setting. A participant explains this by stating,

Well ahh ya my communication is strong but just how, how about to use it in the setting and like umm. Like it is good to speak English well but like how to use it in the setting and different ways of like just the way to like to show it to the patient, the questions to ask, explanations about the tests you’re doing to the patient, just help me help do that and in general the whole part of a clinical perspective,

Another participant had this perspective,

It was really helpful in terms of what to say and how to say it...which I find is very hard for me because and I don’t know if it’s the language barrier for me because I’m obviously fluent in English now but that aspect of communication, I think really helped a lot in the simulation lab because it showed you what to say and how to say it and how much say too,

Participants saw a positive change in their clinical language by using the program. They collectively agreed to the term confident during the interview about how they assessed the program impacting them as ESL learners. This participant gives a description of this experience.

Definitely, [my confidence] increased going out of the [virtual] program. English is not a first language for me. I have progressed in a way that I can use it easily. I have been using it for many years, as I have been in Canada for ahh 14 years. I learned English when I was younger. But wording the things that I want to say to the patient, I wasn't ready for that. The way that they give you the full sentence, you didn't have to type it in so it also taught me the best way to say it and I think that gave me more confidence.

The participants viewed the program as an adjunct to their classroom learning as it reinforced the theory taught in their nursing curriculum about communication and the program demonstrated how that can be practiced at the bedside. A participant made the assessment that the program

...does word it in a similar way to how we are being taught. In almost the exact way so the program did help you sorta set it in stone that this is the how I should say it and use it and see feedback that you get from the patient.

The participants' answers to the interview question of how the experience of using the virtual program contributed to their communication skills was multi-layered as demonstrated by the participants' quotes. Primarily the participants found the virtual program an effective tool in the learning of their communication skills. The virtual program assisted the participants with translating the nursing language into a form that could be understood by the patient and

enhanced confidence with their language skills that they viewed as creating positive patient outcomes.

Communication with the Inter-professional Team

The ability to communicate with other health care members of the team like doctors, social workers, respiratory therapists and many others presents a challenge to any student in the clinical environment. For a student who is ESL and having some insecurities around language, it can be especially intimidating. The participants shared their anxieties around speaking with other healthcare team members and how this was reinforced by the limited opportunities to speak with them in the clinical environment. The issue of communication within the healthcare team comes with a perceived level of power and intimidation. The doctor holding the status of having the most power and being the most intimidating. Participants also shared their intimidation in calling other members of the healthcare team for help. Participants collectively have the attitude that they do not have the skillset to handle the whole patient, that by calling for help is a weakness, and it exhibits and reinforces their lack of knowledge. A participant describes her anxiety around calling a physician in the following way,

If I need something, I personally, like we would go to our nurse as opposed to going to the physician. But I think it will be beneficial in consolidation where it's going to be up to us to contact. I think, I'm not sure, I'm assuming where it is more like independent and we contact the physician. I don't know I feel like that is intimidating you know what I mean ...

The only relationship where these participants felt comfortable in communication their need for help was their primary nurse. However, from the description that the participants

described, they were rarely afforded the opportunity to observe how the primary nurse communicated with other health care members or patients in order to resolve issues.

Unfortunately, the patient issues that were brought forward by the student nurses to the primary nurse or any health care member did not model communication or provide guided opportunities to solve issues. A participant elaborates this experience by stating that

...we as student nurses don't get don't really have that much interaction with anybody else. It's just me following the nurse. This year is actually the first year that I was able to kind of go to the post conference meetings umm and speaking when you kind of when the option was to call the physician or something to see how, how he, how they step in and communicating between them two

As stated by the participants, a lack of interactions with healthcare team members exists in the clinical environment, which fosters a level of intimidation. Participants felt the interactive nature of the simulation program helped in decreasing their anxieties in dealing with other healthcare members. The program provided the participants to become more confident, “. At first, I was a little intimidated to talk to the physician and what I should say to the physician. It did give me more confidence”. The program also provided the participants to be able to see how they could be able to describe a patient situation to a health team member who is not as medically orientated. “I am thinking again as far as it will also help like a social worker. They do not necessarily have a medical background but talking about this is the situation for it, this is the situation, now what can we do?”

One of the tools for communication that is used in the virtual program is situation, background, assessment, and recommendation (SBAR). The participants stated that using SBAR was effective at preparing them for a conversation with a physician. It improved communication

by being more efficient and productive for gaining the needed orders for the patient. This exercise was appreciated, as it was a skill that was highly valued by the participants as being an effective and safe practicing nurse.

One aspect that it really helped me is that every single time when I called the doctor they would explain use SBAR situation, background, you know...stuff like that. I kept remembering, oh yes, SBAR...SBAR... when I talked to the doctor because I feel like if I don't get that in my brain right now, then when I go to talk to real doctor, I am just going to tell him, I am just going to tell him the scenario, I am not going to even start at the back. I am just going to tell him what is going on, just because...I am worried about this situation. So, it is good to have that ingrained at the back of your head. The program really helped me with things like that.

The participants were able to use the program with varying levels of communication forms. They were able to practice explaining to patients in a language that was understandable to them and use the clinical terms with other health care team members. This duality of language use was appreciated and "it just boosted my confidence" in calling other healthcare members for assistance and being able to explain tests or procedures to a patient.

The virtual program saw the participants experience how a nurse can call for help. The previous assumption of being a student nurse and not knowledgeable was challenged by the program and embraced as a learning opportunity by the participants. A participant described taking the opportunity of being

afraid that I'll be missing something that the doctor was going to ask me. So it just taught me that I should be prepared with a list of things and this is what he might or she might may ask me. It just boosted my confidence.

Participants were able to practice how to call for help in an emergency situation. This had only been read in textbooks and none had an experience in the clinical environment. There was an overwhelming sense from the participants that they did not see themselves as having the skillset to handle the changing condition of a patient. A participant states,

... like for example, like I know we have been taught about what to do in a case of a code, but like not knowing what exactly to do but I think just going through scenarios, a lot of scenarios, it helps you be more confident in the clinical setting of just what to do if an emergency came up

However, after this experience, they saw themselves as being able to translate this experience into the clinical environment and being able to call for help, how to communicate to other team members and be able to explain to patients and families the events. "It helped me to collaborate with the other health care professionals as well. Because we did need to call for help, call a code, you have to learn how to deal with the situation with multiple people involved. And, also, being alone in a situation knowing what I should do now till the healthcare team arrives and helps me is really important and I learned a lot from that".

The experience of using the virtual program gave an affirmative response by the participants that it improved their overall ability to communicate with other health professionals. The progress from being intimidated and not knowledgeable, 'just a student' towards increased

confidence in being able to communicate effectively in crisis and can take charge of patient concerns was created by the experience of using the virtual simulation program.

Discussion of Reflective Journals in Interview

Participants were asked to write a short reflection after each scenario. This was guided by two to three questions and submitted to the researcher at the time of the interview. During the interview the journals were addressed and the participant was given time to comment on it and provide any further insights since writing each reflection. The participants wrote and spoke about how the virtual simulation program improved their level of confidence in communication with patients by knowing what to ask, how to ask, when to ask and what to do. The participants were making connections between what they learned in the classroom and how they can put this into practice in the clinical setting and being able to recognize the importance of teaching or educating a patient. A participant describes her standout moment in terms of communication while using the program. She describes this moment as being

Teaching, I found it very helpful to know the right time to teach the patient or educate the patient. I see a lot of nurses who don't have the time for that or don't find the time to educate their patient. So, I've learned that in every 5 minutes off instead of leaving to stay there with the patient, educate them as it reduces their anxiety. It makes them more aware of what's going on. So I did learn that whenever there is an opportunity to take it and educate the patient.

The participants reiterated that the program was effective at showing them how to communicate with a patient. "For example it displayed all the different questions a person can ask a patient about their pain". "The different questions guided me through the conversation and

taught me how to effectively transition from one question to the next (pain assessment) and find the right moments for health teaching”. These questions were “...a good reminder about the things we should be asking our patients”. The communication in the program helped the participants to work with a variety of age groups, identify better ways to ask questions, more relevant questions and how that impacted the timing of interventions. The participants started to see that the feedback of patients became an important element to their assessment.

It improved my learning in regards to having more expectations of what could happen. For example in the hypoglycemia case, the patient shouted out “where am I’ or get me out of here” and it made me think more specifically of what I would do in that type of scenario and how would I react. It brings out communication points where as nursing students we have never dealt with before and may have never thought of.

As a result, they stated they started to talk more with their patients and improving their treatment choices. “I thought the way of communication with the patient was good because it was clear, concise and professional”. The participants became more comfortable asking questions and used the language to facilitate gaining the right information at the right time.

Putting theory into action was a major area of learning in the virtual simulation program for the participants. A participant explained that the program “allowed me to put into practice what I learn theoretically” and “it left me to think on my own and apply the knowledge that I have”. The case scenarios provided opportunities to consolidate their learning, engage with the patient and the ability to practice repeatedly. It “made everything come together and make sense”.

It also created a space where assumptions could be challenged. The program gave student feedback on their progress and areas of improvement could be identified. This prompted the participants to be more careful in their approach and not make assumptions about their interventions like the following participant,

Well, I know that I wrote it but ah the one with Kenneth. Umm the one with Kenneth he so umm the problem was that when I gave the medication and he had an allergic reaction so I wrote I would never have thought to ask him about any other allergic reactions because the doctor prescribed it. The doctor would have done his assessment, I'm just giving the medication, right, and even the proper things of going through when you're giving medication of what you are like supposed to do, like sometimes you forget. Like if you are trying to rush or something you forget the proper steps like checking the band, asking for any allergies.

By not communicating with the patient, the participants saw the vacuum of information that is created and that the theory of medication administration is "always emphasized in all our nursing classes" and by not communicating with the patient about allergies, this created a gap of important information and can lead to jeopardizing patient outcomes.

The virtual program helped the participants recognise the importance of health teaching. The key points learned were that patient education is important with every patient and that they need some level of health education but the timing of teaching is just as important. "The importance of teaching once my patient is already stabilized in order to avoid recurrence of the problem". Participants were shown patient education in their case scenarios and expected to initiate teaching. Feedback on the participant's performance where they could have improved in the areas of patient education was given at the end of the scenario. "The comments provided at

the end after completing the scenario were very helpful in pinpointing the points for improvement”. “[It] helped me to know my strong areas and also to know in which areas I have to work harder”. This stressed the importance of patient education and the participants wrote about this in their reflections and interview. A participant wrote,

It also makes aware of how important is patient education in order to avoid detrimental effects on my patient’s health” “I enjoyed this aspect of nursing and identifying how important teaching is for every case as caring for a person expands much farther than the assistance you provide at the bedside”.

The participants’ reflective journals demonstrated a strong connection between improving their communication with patients by putting nursing theory into practice and being able to conduct patient education. The different scenarios exposed the participants to varying situations that are not being met in the clinical environment. Participants pointed out that observing nurses in the scenarios handle emergency situations helped them not to only identify what they need to do.

I would been like ahhh do I call a code blue or do I call someone or call the doctor or do I run out or do I do CPR, like I didn’t know what to do. Ok, now I feel more confident now about what to do.

As well as the necessity of communicating with the patient. “You want to know every minute how the patient is doing and get the feedback from the patient”.

ESL Nursing Students Recommendation of the Virtual Program

The participants’ recommendation of the vSim virtual program to ESL nursing students was unanimous. It was the non-verbal communication in the interview that eludes the written

page. The students' faces lit up with excitement when asked if they would recommend this program to other ESL nursing students. Their voices were filled with enthusiasm as they shared how this program enhances learning for ESL students. Participants saw the value of this program for all nursing students not only ESL nursing students. A participant elaborated that, "We all need practice; we all need to know how to communicate. It doesn't come as second nature...you know what I mean? I think it will benefit everybody...ya".

The participants would recommend this program as "it's very beneficial as a learning tool" as it is "good for communication [and] takes what you learn in class and put it into practice...It's not like, it's not like something boring like being taught in class. It's like interactive, it's fun". The program "provides a great list of options or great communication questions". A participant described the program as being

... easy to follow, like, easy to understand everything. All the terminology is not very difficult course. It is easy to pronounce, easy for understanding. It is not very complicated vocabulary that I can say. I do not have any issues understanding. Even when they give you the feedback, everything is very clear. So that was good part of the program. It had voice and when they speak, they space, so it is easy to follow as well. The same with the patient, what he says or she says is spaced, is nice, it is easy for me to understand for me".

Some other benefits of the program were the exposure to differing scenarios that students have not been experienced in the clinical setting. "We are not always put in all different situations to be able to communicate in different situations. It's usually more stable, I was exposed more in these scenarios than I was in the clinical setting". This exposure to a variety of health conditions helped students as they progressed through the scenarios to be able to identify

what interventions needed to be done but also facilitated patient – nurse communication. A participant described it as being

... easier to get through and to know the steps. That also let me more time to think about communication, like once I got all the assessment out of the way, then , I know OK, I could ask this, this, and this. So, it gave me the opportunity for that.

The experience with the program revealed to ESL participants that they do have the knowledge to take care of patients but need to be more communicative. As one participant said,

I think having trouble with English makes someone think that, because I did have trouble with English, and it makes someone think that they are less competent of not being able to do stuff and with this it shows that oh I know the knowledge, I have the knowledge of doing this and I just need to communicate. I need to show it, while saying it. I don't have to feel like I don't know what to do because my English is not good. If a patient asks me why am I having pain? Like I would know why they are having pain but I just should be more open to communicating it and not be afraid of oh maybe because my English is not good I can't get the message across properly or maybe the person gonna be like oh she doesn't know what she is talking about.

The virtual simulation program was seen by the participants to have many benefits for nursing students who are ESL or not. They saw it as a tool that should be included into the curriculum to assist with not only knowing how to assess a patient prior to entering into the clinical environment but being also competent in how to communicate with their patients.

Interpretation and Discussion

The International Institute for Qualitative Methodology (IIQM), The Qualitative Research Blog stated that “for any study to be successful, researchers must develop a “phenomenological eye” through which they can see the uniqueness of the phenomenon in all of its complexity and strangeness, as well as a strong “phenomenological pen” through which they can re-evoke and illuminate the phenomenon in their text (Goble & Yin Yin, 2016). Using van Manen’s framework and how it was previously described to be used in the research process, the data was explicated with a natural curiosity and treated with a phenomenological attitude. The interviews and reflective journals were read and re-read for embedded meaning which was a “process of insightful invention, discovery or disclosure-grasping and formulating a thematic understanding is not a rule –bound process but a free act of “seeing” meaning”(van Manen, 1997, p.79). This process can be described as,

The understanding of some phenomenon, some lived experience, is not fulfilled in a reflective grasp of the facticity of this or that particular experience. Rather, a true thinking on lived experience is a thoughtful, reflective grasping of what it is that renders this or that particular experience its special significance. Therefore, phenomenological research, unlike any other kind of research, makes a distinction between appearance and essence, between the things of our experience and that which grounds the things of our experience” (van Manen, 1997, p.32).

In writing about the experiences of the participants in the findings, section attention was paid to ‘logos’. As van Manen describes logos as having “...retained the meaning of conversation, inquiry, questioning: of questioningly letting that which is being talked about be seen. So phenomenology is the application of logos (language and thoughtfulness) to the

phenomenon (lived experience), to what shows itself. In the final steps of the framework, which encourages the researcher to “not settle for superficialities and falsities” (van Manen, 1997, p.33) and maintain clarity through the reflexive strategy of “... step [ping] back and look[ing] at the total, at the contextual givens and how each of the parts needs to contribute toward the total” (van Manen, 1997, p.32-33). Having stepped back, read, and re-read the findings, there was the opportunity to treat the data reflectively and it became clear that themes were emerging from the data. This process of gaining a better understanding of the text was brought about by reflectively asking myself “What is meaningful to the participants about their experience?” By spending more time reading their statements with this question in mind, I could better understand and determine themes of confidence, transfer of knowledge, patient safety, and communication, competence of communication in the clinical environment, and the acquisition of language skills.

Emerging Themes

Confidence

When the participants used the term ‘confidence’ in relating to their experience with the virtual program, it is worth looking at what they perceived as being confident. The term ‘confident’ conjures up the other related term self – efficacy. “Bandura (1977a 1997) formally defined perceived self-efficacy as personal judgements of one’s capabilities to attain designated goals...” (Zimmerman, 2000, p. 83). Bandura’s theory of self-efficacy has been established in the research of being a predictor of student academic success in nursing and web based technology (Koch et al., 2011). The participants revealed differing levels of personal beliefs towards their language abilities which is more accurately described as strength of self-efficacy and “measured by the amount of one’s certainty about performing a given task” (Zimmerman, 2000, p.83). There is a wealth of data in the research literature to support simulation learning as increasing

confidence in health professional students practice experiences but is mostly related to mannequin based studies. Research is very limited about self-efficacy and web based technology. This study showed from the participants' comments that the virtual program has positive early indications that virtual simulation is contributing to student's sense of confidence with communicating in the clinical environment.

All the participants expressed strong self-efficacy towards being able to communicate in English but their perception of self-efficacy was significantly poorer when they were asked to use their nursing language with other health professionals and patients in the clinical environment. As one participant explained that,

English is not a first language for me. I have progressed in a way that I can use it easily. I have been using it for many years, as I have been in Canada for ahh 14 years in Canada. I learned English when I was younger. But wording the things that I want to say to the patient, I wasn't ready to for that. The way that they give you the full sentence, you didn't have to type it in so it also taught me the best way to say it and I think that gave me more confidence.

Participants did not relate being ESL as a barrier until faced with having to ask questions, explain tests and procedures to the patient. This is particularly noteworthy in that it was not until they were required to converse in the clinical setting that some insecurity and anxiety became apparent due to English not being their native language. Similar findings were noted in the research by (Sanner and Wilson, 2008, Jalili – Grenier & Chase, 1997).

However, students were very motivated to use the program to improve their communication skills with patients. As the program allowed them to work on each scenario as

many times as they desired and gave them immediate feedback on their performance they could see how they were improving every time they did the scenario. This is similar to studies where “student performance improved significantly after receiving feedback. Particularly, receiving knowledge of correct response (KCR) improved student academic performance. In other words, students who received more knowledge of correct response (KCR) significantly enhanced their Web-based performance” (Wang & Wu, 2007, p.1596). The participants enjoyed the interactive nature of the program, which kept them engaged and motivated to do better. The virtual program permitted the student to be in charge of their learning and the student could improve as they continued to work with each scenario. As the students progressed through the scenarios, they became better accustomed to what was expected from a technology standpoint and how to take the theory taught in the classroom and incorporate it into the scenario. “Student activities that promote autonomous independent learning and self-efficacy are important strategies to assist students in their learning. The increasing sophistication of electronic teaching resources provides an enabling medium for achieving this goal” (Koch et al., 2011, p.378). Participants were excited by this technology and the feedback it gave regarding progress. Studies are showing that self-efficacy is “strongly related to Web – based learning and performance” (Wang & Wu, 2008, p.1590). Unfortunately, there was no particular way for students to examine their communication in the feedback received at the end of each scenario. Participants, however, did make the connection that if they communicated well during a scenario with a patient and team members that the outcome of the patient was more favourable.

Knowledge Transfer from Classroom to Clinical

Participants as they used the program stated they were challenged to take the theory that they learned in their nursing courses and apply it to a clinical scenario. The web-based program,

vSim, which the students used in this study was designed to reflect the curriculum taught in the second year of the BScN program. The scenarios were created to incorporate the knowledge required at the third semester level of the nursing program. Virtual simulation can be used to bridge the gap between the theoretical and clinical experience. “Only when the nurse is able to make the connection between the didactic information and clinical experience, will a nurse reach the level of competence” (Galloway, 2009, p. 2) that lies midway between the novice level and expert level on Benner’s continuum of clinical expertise.

The vSim web based program was based on narrative pedagogy (NLN, 2015). “The concept of narrative pedagogy originated with the tradition of learning from stories (Walsh, 2011, p. 216). Narrative pedagogy diverts the students focus from content driven curriculum to one that looks at shared meanings and understandings, real world experiences, critical reasoning and reflection, practical skills and learning within a human context rather than knowledge being decontextualized (NLN, 2015, Walsh, 2011, Murphy, Hartigan, Walsh, Flynn & O’Brien, 2010). Research into the pedagogy of virtual simulation supports using narrative pedagogy or problem based learning (Forondo, Godsall, & Trybulski, 2013). The use in virtual simulation of narrative, interpretative (Benner) and multicontextuality pedagogies “creates a learning environment with [a] balanced pedagogical approach that may provide a level playing field for all learners, potentially addressing the overt differences in learning needs among a diverse student populations” (Giddens, 2008, p. 80).

Patient Safety and Communication

There was an overwhelming concern that students conveyed during the interviews that they would not be able to apply their knowledge and then harm the patient. Students were appreciative for the experience of going through a code blue scenario. By having these scenarios

we can expose students to not only know what to do but how to communicate during a chaotic time. Patient safety is of concern to many nursing researchers who see communication as an educational priority (Forondo, Gattamorta, Snowden, & Bauman, 2014), a way to reduce errors (Salas et al., 2005) and in conjunction with simulation can mitigate errors by improving assessment and communications skills (Guimond, Sole, & Salas, 2011).

Introduction of these topics, such as a code blue, in a safe environment helps avert traumatizing the student in the clinical placement (Walsh, 2011). The participants felt after this experience that they would be much more likely to handle the situation and be able to communicate with the patient, family and other health care team members. “Learning that occurs within the context of a story is powerful and has a greater chance of being recalled and then transferred to new learning situations” (NLN, 2015, p.3). Initially, there was a strong emphasis made by the students that knowing what to do was more of a priority than communication. However as they progressed through the program they were discovering that their skills at communication needed to be just as strong in order to be able to take care of a patient competently. Participants related how using the communication technique of SBAR was useful when interacting with the healthcare team. The use of SBAR is supported by literature as a way to improve communication for patient safety (Forondo, Gattamorta, Snowden & Bauman, 2014). They improved on knowing what needed to be done and gained better skills at prioritizing patient interventions and asking for feedback from the patient. This challenged their critical thinking to use all the information that was available to them to make good decisions. The participants discovered during their experience with the case scenarios the value in communicating with a patient and how this information is important in assessing, treating and evaluating interventions. The program helped them to learn how to speak directly with a patient

in the scenario and obtain information that was necessary for proper assessment of what treatment options should be chosen. “This facilitates the preparation of the students for exposure to reality of practice and allows them to begin to rehearse strategies for coping with the emotional demands of their work (Walsh, 2011, p. 217).

Communication in the Clinical Environment

Certainly, there was a learning curve with what steps must be done in order to take care of a patient but the students had a much larger realization of the impact of communication. There is limited research on how students are assessed for clinical communication (Fran & Miguel, 2012) and this could be due to the mechanism of how nursing students are taught skills in the nursing lab and how curricula has moved away from communication labs. The theory of communication is taught in classroom courses and not emphasized in the nursing lab as a skill that needs to be practiced due to the increasing use of mannequins for procedures. Simulation has offered an opportunity to reintroduce the skill of communication into the nursing lab where it can be taught in a safe environment to promote patient safety (Aebersold & Tschannen, 2013). A nursing instructor can encourage students to talk to the mannequin as if it was their patient through any skill or assessment as “... simulation is the vehicle for translating classroom knowledge into a safe learning environment (Murphy et al., 2010, p. e3). Virtual simulation can offer a safe environment to practice communication skills as nursing students can do the case scenarios without the presence of other students or instructors, they can re-do the scenario as many times as they want and have instant feedback from the program on their progress. This can also be used by faculty to assess communication skills as the program offers differing areas of evaluation. Participants were strong advocates of the program to fellow students whether they

were ESL or not. It was having an engaging, interactive safe environment to learn in that encouraged the participants to want this as a requirement in their own curriculum.

The students stated that the scenarios presented in the study had never been encountered in the clinical setting but they valued having gone through them. The issue of nursing students not being able to have a high quality clinical experience (Hayden, Smiley, Alexander, Kardong-Edgren, Jeffries, 2014) as well as very few changes to the approach to clinical education (Giddens et al., 2008) is well supported in the academic research. Academic institutions are grappling with numerous issues in regards to clinical placements for nursing students. These issues are competing for limited clinical sites, inequality in clinical experiences, and faculty role changes that limit student supervision of student skills. (Hayden, Smiley, Alexander, Kardong-Edgren, Jeffries, 2014).

After working through the scenarios participants became more aware that they were not provided the opportunity in the clinical setting to be involved in the care of patients of differing ages and level of complexity. As a participant stated that it was necessary,

To keep doing different scenarios because we don't get to do this in the clinical setting. We are not always put in all different situations to be able to communicate in different situations. It's usually more stable, I was exposed more in these scenarios than I was in the clinical setting.

My personal experience when I teach simulation is that students are overwhelmed but thankful for the opportunity to take care of a patient with a rapidly changing health event. As one student stated, "How many briefs can I change. I learned more in one day of simulation than I did in my whole clinical experience". "Simulation training enables the student or beginning

professional to experience situations in a safe and ethical environment” (Secomb, McKenna & Smith, 2012, p. 3476). The students stated they were impressed how the program helped them consolidate their learning and be able to practice how to communicate it to a patient.

Acquisition of Language Skills for the Clinical Environment

All nurses start to learn from semester one a professional nursing language. This is a language peculiar to nursing with influences from the medical model and current nursing trends. The participants saw themselves as being proficient in English but admitted to having issues with their proficiency in speaking in the clinical environment. The most significant issue for these participants who had successfully adapted to speaking within the nursing domain was that they did not know how to translate the nursing language to a level that a patient would understand. Participant concerns are warranted as they arise out of a curriculum that is context reduced and cognitively demanding for ESL learners who thrive better in a curriculum that is context embedded (Abriam- Yago et al. 1999). As previously mentioned, the vSim program is based on narrative pedagogy which embeds context within the virtual scenarios that makes it easier for ESL learners as it attends to their learning styles (Walsh, 2011, Abriam – Yago, 1999, NLN, 2015, Rogan & Miguel, 2013). The learning styles of ESL learners are auditory, visual and kinesthetic (Sanner & Wilson, 2008). Participants were impressed with the non-immersive virtual program as it allowed them to interact with the web based technology, as it was both auditory and visual.

Another important aspect for the participants was how to properly converse with their patient. This concern can be explained by knowing how we acquire our language skills. The Cummins model of communication describes how language skills are acquired on two levels, the first is “basic interpersonal communication skills [BICS] involve the listening and speaking skills

that allow for the exchange of basic, straightforward ideas and conversations” and “Cognitive academic language proficiency [CALP] involves the language needed to understand and communicate more advanced and abstract ideas and processes” (Koch et.al, 2011, p.374). BICS improves social day to day language. Students quickly acquire this language and can take up to 2 years to be proficient. Students become more fluent in this area as it is practiced among friends at school and away from school. The context-embedded nature at this level of the language is reinforced by ongoing feedback between participants and the meaning is derived and understood by the situation. Gestures and facial expressions are examples of contextual clues that help in understanding the language. Due to the fact that the language is embedded in social interactions, it can be understood as ‘cognitively undemanding’. There is less cognitive involvement as it involves routines of everyday life and the language is not detailed (Abriam – Yago, Yoder & Katooka – Yahiro, 1999; Sanner & Wilson, 2008). (CALP) which “enables students to analyze, evaluate, and interpret abstract concepts” (Sanner & Wilson, 2008, p. 808) makes language more difficult to learn as it is more cognitively demanding and takes 5-7 years to acquire proficiency. This language can be considered to be in the realm of academia where students learn abstract concepts in “context reduced” communicative situations such as lectures or textbooks, offering fewer clues and are more linguistically demanding”(Abriam – Yago, Yoder & Katooka – Yahiro, 1999). CALP language is cognitively demanding for the students as new ideas, concepts, and language are presented at the same time.

Although the participants were not concerned with their level of proficiency in English, it was apparent they had concerns that they were having difficulty expressing to patients complex tests and procedures in a manner that the patient could understand. This would involve mastery with CALP language and may offer some insight into why participants avoided talking to

patients, interacting with patients during assessments or fearful that they were being a nuisance by asking so many questions. One participant reported her concern about talking to patients as, “Like it’s just... people usually see me and they think I don’t know English, so then when I speak they are very surprised... Oh, how long have you been here? I get that a lot from patients”.

One of the features of the virtual program that the participants stated assisted them with learning better communications skills was how the language was modelled. This is supported by research that improved communication is gained by using avatars (Miller & Jensen, 2014). The program gave them pre-set answers to choose what to say, the answer was written on the screen and verbalized by the avatar. A participant found the pace of conversation and vocabulary easy to follow. This allowed them an auditory and visual experience with the language. Participants stated the program strengthened their language skills as it facilitated what is the best way to say something and how to say things in a concise and precise manner. Having the program model the language improved the interaction with the patient and the participants state that this will be very useful in clinical and that they are already implementing it in their practice and seeing a better response from their patients. As virtual simulation is a new technology, there is limited availability of research to support if modelling language in a virtual program is an effective way for learning for ESL nursing students.

Chapter 5: Conclusions

The experiences that the participants shared after having used the vSim virtual program provided some pervading insights into their thoughts and experiences about communication as an ESL learner. These experiences articulated issues that can speak to nursing faculty, instructional designers of curriculum, academic leadership, and nursing researchers. The participants spoke of how the virtual simulation program changed their confidence level. As a result of using the web based technology, participants reported that they felt that they had better self-efficacy in communication with patients and had improved their outlook on being able to handle communication with a variety of situations and age groups. It is essential that we have competent nurses at the bedside that can communicate effectively to patients to ensure their comfort, wellbeing, and safety. As our patient population ages, it is also becoming more diverse culturally. Nurses who bring another language to the clinical environment are important to mirror these changes in our population diversity. ESL nursing students who have a successful academic experience will ensure that we have a diverse nursing workforce. It is important that ESL students be provided tools such as virtual simulation to ensure a positive learning space that produces qualified, confident clinical nurses. This research study shows that virtual simulation is a positive contribution to ESL nursing students' experiences with communication and can provide nursing educators another teaching strategy to assist ESL nursing students achieve clinical communication competency.

As nursing educators, we need to be looking for creative and innovative ways to teach students. Techniques such as vSim has opened a whole new approach and it is showing positive results with nursing ESL students due to its safe place to learn, instant feedback and the ability to

work independently on learning issues without fearing criticism from other peers and faculty. As an instructional designer of curriculum, it is essential to be open mindedness so that we can be mindful of incorporating all kinds of strategies and pedagogies that are inclusive of all learners in a diverse student population. As creators of the curricula we are ethically and morally bound to meet the needs of ESL students with a curriculum where they can be successful because learning needs and styles have been met. It is imperative anyone involved at any level of education be culturally sensitive to the personal and educational needs of ESL learners. The success of the vSim program with the study's ESL learners and participants was that it consolidated their learning from theory to practice. Participants became aware that their cognitive classroom learning could be collaboratively used with their affective learning of communication and that there are no silos of knowledge. Participants were guided by the program to see how knowledge has fluidity rather than being parked under titles and subtitles.

Another key strategy that the virtual program used that the participants felt was extremely beneficial was that the language used to speak with patients was modelled visually by choosing the correct pre – set response and having it sounded out. This again, speaks to ESL learners as they learn through auditory and visual techniques. Participants were excited at the level of improvement in their communication skills and found it easy to transfer this learning to the clinical environment. Some were already seeing improved experiences with their patients.

As part of any academic leadership, it is always difficult to justify a new cost, especially in a new technology that has no long and well-proven history. As we move into the technology age, leadership needs to be less risk adverse and listen to the needs of students and faculty. Participants in this study were eager to purchase this product and were telling their classmates that they needed to get it as well. The program costs between \$100- \$125 and is aligned with the

present curriculum. Surely, this is a small cost than having retention issues of ESL students or the added cost or remediation when students are performing below expectation.

Nursing researchers play a vital role in helping students, faculty, instructional designers and academic leaders move forward with creative and innovative educational strategies. Research is necessary to assess what works and what does not. Research helps to shape how we educate, our policies and curricula. Researchers have a vested stake in providing our educational system the best data so that the future of nursing stays contemporary, creative, and innovative.

The features of the virtual simulation program vSim allowed the participants to gain experience and success in achieving better communication skills. The virtual program has set these participants on a path to better communication with their patients and they have become very cogent of the fact that effective communication improves patient outcomes and makes taking care of patients less stressful.

Limitations of the Study

The limitations of a single site study and small sample size must be acknowledged. The different levels of participant experience with English as a Second Language may have provided inconsistent assessments of their experiences. Although the interviews were relatively short, (15-20 min) the data collected regarding the intervention provided sufficient depth. There was a significant overlap of data between the reflective journals and interviews. This study did not identify any cultural barriers but is an essential part to the learning needs of ESL students. This was a missed opportunity for this study. Despite these limitations, the participants valued the experience of being involved with the study and see the benefit of using virtual simulation to improve their learning of clinical communication. As stated previously, the researcher is not ESL

and was unable to relate to some of the issues that participants were expressing. This may have created more missed opportunities to explore or identify statements of interest.

Future Research

Areas of future research would be necessary in virtual simulation, as it is extremely limited at this time. More research is needed for the employment of narrative pedagogy alongside virtual simulation. Another area is conducting a study to explore the correlation between the students' initial level of English language competency (i.e. before using virtual simulation) and the benefits obtained after using the program. Culture is an important influencer to ESL students and more studies are needed to look at culture and virtual programs.

Recommendations

As the study progressed, many of the participants offered suggestions that they felt would improve the virtual program. Students recommended that when dispensing medications that the name of the medication is sounded out in conjunction to it being written on the screen. Participants stated they struggle with the pronunciation of many medications and that by having it sounded out for them would help them practice the correct way to enunciate and would prevent times when they could not get someone in the clinical area to understand them. Another suggestion from the participants is that as they progressed through the scenarios and became more confident that they would like the option to control the communication by being able to type in questions and responses.

As for feedback that is provided to the user at the end of the scenario, participants stated that there was nothing specific on communication but it detailed all the interventions that were

done and if done appropriately. More feedback on communication responses is desired for a better learning experience.

Summary

It should be noted that a major component of this study is related to technology, it could have overshadowed the participants' stories. It was the stories that provided an opportunity to look through the lens of the participants of what it means to be an ESL nursing students that have anxieties and fears of not being confident in their clinical language skills. It was apparent that the research participants have contributed to their field of nursing by sharing their insights.

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Appendix A

Participant in Research Study: Nursing Students' Experiences with Clinical Communication Using a Virtual Program

This writing is to invite you to participate in a research study conducted at Seneca College by Shelley Samwel R.N. from the University of Victoria, British Columbia in fulfillment of completing the Masters of Nursing (Nursing Education) thesis component of the program. This letter presents information to help you decide whether or not you want to take part in this study.

Your participation is completely voluntary. This study is about how nursing students learn clinical language skills when they use a virtual simulation computer program.

You are able to participate in this study if you are a Nursing student at Seneca College enrolled in Process of Human Disease 11 and English is not your mother tongue. This describes those who have immigrated to Canada and learned English and those who were born in Canada but whose parents did not speak English in the home as a primary language.

This study has been approved by the Human Research Ethics at the University of Victoria and the Research Ethics Board at Seneca College. If you decide to participate you will be completing a virtual simulation scenario and reflective journal on a weekly basis for four weeks. After the month of using the virtual simulation program and completing the reflective journal, an interview will be conducted. All research information that is on paper will be stored in the researcher's home office in a box and locked with a combination lock that only the researcher knows the code. All electronic information in regards to the research will be stored on a password protected encrypted laptop that is owned by the researcher. All paper and electronic data will be shredded or permanently deleted on completion of the researcher's completion of thesis.

It will take you approximately 20-30 minutes to complete the weekly virtual scenario and reflective journal. At the end of the four weeks, the interview will be 45 – 60 minutes in duration and video recorded. There is no risk to you as the confidentiality of your information will be maintained by using fake names and removing any information that may identify you. Participation in the study is voluntary and you can withdraw at any time without any penalty. At any time during your participation of the research and you are feeling emotionally uncomfortable or stressed with any part of the research, please contact the researcher immediately. A conversation will be arranged to address your concerns. The researcher will work with you on finding a solution that best suits you. Some of these solutions may involve spending some time with the researcher to talk about your concerns, contacting the Seneca Learning Centre, student services, or withdrawing from the research.

All paper related to the research will be shredded and electronic information will be permanently deleted from the researcher's computer. No compensation will be provided for your participation. This means that there is no financial compensation given to you and there will be no marks awarded for participating in the research.

You will not directly benefit from participating in this study. However, by taking part, you will advance the science of virtual simulation and increase the body of knowledge within nursing. The results of this study will be potentially published in a peer-reviewed journal and submitted for a potential poster presentation at Sim One (Canada's largest simulation conference (December 2016), Toronto, Canada.

Thank you for your participation in this research. If you have questions about this study, please contact Shelley Samwel by email. If you have questions about your rights as a research subject, you can contact the University of Victoria Human Research Ethics (HRB) at ethics@uvic.ca or (250) 472- 4545 or Seneca College Research Ethics Board (REB) at REB@senecacollege.ca

Contact Information:

Shelley Samwel R.N. Principal Investigator

Dr. Marcia Hills RN PhD, Professor: Thesis Supervisor

University of Victoria

Email: mhills@uvic.ca

Telephone: 250-472-4835

With appreciation,
Shelley Samwel R.N BSN, University of Victoria

Virtual Simulation Program Demo from Laerdal



<https://www.youtube.com/watch?v=UiLFUKpMS>

Appendix B

Presentation Sheet

Hello everyone,

Thank you for having me. My name is Shelley Samwel and I am a Master of Nursing student at the University of Victoria in British Columbia. I am completing my masters by doing a research thesis and that is why I am here today

Some of you may remember that I was here last term asking for your participation in this research. There were some of you who offered to participate but due to just not enough to meet the criteria of qualitative research to ensure rigour of the project.

I am hoping that by starting this project as quickly as we can this term that you it will not interfere with your workload.

I know you are busy students and you are wondering how participating in this research will benefit you.

I have some ideas on that but most times the benefits do not become apparent for each participant till the end of the research as each individual is impacted differently.

One of the most beneficial things to participating in this study is to get to work with leading technology and a new way of learning. Virtual simulation in nursing is very new and you will be one of very few who will have experienced using it.

The ability to practice communication with a patient. It is a difficult skill to practice as opportunities where you can go back and correct your self are limited. You have the

opportunity to take your time and translate your nursing language into language that the patient understands.

Also, you benefit from the experience from being involved in research and adding knowledge to the nursing field. This will help you as you move forward in your nursing courses.

I want to highlight that participation is voluntary. Withdrawal at any time can be made without any consequences or penalty.

I am going to hand out a package with the same information sheet I gave to you last semester. Please read this information sheet now. As you had a presentation last semester and the goal is to get started as quickly as possible, I want you to decide based on the information you have received today whether you want to participate. If you decide to participate go to page 2. If you meet the criteria of the study then go to page 3 and fill in the consent form.

If you choose not to participate, leave all of the forms blank and I will collect them all at the same time.

If you should change your mind and want to participate please take my email address and contact me before the end of next week. I am on campus Thursday and Friday in the Simulation Lab till 1:30 pm if you want to contact me in person or have questions about the study. Thank you for your time and appreciate your contribution towards this study.

Appendix C

Participant Qualification Information

This is to confirm the following information so that you can participate in the research study.

- 1) You must be enrolled in the course Processes of Human Disease 11

YES _____ NO _____

- 2) English is not your mother tongue

This can either mean:

- a) You have immigrated to Canada and learned English. English is not your first language.
- b) You were born in Canada but did not learn English as your first language or the main language spoken at home by your parents growing up was not English

YES _____ NO _____

Name: (please print)

Signature _____

—

Seneca email

Appendix D

Student Instructions

Thank you for your interest in participating in this research study and for signing the consent form.

I have attached a participant information sheet that I presented in class for your review.

The following is an outline of how you will proceed with this study. Please read carefully and follow all instructions.

Instructions:

Step 1: go to the following link

This is your own personal access code to the vSim Medical Surgical Virtual Program provided by Laerdal Canada. The following are the instructions from Laerdal on how to get started. To maintain your privacy and anonymity during the research process, please use a non – descriptive username and password. This will ensure that Laerdal have no personal information.

To activate your access to vSim, follow the instructions below. If you have any questions or medical difficulty, please do not hesitate to contact me. My contact information is below.

Step 1: Register your Access Code Online

- Click here: thepoint.lww.com/activate
- Enter your access code: **WK22GN7NSXCW**
- Follow the on-screen instructions for creating an account. Use the following user information
 1. Use your Seneca email for registration
 2. Select “Student” for the question “are you”
 3. Use first name: medsurg
 4. Use last name: student10

5. Password: [select your own password]
6. For institution use: check box which says “Not affiliated with an institution” and use Toronto for city and Ontario for province
7. Do not input your personal address except for the city use Toronto and use Ontario for province
8. Use Canada for country

Step 2: View Our Training Materials to Help You ‘Get Started’

- Click here: thepoint.lww.com/studentssupport

Step 3: Demonstration

free product demonstration webinar at laerdal.com/us/vSimWebinar

Step 4: Completing scenarios

As soon as you have access to the program you can start completing the following scenarios. The order in which they are completed is your choice.

[Scenarios to be completed:](#)

- 1) Carl Shapiro – Acute Myocardial Infarction – Ventricular Fibrillation
- 2) Kenneth Bronson – Pneumonia – Severe Reaction to Antibiotic
- 3) Vernon Watkins – Post Operative Hemicolectomy – Pulmonary Embolism
- 4) Skylar Hansen – Diabetes – Hypoglycemia

There are 4 weeks to complete this study. This reflects weeks 2 – 5 in your Seneca’s semester calendar. All scenarios should be completed by Friday February 12, 2016.

Step 5: The Interview

Phase 2 of the research study is the interview. The interview will be conducted at the end of week 5 (February 18 & 19th) or week 6 (February 22 - 26). Arranging a time for the interview can be done as soon as you start the first scenario.

It is possible to finish early if you decide to do more than one scenario a week. If you have completed all four scenarios and reflection journals before week 5 then please notify me by email so that we can set up a time to complete the interview. My availability for interviews are Monday (all day), Thursday (1:30 – 6pm) and Friday (1:30 – 6pm). Please choose a time and notify me as soon as possible so that I can organize the interview schedule.

Appendix E

Preparation for the Interview

- Choose a setting with little distraction
- Explain the purpose of the interview
- Address terms of confidentiality
- Ask how many case scenarios participant completed
- Explain the format of the interview
- Indicate how long the interview will take
- Tell them how to get in touch with you later if they want to
- Ask them if they have any questions before you both get started with interview
- Don't count on your memory to recall answers

(Turner, 2010, p.757)

Interview Questions

Research Question: What are the students' experiences in learning clinical language when using a virtual simulation program?

Purpose of Research Study: The purpose of this study is to explicate the experiences of nursing students who use a non-immersive virtual simulation program and understand how it impacts learning clinical language. In particular, this study will examine how ESL nursing students learn to communicate in the clinical setting by using a virtual simulation program. ESL nursing students will also be asked to describe how the experience of using virtual simulation might be a meaningful way to learn clinical language.

Questions:

- 1) What were your first impressions of the virtual simulation program?

Follow up: Did that change as you continued to use it?

- 2) What part of the virtual simulation program helped or did not help you learn clinical nursing terms?

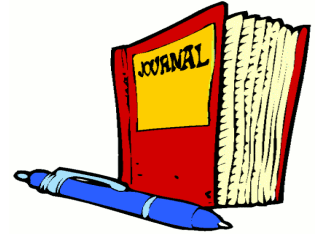
Follow up: Can you give me a specific example of when it helped?

Can you give me a specific example of when it did not help?

- 3) How did the experience of using the virtual program contribute to your learning of communication skills?
- 4) How will this experience of using the virtual program change your ability to communicate with other health professionals? i.e. other nursing colleagues, doctors and members of the inter-professional team.
- 5) Let's talk about your reflective journal. What entry stands out the most to you? What is it about this entry that made you choose it?
- 6) Would you recommend this tool to other ESL nursing students? What reasons do you have to recommend or not recommend this virtual program?

Appendix F

Reflective Journal



Thank you for your participation in this research study.

After completing each virtual simulation scenario, please take 10 -15 minutes to answer the following questions. The questions will remain the same for the 4 week duration of the study. Although there are questions provided to help guide your reflection, please feel free to add any comments or insights you may have after using the virtual simulation program. These questions will replace the online reflection available at the end of every scenario.

At the end of the four virtual simulation sessions, there will be a face-to-face interview. Please bring your reflective journal to the interview so it can help you refresh your memory about your experience. Journal entries can be made electronically or on paper. Depending on what format you decide to use, your copy will be submitted to the researcher, Shelley Samwel. Electronic copies can be emailed to Shelley Samwel.

Scenarios to be completed:

- 5) Carl Shapiro – Acute Myocardial Infarction – Ventricular Fibrillation
- 6) Kenneth Bronson – Pneumonia – Severe Reaction to Antibiotic
- 7) Vernon Watkins – Post Operative Hemicolectomy – Pulmonary Embolism
- 8) Skylar Hansen – Diabetes – Hypoglycemia

Reflection

Name of Scenario: _____

Time taken to complete scenario_____

Questions:

- 1) What parts of the virtual program were most helpful for you in learning bedside communication? What worked, and what could have been improved?
- 2) How did the case scenario affect my learning? Was the simulation a good way to explore how to take what I have learned in nursing classes and be able to explain it to a patient in the clinical setting? Provide an example.
- 3) How does your experience differ this week from last week in regard to communicating with a patient? (This affects mainly week 2-4)

Appendix G

University of Victoria Human Ethics Research Board Approval Letter

Certificate of Approval

PRINCIPAL INVESTIGATOR: Shelley Samwel UVic STATUS: Master's Student UVic DEPARTMENT: NURS SUPERVISOR: Dr. Marcia Hills	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #e0e0e0;">ETHICS PROTOCOL NUMBER</td> <td style="background-color: #e0e0e0;">15-292</td> </tr> <tr> <td colspan="2" style="background-color: #e0e0e0; font-size: small;">Minimal Risk Review - Delegated</td> </tr> <tr> <td>ORIGINAL APPROVAL DATE:</td> <td>10-Sep-15</td> </tr> <tr> <td>APPROVED ON:</td> <td>10-Sep-15</td> </tr> <tr> <td>APPROVAL EXPIRY DATE:</td> <td>09-Sep-16</td> </tr> </table>	ETHICS PROTOCOL NUMBER	15-292	Minimal Risk Review - Delegated		ORIGINAL APPROVAL DATE:	10-Sep-15	APPROVED ON:	10-Sep-15	APPROVAL EXPIRY DATE:	09-Sep-16
ETHICS PROTOCOL NUMBER	15-292										
Minimal Risk Review - Delegated											
ORIGINAL APPROVAL DATE:	10-Sep-15										
APPROVED ON:	10-Sep-15										
APPROVAL EXPIRY DATE:	09-Sep-16										

PROJECT TITLE: Hermenautic Phenomenology Qualitative Study: How Virtual Simulation Influences Clinical Language proficiency Learning for English as a Second Language Nursing Students

RESEARCH TEAM MEMBER Maria May (Seneca College)

DECLARED PROJECT FUNDING: **None**

CONDITIONS OF APPROVAL

This Certificate of Approval is valid for the above term provided there is no change in the protocol.

Modifications

To make any changes to the approved research procedures in your study, please submit a "Request for Modification" form. You must receive ethics approval before proceeding with your modified protocol.

Renewals

Your ethics approval must be current for the period during which you are recruiting participants or collecting data. To renew your protocol, please submit a "Request for Renewal" form before the expiry date on your certificate. You will be sent an emailed reminder prompting you to renew your protocol about six weeks before your expiry date.

Project Closures

When you have completed all data collection activities and will have no further contact with participants, please notify the Human Research Ethics Board by submitting a "Notice of Project Completion" form.

Certification

This certifies that the UVic Human Research Ethics Board has examined this research protocol and concluded that, in all respects, the proposed research meets the appropriate standards of ethics as outlined by the University of Victoria Research Regulations Involving Human Participants.



 Dr. Rachael Scarth
 Acting Associate Vice-President, Research

15-292 Samwel, Shelley

Appendix H

Seneca College Research Ethics Approval Letter



October 7, 2015

To: Shelley Samwel

CC: Thomas McLerie, Chair, Seneca REB

Re: Ethics Review Application – **File #15-19**

Dear Shelley Samwel:

Thank you for applying to the Research Ethics Board (REB). I am pleased to inform you that the Seneca Ethics Review Board has approved your application to conduct the following study at Seneca College:

“Hermeneutic Phenomenology Qualitative Study: How Virtual Simulation Influences Clinical Language proficiency Learning for English as a Second Language Nursing Students”

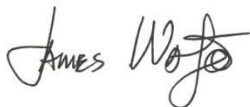
You may begin your research.

Please note that your REB approval is contingent upon your adherence to the procedures and documents as described in the final version of the Ethics application documents that you have submitted to the REB as of this date. Should you make any substantive changes to your research process from what was described in these application documents or should you wish to do any research beyond what was described in the application in the future you will need to re-apply for Ethics Review and approval. You are not permitted to implement any changes until you have received the written approval of the REB.

Researchers are expected to keep detailed records of their research activities (i.e., interview log sheets, signed consent forms etc.) in a secure place along with the data collected and ensure that the data are destroyed in accordance with the REB approved application. Please notify me when your research has been completed.

All the best with your study.

Sincerely,

A handwritten signature in black ink that reads "James Watzke". The signature is written in a cursive style with a large, stylized 'J' and 'W'.

James Watzke, Ph.D.

Dean, Applied Research and Innovation

8 The Seneca Way, Suite 1004, Markham, Ontario L3R 5Y1

Tel: (416) 491-5050 ext. 77901, E-mail: james.watzke@senecacollege.ca