NETS Providing a proactive voice in nursing education

Nurse Education in the Tertiary Sector Aotearoa NZ [NETS]

Project Report



What shall we teach?

The development of key clinical learning outcomes for scenario based simulated clinical learning experiences in New Zealand undergraduate nursing programmes.

December 2014

Whitireia NEW ZEALAND

Citation: Wordsworth, A., Pool, L., Hawes, P., & Holloway, K. (2014). *What shall we teach? The development of key clinical learning outcomes for scenario based simulated clinical learning experiences in New Zealand undergraduate nursing programmes.* Research Report (Unpublished).

Project Team

Alexandra Wordsworth, Senior Nurse Lecturer, Whitireia New Zealand

Leanne Pool, Academic Leader, Bachelor of Nursing, Whitireia New Zealand

Philip Hawes, Clinical Lab Manager, Whitireia New Zealand

Dr Kathy Holloway, Dean Faculty of Health, Whitireia New Zealand

This project was funded through NETS

Table of Contents

Executive Summary **1**

Background **2**

Research Aim **2**

Methodology **2**

Sampling 3

Findings **4**

Phase One **4**

Literature review 4

Phase Two **6**

Results and Analysis of data from Phase Two 6

Phase Three **10**

Results and Analysis of data from Phase Three 10

Discussion **13**

Limitations of this study **14**

Conclusions **14**

Recommendations **15**

References **16**

Appendix One: Phase Two Survey **19**

Appendix Two: Phase Three Survey **24**

List of Tables

Table 1: Phase Two Participants 6
Table 2: Domain One Levels of Agreement 7
Table 3: Domain Two Levels of Agreement 8
Table 4: Domain Three Levels of Agreement 9
Table 5 Domain Four Levels of Agreement 9
Table 6: Borda Scores for Top Fifteen Learning Outcomes 11
Table 7: Top Fifteen Learning Outcomes by Nursing Council Domains 12

List of Figures

Figure 1: Research Design Overview 3

Executive Summary

This paper reports on recent research undertaken for Nursing Education in the Tertiary Sector Aotearoa NZ [NETS] in order to inform development of nationally standardised and validated scenarios for clinical learning. The aim was to identify the key learning outcomes for scenario based simulated clinical learning experiences. The research was conducted using a three phased E-Delphi approach.

The first phase of the study consisted of an international and national literature review of the current use of simulation in undergraduate nursing education. A document analysis of the learning outcomes of New Zealand undergraduate nursing programmes and Nursing Council of New Zealand [NCNZ] educational requirements for undergraduate nursing programmes was also undertaken to develop the key learning outcomes for scenario based simulated clinical learning experiences. These learning outcomes were then reviewed by key informants from NCNZ, as well as internationally recognised simulation consultants from Aotearoa New Zealand and Australia. These experts were also interviewed by the researchers to achieve consensus and relevance of the initial proposed learning outcomes for undergraduate nursing education in Aotearoa New Zealand.

The second phase of the study was administered using Survey Monkey™, an online survey tool. The survey presented an initial list of learning outcomes developed in Phase One to participants from both clinical and academic settings who were asked to respond in terms of a five scale level of agreement. Participants were also given the opportunity for open response fields for the inclusion of comments or additional learning outcomes. In Phase Three of the study, a second round of the survey gave participants the learning outcomes that had gained the highest level of agreement from Phase Two. Participants were asked to prioritise 15 of those learning outcomes ranking them in order of importance.

The top three consensus learning outcomes related to Domain Two of the NCNZ competencies (NCNZ, 2012) with the top two focusing on clinical judgement and clinical reasoning. In total eight of the top 15 learning outcomes were linked to Domain Two, focussing on holistic care, and the physical assessment and cognitive skills required. Five of the top 15 learning outcomes were related to Domain One associated with professional and ethical behaviour as well as cultural safety. Only two of the top 15 outcomes came from Domain Three, relating to communication, in particular therapeutic communication and inter-professional communication. No outcomes related to Domain Four were ranked in the top fifteen outcomes.

The next recommended step is to take these learning outcomes and utilise them in the development of key scenario based simulated clinical learning experiences. The recently released report from the National Council of State Boards of Nursing [NCSBN] National Simulation Study (Hayden, Smiley, Alexander, Kardong-Edgren, & Jeffries, 2014) is used to frame the conclusion and recommendations for moving the agenda forward. This will support the development of a robust and effective learning tool to build the capacity, capability, and competency of the nursing workforce and concurrently address issues related to the patient safety agenda.

Background

A national nursing education forum was held in April 2013 in response to national nursing workforce reports that identified that by 2035 New Zealand will have a shortage of at least 15,000 nurses. With a nursing workforce that is ageing and predictions that over 50% of the present nursing workforce will retire by 2035 (Nana, Stokes, Molano, & Dixon, 2013), a clear workforce development strategy is necessary to meet the extra demand for nurses that will occur as a result of population and models of care changes.

The Nursing Education in the Tertiary Sector Aotearoa New Zealand [NETS] forum considered how nurse education programmes might use simulation as a clinical learning strategy to increase capacity and capability whilst maintaining standards and continuing to produce competent registered nurse graduates. The forum recognised that there was variance across the sector in relation to integration and utility of simulation and that national collaboration was desirable whilst also acknowledging a need for local variance in interpretation of nursing curriculum within the standards that this approach would support.

As a result of this forum, NETS members agreed to commission several research projects to support the development of simulation as a clinical learning strategy in Aotearoa New Zealand. This particular study was proposed in the context of two other pieces of work supported by NETS – the development of standards for simulation learning and a position paper on clinical learning more broadly. NETS agreed to collaboratively develop and share a nationally agreed number of standardized and validated scenarios for clinical learning.

The first step in this process has been to agree on a learning outcome framework for the development of scenario based clinical learning experiences. This framework would provide an evidenced based approach informing both curriculum content and supporting a national approach to simulation learning in Aotearoa New Zealand, which is reflective of current best practice.

Research Aim

The research aim was to develop core key learning outcomes that can be used to begin to structure scenario based simulated clinical learning experiences for the undergraduate nursing curriculum. The research project team sought to answer the following question:

- What are the key clinical learning outcomes for scenario based simulated clinical learning experiences in undergraduate nursing for Aotearoa New Zealand?

Methodology

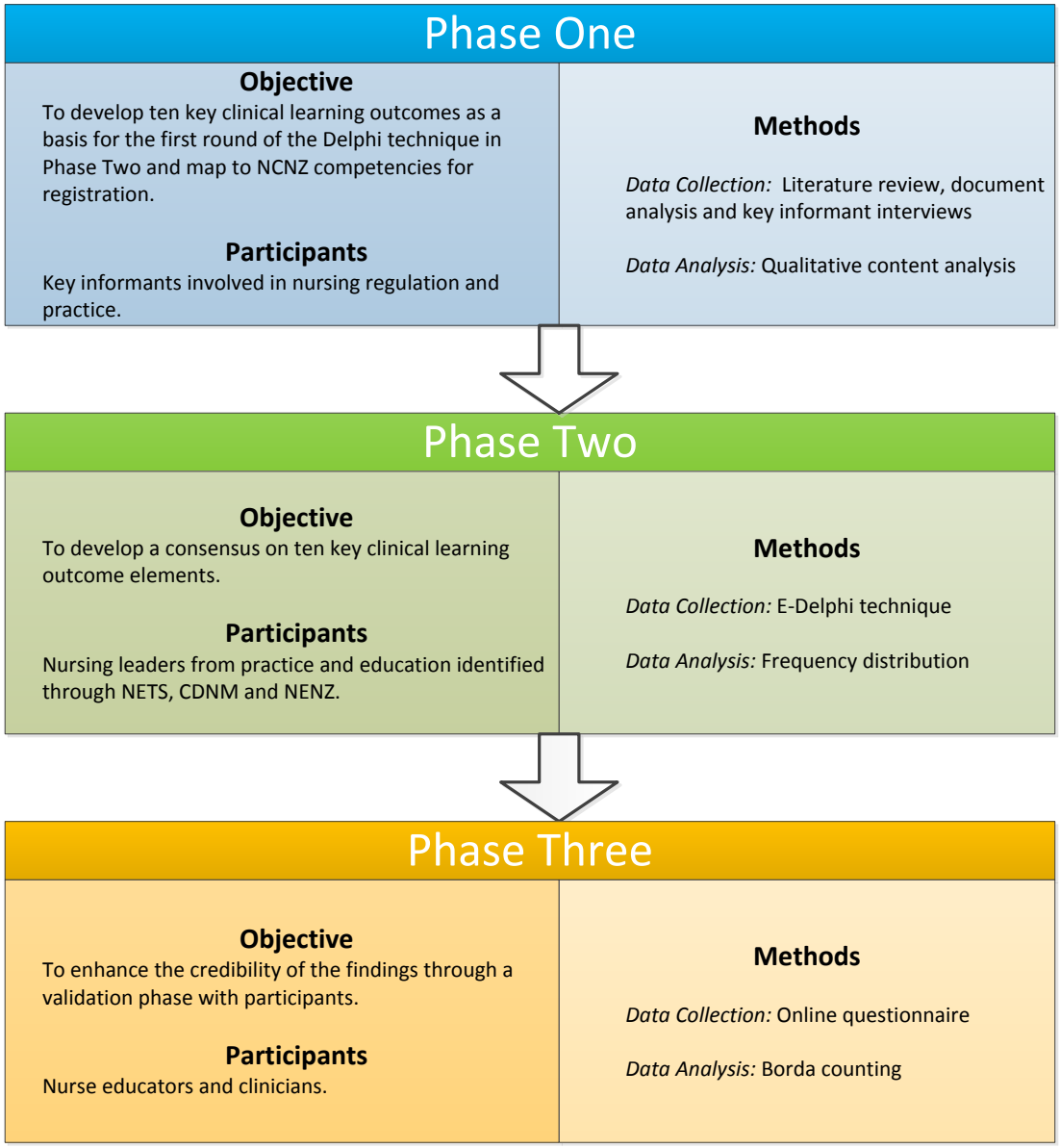
The study utilised a descriptive and exploratory multi-method enquiry approach. A three round E-Delphi technique was used to identify key clinical learning outcomes from key informants across Aotearoa New Zealand undergraduate nursing education and for building a consensus framework for simulation clinical education in undergraduate nursing education. The E-Delphi technique provided a structure for the study in terms of participant selection, data collection and analysis (Keeney, Hasson, & McKenna, 2006) and is widely utilized as a research method in nursing research around professional and clinical issues. Integrating the literature review and document analysis by key informants was an initial step (Phase One) of the E-Delphi technique (McKenna, 1994), and was one of the key tools used to answer the research question. Using Survey Monkey (online survey software) data was collected for Phase Two and Three. This technology enabled better administration for data collection (Holloway, 2012).

Sampling

All Heads of Schools of undergraduate nursing programmes and Directors of Nursing in Aotearoa New Zealand were contacted and invited to participate in the research. Non probability sampling was necessary in order to deliberately include all key stakeholders in this study. The ultimate goal of purposeful sampling, as in any qualitative study was to obtain cases deemed information-rich for the purposes of the study (Sandelowski, 2000). Purposive sampling was chosen in order to meet the specific purpose of the research (Denzin & Lincoln, 2003). Limitations of sample bias on the ability to generalize outside of the Aotearoa New Zealand context are not an issue for this study, as this study is designed to be specific to the Aotearoa New Zealand context.

To enhance participation the study used a standard distribution medium –the online survey. The link to this survey was distributed to members of NETS and Nurse Executives of New Zealand [NENZ], who were given the option of responding themselves or delegating an appropriate person to answer on behalf of the institution. This sampling method is limited as the researchers were reliant on the key informants selecting the appropriate person to respond and ensuring that the same respondent answered each phase of the survey.

Figure 1: Research Design Overview



Findings

Phase One

The first phase of the study consisted of an international and national literature review of the current use of simulation in undergraduate nursing education. Additionally conducted was document analysis of the learning outcomes of Aotearoa New Zealand undergraduate nursing programmes and NCNZ educational requirements for undergraduate nursing programmes to develop the key learning outcomes for scenario based simulated clinical learning experiences.

Literature review

Over the last decade the use of simulation as a learning strategy has increased within undergraduate nursing education (Kaddoura, 2010). Simulation is the attempt to replicate any desired clinical situation, where learners can practice skills and recreate interactions that they may meet in the clinical environment (Jeffries, 2007). The use of mannequins and actors to simulate patients has been seen as a powerful learning tool for undergraduate nurses. This learning can be undertaken in a controlled and safe environment, where reflective debriefing can be used (McCaughey & Traynor, 2010). Research has shown that simulation improves students' critical thinking, clinical knowledge and skill acquisition which improve students' satisfaction and clinical confidence thus impacting upon student competence (Berragan, 2011; Burns, O'Donnell, & Artman, 2010; Galloway, 2009; Lapkin, Levett-Jones, Bellchambers, & Fernandez, 2010; McCallum, 2007).

Clinical confidence can be described as how confidently the student feels they are able to interact with the patient and the clinical environment. Clinical competence is how they can apply their clinical knowledge and skills within the clinical setting (Blum, Borgland, & Parcells, 2010). The need to produce safe, competent and confident nurses has been one of the main drivers behind the use of simulation as a learning strategy. As Jeffries (2007) states the 2003 Commonwealth Fund Report recommends simulation at all at all levels of the educational experience.

Nursing education in Aotearoa New Zealand is challenged with meeting workforce demands for registered nurses working within the limited capacity for accessing quality clinical learning experiences for undergraduate nurses. Capacity is limited due to a number of reasons such as increasing student enrolments in nursing programmes to meet workforce demands, staffing shortages in the clinical environment as well as a lack of registered nurses appropriately trained in preceptoring and mentoring of students (Benner, Sutphen, Leonard, & Day, 2009; Gubrud-Howe, 2008; McNeal, 2010; Murray, Grant, Howarth, & Leigh, 2008). These factors combined impact upon the clinical learning opportunities for the student primarily having a standardised clinical learning experience for all students (Murray et al., 2008; Scalese, Obeso, & Issenberg, 2007; Waldner & Olson, 2007). As a result some countries (for example the United Kingdom and United States of America) are replacing some clinical hours with simulation.

In Aotearoa New Zealand the Nursing Council recognises that simulation is a part of nursing education and clinical learning throughout the tertiary sector. However it is not currently recognised as counting towards the required 1100 clinical learning hours. The recognition of simulation as legitimate clinical learning hours may be more widely supported by the profession and the regulator if a nationally accepted framework for scenario based simulated clinical learning experiences in undergraduate nursing education is developed

Arthur, Levett-Jones and Kable (2013) suggest a major obstacle facing simulation in Australia is the lack of guidelines for curriculum implementation and integration. If guidelines could be formulated and agreed upon then this could be used to articulate a national strategy and strengthen the argument for using simulation as a substitute for clinical practice. Jeffries (2005) echoes these sentiments, arguing that an effective framework consisting of the core concepts and skills for simulation strengthens the veracity and effectiveness of the medium. A robust framework is necessary if simulation is to be integrated within the Aotearoa New Zealand nursing curriculum.

Introduction of simulation experiences into all levels of the curriculum is crucial to ensure simulation experiences are part of a coherent curriculum structure. Arthur et al. (2013) Delphi study concerning quality indicators for the design and implementation of simulation experiences found panel members recommended a curriculum matrix is needed to illustrate how simulation experiences are integrated throughout a programme. These experiences also need to scaffold and progress in levels of complexity. However core skills and concepts of the curriculum need to be established to allow for the development of a spiral curriculum (Issenberg, 2002; Maran & Glavin, 2003; Waxman, 2010). A spiral curriculum is a useful approach to ensure appropriate clinical skills training, as it ensures students have the exposure and repetitive practice of core skills and concepts. Additionally integrating simulation across the curriculum will allow students the opportunity to apply core skills and concepts at increasing levels of complexity (Issenberg, 2002; Maran & Glavin, 2003; Seropian, Brown, Gavilanes, & Driggers, 2004).

For simulation to be an effective teaching method it needs to be appropriately designed to allow for students to apply knowledge at increasing levels of complexity building from the simple to the more complex (van Merrienboer & Sweller, 2005). Thus a suitably designed and well executed simulation framework will provide effective cognitive, psychomotor learning experiences which will enable the student to transfer and apply their knowledge to clinical practice (Jeffries, 2007; Rothgeb, 2008).

Having defined curriculum outcomes and benchmarks ensures the simulation learning experience is appropriate for the level of the learner and assists the educator in identifying the specific objectives for the simulation session/scenario and ensures scenario objectives correlate with the curriculum (Horn, as cited in Jeffries, 2005). As Waxman (2010) states the most important component of scenarios is the identification of primary learning objectives, and the teacher needs to be clearly focused upon them for the scenarios to be effective. These objectives, Waxman suggests, should be developed from core competencies of accrediting bodies or core competencies established by academic or clinical institution and can be developed from performance criteria of a courses clinical curriculum, these objectives are defined as the primary objectives. Then developed should be secondary objectives which are more specific and include both technical, for example psychomotor skills, and non-technical objectives which are the cognitive skills, such as communication, resource allocation delegation and situation awareness (Waxman, 2010). Additionally identified need to be the critical elements which are key points that must be observed during the simulation to ensure learning objectives are met, one example of which is a checklist of critical actions and behaviours to be performed during the scenario that would indicate knowledge and skill competency of the student.

Crookes et al. (2010) recently developed Competency Assessment Tool [CAT] was reviewed as it provided a framework for nursing curriculum to structure theory, theory-simulation and practice in a consistent way across nursing programs. It mainly identified the skills that an entry level practitioner should be expected to perform. Expert opinion on the pedagogical principles and teaching strategies that are indicative of quality simulation learning experiences was gained from reviewing Arthur et al. (2013) Delphi study. One of the key pedagogical principles is that simulation experiences need to be aligned with curriculum goals and

course objectives. The simulation literature concurs as well as core skills, the concepts of the curriculum need to be established before you can integrate simulation throughout the curriculum to allow for the development of a coherent curriculum structure (Issenberg, 2002; Maran & Glavin, 2003; Seropian et al., 2004; Waxman, 2010). As Arthur et al. (2013) state "Simulation experiences should be developed as part of a coherent curriculum structure with the ultimate goal of preparing graduates who are fit for practice" (p. 2).

The research aim was to develop core key learning outcomes that can be used to begin to structure scenario based simulated clinical learning experiences for the undergraduate nursing curriculum. Looking at learning outcomes from Aotearoa New Zealand undergraduate nursing programmes all graduate nurses are measured and aligned against the NCNZ (2010) standards of practice. These competencies were used to assist in categorising and developing the key learning outcomes which were crafted using Blooms Taxonomy (Atherton, 2013). The utilisation of the competencies would also allow for consensus and agreement amongst the tertiary education providers and the nursing workforce.

After the learning outcomes were developed key informants from NCNZ, as well as internationally recognised simulation consultants from Aotearoa New Zealand and Australia reviewed the learning outcomes and were additionally interviewed by the researchers to achieve consensus and relevance of the proposed learning outcomes for undergraduate nursing education. Parameters of the study were also agreed to in consultation with these experts as well as NETS and Nurse Executives of New Zealand [NENZ].

Phase Two

The initial survey was piloted and evaluated by key informants involved in nursing regulation and practice, for clarity of language prior to dissemination. The first survey round [see Appendix One] consisted of a list of learning outcomes framed within the four NCNZ (2012) competence domains. The participants were asked to respond in terms of a five scale level of agreement (Burns & Grove, 2007) to the learning outcomes and also given the opportunity for open response fields for the inclusion of comments. Additionally, participants were given the opportunity to comment on the relevance of learning outcomes to each Nursing Council domain. The opportunity for participants to raise fresh ideas is supported to avoid early closure or forced convergence (Keeney et al., 2006).

Results and Analysis of data from Phase Two

The response rate of participants was evenly spread across the education and clinical practice area settings [see Table 1]. The number of years of experience using simulation was unevenly spread across the range with most participants (57%) having over five years' experience.

Table 1: Phase Two Participants

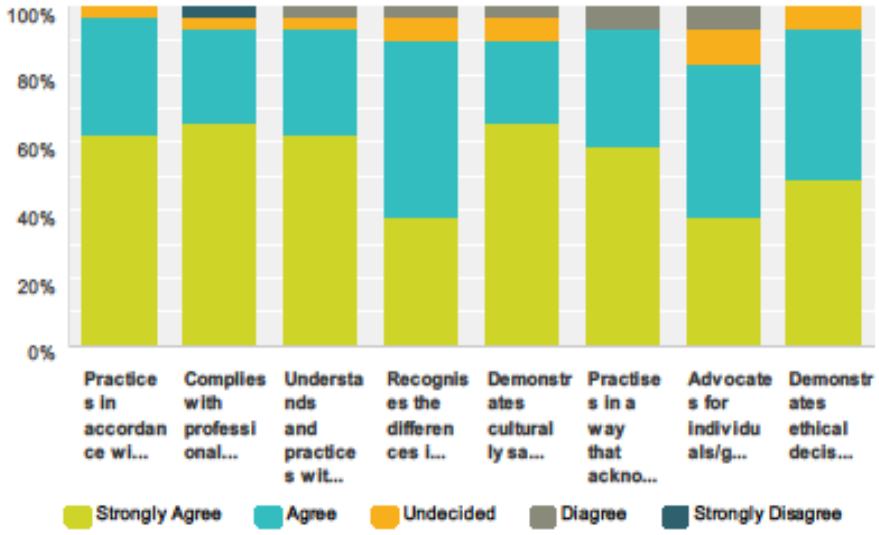
Employment setting of participants	Number (Percentage of respondents)
Nurse educators working in the tertiary sector	n =18 (49%)
Nurses supporting clinical learning in the clinical setting	n = 19 (51%)

Being mostly quantitative in nature, data from the Phase Two online questionnaire was analysed using ranking or rating techniques. The level of importance was clearly identified prior to conducting the research study (Keeney et al., 2006) and the consensus percentage was set at 80% level of agreement, which combined strongly agreed and agreed responses. It is important to differentiate between importance (rated highly enough for inclusion in subsequent phases of research) or consensus (Hardy, Titchen, Manley,

& McCormack, 2006) or put another way how much the participants agreed with the issue or how much they agreed with each other (Keeney et al., 2006). Consensus percentage is varied in the literature and one of the criticisms of the Delphi technique (Hardy et al., 2006) reinforce the need for strong rationales to be given for whatever levels are chosen. Studies have often set consensus at 75%, however given the widespread interest in this topic; the consensus of 80% was justified to achieve some clear statements of agreement.

Levels of agreements are presented within the four NCNZ competence domains. For Domain One, a strong level of agreement was shown for all eight learning outcomes [Table 2].

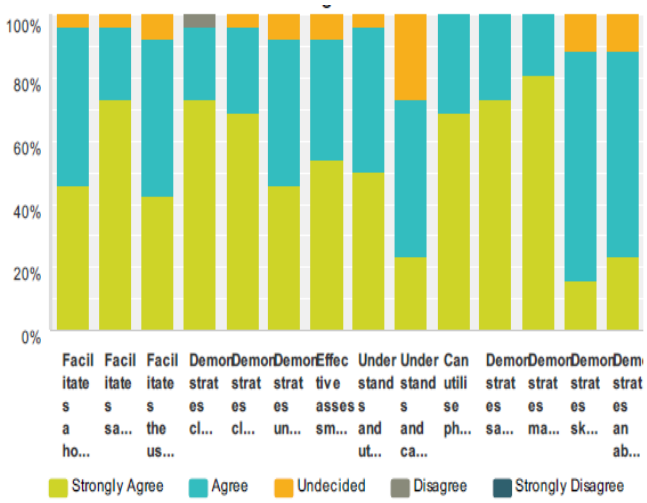
Table 2: Domain One Levels of Agreement



	Strongly Agree	Agree	Undecided	Diagree	Strongly Disagree	Total
Practices in accordance with the nursing professions codes of ethics, conduct and legislation requirements	62.07% 18	34.48% 10	3.45% 1	0.00% 0	0.00% 0	29
Complies with professional expectations of behaviour	65.52% 19	27.59% 8	3.45% 1	0.00% 0	3.45% 1	29
Understands and practices within their own scope of practice	62.07% 18	31.03% 9	3.45% 1	3.45% 1	0.00% 0	29
Recognises the differences in accountability and responsibility between Registered Nurses, Enrolled Nurses and unregulated healthcare workers.	37.93% 11	51.72% 15	6.90% 2	3.45% 1	0.00% 0	29
Demonstrates culturally safe practice in interactions with others	65.52% 19	24.14% 7	6.90% 2	3.45% 1	0.00% 0	29
Practises in a way that acknowledges the dignity, culture, values, beliefs and rights of individuals/groups	58.62% 17	34.48% 10	0.00% 0	6.90% 2	0.00% 0	29
Advocates for individuals/groups and their rights for nursing and health care within organisational and management structures	37.93% 11	44.83% 13	10.34% 3	6.90% 2	0.00% 0	29
Demonstrates ethical decision making in partnership with health	48.28%	44.83%	6.90%	0.00%	0.00%	

In Domain Two a strong level of agreement was also indicated across the 14 learning outcomes. There was only one learning outcome that did not achieve the 80% of agreement threshold, that being “understands and can demonstrate the principles of resource allocation and crisis management” [Table 3].

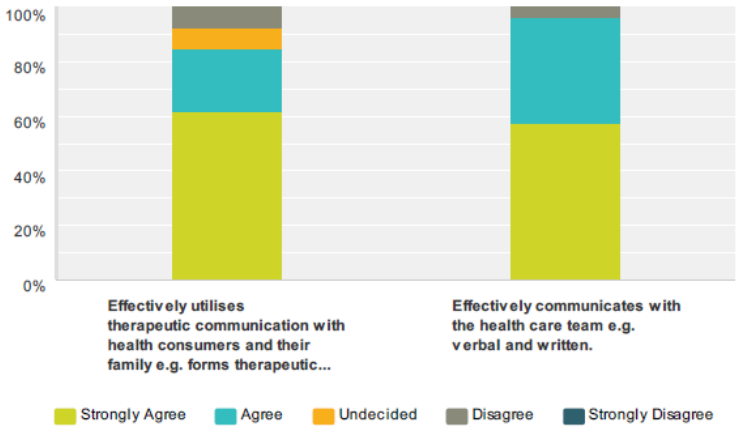
Table 3: Domain Two Levels of Agreement



	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total
Facilitates a holistic approach to nursing care	46.15% 12	50.00% 13	3.85% 1	0.00% 0	0.00% 0	26
Facilitates safe management of nursing care e.g follows infection control principles and utilises risk assessment tools	73.08% 19	23.08% 6	3.85% 1	0.00% 0	0.00% 0	26
Facilitates the use of a multidisciplinary approach to healthcare e.g collaborating with the MDT via documentation, referral and handover processes	42.31% 11	50.00% 13	7.69% 2	0.00% 0	0.00% 0	26
Demonstrates clinical judgment in assessment and management of nursing care	73.08% 19	23.08% 6	0.00% 0	3.85% 1	0.00% 0	26
Demonstrates clinical reasoning in assessment and management of nursing care	69.23% 18	26.92% 7	3.85% 1	0.00% 0	0.00% 0	26
Demonstrates understanding of the management of health consumers with co morbidities	46.15% 12	46.15% 12	7.69% 2	0.00% 0	0.00% 0	26
Effective assessment and management of the deteriorating health consumer in a variety of settings e.g. hospital, community, home	53.85% 14	38.46% 10	7.69% 2	0.00% 0	0.00% 0	26
Understands and utilises the principles of crisis management in a variety of settings e.g. hospital, community, home	50.00% 13	46.15% 12	3.85% 1	0.00% 0	0.00% 0	26
Understands and can demonstrate the principles of resource allocation in crisis management	23.08% 6	50.00% 13	26.92% 7	0.00% 0	0.00% 0	26
Can utilise pharmacological knowledge to demonstrate appropriate assessment and monitoring of health care consumer	69.23% 18	30.77% 8	0.00% 0	0.00% 0	0.00% 0	26
Demonstrates safe medication administration e.g. oral, topical, subcutaneous, intramuscular and intravenous therapy	73.08% 19	26.92% 7	0.00% 0	0.00% 0	0.00% 0	26
Demonstrates mastery of core nursing skills e.g. holistic assessment skills including measurement of vital signs, use of relevant assessment tools and equipment.	80.77% 21	19.23% 5	0.00% 0	0.00% 0	0.00% 0	26
Demonstrates skills in coaching of the health care consumer	15.38% 4	73.08% 19	11.54% 3	0.00% 0	0.00% 0	26
Demonstrates an ability in education of the health care consumer and their family using health literacy	23.08% 6	65.38% 17	11.54% 3	0.00% 0	0.00% 0	26

In Domain Three a strong level of agreement was indicated for the two learning outcomes [Table 4].

Table 4: Domain Three Levels of Agreement



	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total
Effectively utilises therapeutic communication with health consumers and their family e.g. forms therapeutic relationships, therapeutic listening, responding to the needs of the health care consumer and their family	**61.54%** 16	**23.08%** 6	**7.69%** 2	**7.69%** 2	**0.00%** 0	26
Effectively communicates with the health care team e.g. verbal and written.	**57.69%** 15	**38.46%** 10	**0.00%** 0	**3.85%** 1	**0.00%** 0	26

Domain Four [Table 5] showed lesser levels of agreement with two of the learning outcomes not reaching the 80% threshold. These were around mentoring and quality improvement. Five learning outcomes had high levels of disagreement, these were around mentoring, professional development, IT utilisation, research evidence and quailty improvement.

Table 5 Domain Four Levels of Agreement

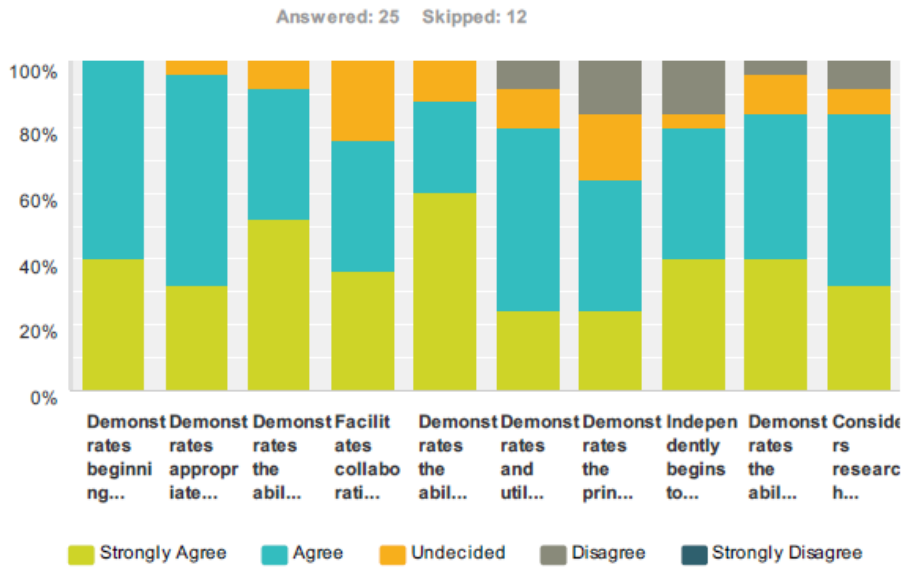


Table 5 Cont'd: Domain Four Levels of Agreement

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total
Demonstrates beginning leadership skills e.g. providing clear communication to health care team members when managing health consumer care	40.00% 10	60.00% 15	0.00% 0	0.00% 0	0.00% 0	25
Demonstrates appropriate direction and delegation within the nursing team	32.00% 8	64.00% 16	4.00% 1	0.00% 0	0.00% 0	25
Demonstrates the ability to provide nursing care as directed and delegated within the health care team	52.00% 13	40.00% 10	8.00% 2	0.00% 0	0.00% 0	25
Facilitates collaboration with the health care team to provide the holistic care required for the health consumer in variety settings e.g hospital, community, home	36.00% 9	40.00% 10	24.00% 6	0.00% 0	0.00% 0	25
Demonstrates the ability to follow relevant policies and procedures that guide nursing care	60.00% 15	28.00% 7	12.00% 3	0.00% 0	0.00% 0	25
Demonstrates and utilises principles of quality improvement when providing nursing care e.g audit, evidence based practice	24.00% 6	56.00% 14	12.00% 3	8.00% 2	0.00% 0	25

Open responses

The participants' responses were minimal but did indicate consensus in relation to the relevance of the learning outcomes in relation to the domain's framework. A small number of comments were made that mainly related to how the learning outcomes would relate to different levels of learning in the curriculum. No additional learning outcomes were proposed.

Phase Three

In this phase, a second survey was sent out and participants were given a list of the 30 learning outcomes that had met the threshold of agreement from the Phase One results. Participants were asked to prioritise these learning outcomes into their top fifteen by ranking them in order of importance from one to fifteen [See Appendix Two].

Results and Analysis of data from Phase Three

Only 19 people completed this phase of the survey despite repeated email reminders. This equates to a 50% response rate from the initial sample. The employment settings and simulation experience of these participants is unknown.

The second survey in Phase Three asked participants to prioritise learning outcomes agreed upon in Phase Two by ranking them in order of importance. The responses were analysed by transforming the ranks into scores using Borda counting, a well-established electoral vote system. The Borda count voting system allows ranks to be transformed into scores to ascertain a "winner" (Unwin & Shoumitro, 2008; Chen, Liu, Wang, & Augusto, 2013). The Borda count voting system is currently one of the most frequently used social-choice procedures because it allows for the consideration of multiple options other than plurality voting, which determines only the highest-ranked items, rather than all the potential choices (Unwin & Shoumitro, 2008).

Each participant ranked all of the elements presented in this question. Top ranks received a score of *n-1*, where n= the total number of options presented for a specific element. Second-place ranks received *n-2* points and the last place rank received zero points. The points were totalled to provide a Borda count score for each element in order to rank the elements in order of importance with the highest score indicating most important. There were 15 learning outcome that achieved over 50% of the total vote – the Borda scores and percentage of total vote in shown in Table 6 below.

Table 6: Borda Scores for Top Fifteen Learning Outcomes

Learning outcomes	Borda Score	% of overall vote
Demonstrates clinical reasoning in assessment and management of nursing care	342	79%
Demonstrates clinical judgment in assessment and management of nursing care	336	77%
Demonstrates mastery of core nursing skills e.g. holistic assessment skills including measurement of vital signs, use of relevant assessment tools and equipment.	323	74%
Practices in accordance with the nursing professions codes of ethics, conduct and legislation requirements	317	73%
Facilitates safe management of nursing care e.g. follows infection control principles and utilises risk assessment tools	297	68%
Understands and practices within their own scope of practice	296	68%
Practises in a way that acknowledges the dignity, culture, values, beliefs and rights of individuals/groups	282	65%
Effectively utilises therapeutic communication with health consumers and their family e.g. forms therapeutic relationships, therapeutic listening, responding to the needs of the health care consumer and their family	281	65%
Demonstrates culturally safe practice in interactions with others	276	64%
Complies with professional expectations of behaviour	256	59%
Effective assessment and management of the deteriorating health consumer in a variety of settings e.g. hospital, community, home	248	57%
Can utilise pharmacological knowledge to demonstrate appropriate assessment and monitoring of health care consumer	242	56%
Facilitates a holistic approach to nursing care	238	55%
Demonstrates safe medication administration e.g. oral, topical, subcutaneous, intramuscular and intravenous therapy	235	54%
Effectively communicates with the health care team e.g. verbal and written.	224	52%

The Borda scores were then used to rank the learning outcomes in order of importance. The learning outcomes are presented in relation to the NCNZ (2012) competence Domains [Table 7].

Table 7: Top Fifteen Learning Outcomes by Nursing Council Domains

Rank	Learning Outcome
1	Demonstrates clinical reasoning in assessment and management of nursing care
2	Demonstrates clinical judgment in assessment and management of nursing care
3	Demonstrates mastery of core nursing skills e.g. holistic assessment skills including measurement of vital signs, use of relevant assessment tools and equipment.
4	Practices in accordance with the nursing professions codes of ethics, conduct and legislation requirements
5	Facilitates safe management of nursing care e.g. follows infection control principles and utilises risk assessment tools
6	Understands and practices within their own scope of practice
7	Practises in a way that acknowledges the dignity, culture, values, beliefs and rights of individuals/groups
8	Effectively utilises therapeutic communication with health consumers and their family e.g. forms therapeutic relationships, therapeutic listening, responding to the needs of the health care consumer and their family
9	Demonstrates culturally safe practice in interactions with others
10	Complies with professional expectations of behaviour
11	Effective assessment and management of the deteriorating health consumer in a variety of settings e.g. hospital, community, home
12	Can utilise pharmacological knowledge to demonstrate appropriate assessment and monitoring of health care consumer
13	Facilitates a holistic approach to nursing care
14	Demonstrates safe medication administration e.g. oral, topical, subcutaneous, intramuscular and intravenous therapy
15	Effectively communicates with the health care team e.g. verbal and written.

KEY

	Domain One
	Domain Two
	Domain Three
NB: No Domain Four learning outcomes in first fifteen	

Discussion

The top three learning outcomes were all related to Domain Two of the NCNZ (2012) competencies with the top two focusing on clinical judgement and clinical reasoning. Clinical judgment and reasoning can all be related to all the key learning outcomes that were identified as important by the participants. These learning outcomes have been recognised in the literature as being critical components of an undergraduate nursing programme. According to Tanner (2006) clinical judgement requires the nurse to understand their role as well as understand the patient's holistic needs and the context of the clinical environment. The nurse also needs to be able to reflect on the processes and outcomes of the therapeutic interaction. Clinical judgement and clinical reasoning are additionally tied into the notions of patient safety and clinical risk. Researchers believe that development of these cognitive skills is essential in preparing the nurse for the clinical reality and this creates an environment that is safe for both the nurse and the patient (Kantar & Alexander, 2012).

In total eight of the top 15 learning outcomes were linked to Domain Two, focussing on holistic care and the physical and cognitive skills required. Domain Two covers a wide range of concepts in regards to nursing management and this could explain why so many of the top 15 learning outcomes came from this domain. It was also noted that crisis management, resource allocation and deteriorating patient learning outcomes did not rank in the top fifteen. This is significant considering the research that supports the use of simulation for teaching these concepts, as nurses tend to perform poorly in these areas (Beyea, Von Reyn & Slatter, 2007; Cooper, et al., 2011; McKenna et al., 2014). This suggests that further education around the usefulness of simulation for teaching these concepts may be warranted.

Five of the top 15 outcomes were related to Domain One associated with professional and ethical behaviour as well as cultural safety. Only two of the top 15 outcomes came from Domain Three, relating to communication, in particular therapeutic communication and inter-professional communication. This highlighted that respondents recognised the value of simulation in the development of professional behaviour and effective communication. This suggests that simulation is valuable for teaching the so called softer skills such as linking theory to practice, therapeutic communication, leadership and team work as well as the traditional skill acquisition (McCaughey & Traynor, 2010; Pearson & McLafferty, 2011).

No outcomes allied to Domain Four were ranked in the top 15 outcomes. This was a surprise to the researchers as current literature points to the effectiveness of simulation in teaching leadership, direction and delegation, inter-professional communication and the use of evidence based practice (Endacott et al., 2010; Good, 2003, Weaver, 2011).

Several respondents commented on the need for linking the learning outcomes to the stage of the programme as they felt that some learning outcomes were more suited to the final stages of an undergraduate programme. However the learning outcomes were developed so that they could be applied to all stages of an undergraduate programme. This fits in with the pedagogy that learning outcomes should be broad and therefore have the ability to scaffold learning throughout a programme. Arthur et al. (2013) study suggested that simulation experiences need to be aligned with the curriculum and course objectives, as well be integrated and should scaffold throughout the curriculum. Waxman (2010) also states the most important component of developing scenarios is the identification of primary learning objectives, which should be developed from core competencies of accrediting bodies or core competencies established by academic or clinical institutions. They can also be developed from performance criteria of a courses clinical curriculum and then can be then developed as the secondary objectives and the critical elements of a scenario (Waxman).

The recent 2014 report from the National Council of State Boards of Nursing [NCSBN] proves that simulation can be used safely as substitution for traditional clinical learning experience to develop confidence and competent registered nurse graduates. There were no significant differences found among study groups receiving none, 25 or 50% substitution regarding end-of-program nursing knowledge, clinical competency, or overall readiness for practice. Simulation scenarios followed the National League for Nursing [NLN]Simulation Framework (Jefferies, 2005) i.e. clear learning objectives, problem solving components were built into the scenarios, fidelity was appropriate for the learning objectives, and structured debriefing followed each scenario (Hayden et al., 2014). There are however specific pre-requisites that are detailed in the conclusion of the NCSBN report that are pertinent to this project that need to be considered in the implementation of a standardized approach. These conditions include:

- faculty members who are formally trained in simulation pedagogy,
- an adequate number of faculty members to support the student learners,
- subject matter experts who conduct theory-based debriefing, and
- equipment and supplies to create a realistic environment.

Thus as well as clearly articulated learning outcomes and well-designed scenarios, having appropriately trained staff to resource simulation experiences is important.

Limitations of this study

A key limitation of the study was the reliance on the recipients of the survey to distribute it to the appropriate staff within their organization within a timely manner. This restricted our ability to ensure that the same participants completed each phase. This may explain the lower numbers of respondents in Phase Three of the research. Phase Three data also failed to capture the workplace of the participants which lead to an inability to compare responses between tertiary educators and clinical educators. Additionally, as this was an anonymous survey we could not identify whether every tertiary institution or District Health Board [DHB] participated.

Conclusions

Coincidentally the process for developing shared simulation scenarios for the NCSBN study followed a similar initial process as conducted here. Consensus building of the learning outcomes is the essential first step. This research provides evidence of a high level of consensus across the sector regarding the value of simulation education for developing undergraduate nurses' clinical competencies. From skill acquisition to more complex scenario based learning simulation offers real value to the nursing educational experience and Aotearoa New Zealand is well placed with regards to the future development of this medium. Clarity of the shared understanding of what is simulation and how it can be used in undergraduate education is also evident.

Additionally there is a high level of agreement regarding the key concepts which form the basis of clinical education. Clinical judgment and clinical reasoning were ranked as the most important learning outcomes, which reflect international literature and opinion held at this current time. Learning outcomes related to interprofessional health care and quality improvement were not ranked in the top fifteen. This is atypical when compared to current thinking within the international simulation community. Development and understanding of simulation use in relation to teaching the principles of crisis resource management/human factors also needs to be explored in relation to the current patient safety agenda.

As these key concepts were developed from Aotearoa New Zealand undergraduate nursing programmes and NCNZ (2010) educational requirements for undergraduate nursing programmes, this research informs any future discussions around simulation learning being recognised as legitimate clinical learning experience for undergraduate nursing education. To support the credibility of simulation learning in relation supporting or replacing the clinical learning experience further research needs to be conducted in developing authentic clinical scenarios that are based upon the agreed learning outcomes. Having a variety of scenarios will allow programmes to choose what is most appropriate to their curriculum.

The future development of simulation within Aotearoa New Zealand is vital in order to meet the challenges facing the nursing workforce. Capacity, capability, competency and patient safety can be developed by the effective use of simulation, as a component of the clinical learning experience. This research represents a positive step in meeting some of these challenges; by using a collaborative and focused approach the future of nursing education can only be strengthened.

Recommendations

That NETS consider resourcing further work to co-ordinate development of standardized simulation scenarios that:

- integrate theThe International Nursing Association for Clinical Simulation and Learning (INACSL) standards for best practice in simulation
- address the agreed learning outcomes
- incorporate the national health priorities and contemporary health care and practice trends for undergraduate nursing in Aotearoa New Zealand

References

Atherton, J. S. (2013). *Learning and teaching; Bloom's taxonomy.* Retrieved from http://www.learningandteaching.info/learning/bloomtax.htm

Arthur, C., Levett-Jones, T. & Kable, A. (2013). Quality indicators for the design and implementation of simulation experiences: A Delphi study. *Nurse Education Today*, *33*(11), 1357–1361.

Chen, S., Liu, J., Wang, H., & Augusto, J. C. (2013). *An evidential reasoning based approach for decision making with partially ordered preference under uncertainty*. Retrieved from http://eprints.mdx.ac.uk/9977/1/OrderingBased.pdf

Benner, P., Sutphen, M., Leonard, V. & Day, L. (2009). *Educating nurses: A call for radical transformation*. San Franscisco, CA, U.S.A.: Jossey-Bass.

Berragan, L. (2011). Simulation: An effective pedagogical approach for nursing? *Nurse Education Today, 31*(7), 660–663. doi:10.1016/j.nedt.2011.01.019

Beyea, S., Von Reyn, L. & Slatter, M. (2007). A nurse residency for competency development using human patient simulation. *Journal for Nurses in Staff Development, 23*(2), 77-82. doi: 10.1097/01.NND.0000266613.16434.05

Blum, C.A., Borglund, S. & Parcells, D. (2010). High-fidelity nursing simulation: impact on student self-confidence and clinical competence. *International Journal Nursing Education Scholarship, 7(*Article 18). doi: 10.2202/1548-923X.2035.

Burns, N. & Grove, S. (2007). *Understanding nursing research: Building evidenced based practice*. St. Louis, Missouri, U.S.A.: Saunders Elsevier.

Burns, H.K., O'Donnell, J. & Artman, J. (2010). High-fidelity simulation in teaching problem solving to 1st year nursing students: A novel use of the nursing process. *Clinical Simulation in Nursing, 6*(3), e87- e95.

Cooper, S., McConnell-Henry, T., Cant, R., Porter, J., Missen, K., Kinsman, L., Endacott, R. & Scholes, J. (2011). Managing deteriorating patients: Registered nurses' performance in a simulated setting. *The Open Nursing Journal*, 5, 120-126. doi: 10.2174/1874434601105010012O.

Crookes, P., Brown, R., Della, P., Dignam, D., McCutcheon, H. & Edwards, H. (2010). *The development of pre-registration nursing competencies assessment tool for use across Australian Universities*. Retrieved from http://www.cdnm.edu.au/wp-content/uploads/2011/11/full_report.pdf

Denzin, N. & Lincoln, Y. (2003). *Strategies of qualitative inquiry* (2nd ed.). California: Sage Publications Inc.

Endacott, R., Scholes, J., Buykx, P., Cooper, S., Kinsman, L., & McConnell-Henry, T. (2010) Final year nursing students' ability to assess, detect and act on clinical cues of deterioration in a simulated environment. *Journal of Advanced Nursing, 66*(12), 2722–2731. doi: 10.1111/j.1365-2648.2010.05417.x.

Galloway, S.J. (2009). Simulation techniques to bridge the gap between novice and competent healthcare professionals. *Online Journal of Issues in Nursing*, *14*(2). doi: 10.3912/OJIN.Vol14No02Man03.

Good, M.L. (2003). Patient simulation for training basic and advanced clinical skills. *Medical Education*, *37* (Suppl. 1), 14-21.

Gubrud-Howe, P. & Schoessler, M. (2008). From random access to opportunity to a clinical education curriculum. *Journal of Nursing Education*, *47*(1), 3-4.

Hardy, S., Titchen, A., Manley, K., & McCormack, B. (2006). Re-defining nursing expertise in the United Kingdom. *Nursing Science Quarterly, 19*(3), 260.

Hayden, J. K., Smiley, R. A., Alexander, M., Kardong-Edgren, S., & Jeffries, P. R. (2014). Supplement: The NCSBN national simulation study: A longitudinal randomized controlled study replacing clinical hours with simulation in pre-licensure nursing education. *Journal of Nursing Regulation, 5*(2), C1-S64.

Holloway, K. (2012). Doing the E-Delphi: Using online survey tools. *Computers Informatics Nursing, 30*(7), 347-350.

Issenberg, S.N. (2002). Clinical skills training-practice makes perfect. *Medical Education, 36,* 210-211

Jeffries, P. (2005). A framework for designing, implementing, and evaluating simulations used as teaching strategies in nursing. *Nursing Education Perspectives, 26*(2), 96-103.

Jeffries, P. (2007). *Simulation in nursing education: From conceptualisation to evaluation.* New York: National League for Nursing.

Kaddoura, M. (2010). New graduate nurses' perceptions of the effects of clinical simulation on their clinical thinking, learning and confidence. *Journal of Continuing Education in Nursing, 41*(11), 506-516. doi:10.3928/00220124-20100701-02

Kantar, L. & Alexander, R. (2012). Integration of clinical judgement in the nursing curriculum: Challenges and perspectives. *Journal of Nursing Education, 51*(8), 444-53. doi: 10.3928/01484834-20120615-03.

Keeney, S., Hasson, F., & McKenna, H. (2006). Consulting the oracle: Ten lessons from using the Delphi technique in nursing research. *Journal of Advanced Nursing, 53*(2), 205-212.

Lapkin, S., Levett-Jones, T., Bellchambers, H. & Fernandez, R. (2010). Effectiveness of patient simulation manikins in teaching clinical reasoning skills to undergraduate nursing students: A systematic review. *Clinical Simulation in Nursing, 6*(6), e207–e222. doi: http://dx.doi.org/10.1016/j.ecns.2010.05.005

Maran, N.J., & Glavin, R.J. (2003). Low to high- fidelity simulation-a continuum of medical education? *Medical Education*, *37*, 22-28.

McCaughey, C.S. & Traynor M.K. (2010). The role of simulation in nurse education. *Nurse Education Today, 30*(8), 827-832.

McCallum, J. (2007). The debate in favour of using simulation education in pre-registration adult nursing. *Nurse Education Today, 27*(8), 825- 831.

McKenna, H. P. (1994). The Delphi technique: A worthwhile research approach for nursing? *Journal of Advanced Nursing, 19*(6), 1221-1225.

McKenna, L., Missen, K., Cooper, F., Boggosian,T., Bucknall , R. & Kant, R. (2014). Situation awareness in undergraduate nursing students managing simulated patient deterioration. *Nurse Education Today*. 34(6), e27–e31. doi: 10.1016/j.nedt.2013.12.013.

McNeal, G.J. (2010). Simulation and nursing education. *ABNF Journal: The official journal of the Association of Black Nursing Faculty in Higher Education. 21*(4), 78.

Murray, C., Grant, M.J., Howarth, M.L. & Leigh, J. (2008). The use of simulation as a teaching and learning approach to support practice learning. *Nurse Education in Practice, 8*(1), 5-8. doi:10.1016/j.nepr.2007.08.001

Nana, G., Stokes, F., Molano, W., & Dixon, H. (2013). *New Zealand Nurses: Workforce planning 2010 – 2035.* BERL Wellington. Retrieved from www.nursingcouncil.org.nz/

Nursing Council of New Zealand. (2010). *Education programme standards for the Registered Nurse scope of practice*. Wellington, New Zealand: NCNZ.

Nursing Council of New Zealand. (2012). *Competencies for Registered Nurses*. Wellington, New Zealand: Author.

Pearson, E. & McLafferty, I. (2011). The use of simulation as a learning approach to non-technical skills awareness in final year nurses. *Nurse Education in Practice*, 11(6):399-405. doi: 1016/j.nepr.2011.03.023.

Rothgeb, M. K. (2008). Creating a nursing simulation laboratory: A literature review. *The Journal of Nursing Education*, *47*(11), 489-494.

Sandelowski, M. (2000). Focus on research methods: Whatever happened to qualitative description? *Research in Nursing and Health, 23*(4), 334–340.

Sandelowski, M., & Barroso, J. (2003). Writing the proposal for a qualitative research methodology project. *Qualitative Health Research. 13*(6), 781-820.

Scalese, R.J., Obeso, V.T. & Issenberg, B.A. (2007). Simulation technology for skill training and competency assessment in medical education. *Journal of General Internal Medicine, 23*(1), 46-49.

Seropian, M. A., Brown, K., Gavilanes, J. S., & Driggers, B. (2004). An approach to simulation program development. *Journal of Nursing Education, 43*(4), 170-174.

Tanner, C.A. (2006). Thinking like a nurse: A research- based model of clinical judgment in nursing. *Journal of Nursing Education*, *45*(6), 204-211.

Unwin, G. L. & Shoumitro, D. (2008). Use of medication for the management of behavior problems among adults with intellectual disabilities: A clinicians' consensus survey. *American Journal of Mental Retardation, 113*(1), 19-31.

van Merrienboer, J. & Sweller, J. (2005). Cognitive load theory and complex learning: Recent developments and future directions. *Educational Psychology Review*, *17*(2), 147-177.

Waldner, M. H. & Olson, J. K. (2007). Taking the patient to the classroom: Applying theoretical frameworks to simulation in nursing education. *International Journal of Nursing Education Scholarship*, *4*(1), Article 18.

Waxman, K.T. (2010). The development of evidence based clinical simulation scenarios: Guidelines for nurse educators. *Journal of Nursing Education, 49*(1), 29-35.

Weaver, A. (2011). High fidelity simulation in nursing education: An integrative review. *Nursing Education Perspectives, 32*(1), 37-40.

Appendix One: Phase Two Survey

What shall we teach? The development of key clinical learning outcomes for scenario based clinical simulation learning experiences in undergraduate nursing education.

You have been invited to participate in an expert panel to build a consensus on the most important clinical learning outcomes for simulation experiences in undergraduate nursing programmes in recognition of your leadership in nursing education and workforce development. Scenario based simulation is the replication of a desired clinical situation (scenario), where learners can practice skills and recreate interactions that they may meet in the clinical environment (Jeffries, 2005). Learning outcomes determine the focus and expected outcome of the learning experience and may range from key concepts in nursing practice to more comprehensive nursing skill development.

The Nurse Education in the Tertiary Sector (Aotearoa NZ) (NETS) group have commissioned nurse researchers from the Faculty of Health, Whitireia NZ to undertake this research project which has three phases. The first phase identified key elements of potential learning outcomes from the literature and key stakeholder interviews. These elements have been refined and grouped under the four Nursing Council competence domains and are presented for your comment and analysis in Phase Two. After analysing the common elements that you have agreed are important in Phase Two you will be invited again to rank order the common elements in level of importance in Phase Three.

The development of key learning outcomes for scenario based clinical simulations will support the development of graduate competence and confidence and readiness for practice as required by the NCNZ education standards. The intent is to enable a standardised approach to scenario development and increase potential for collaboration and resource sharing across the nursing education sector.

Your survey responses will be strictly confidential and data from this research will be reported only in the aggregate. Please click Participant information sheet to read the participant information sheet that outlines our ethical obligations before continuing. If sheet does not open please email **me** for a copy.

If you have questions at any time about the survey or the procedures, you may contact Alexandra Wordsworth by email at Alexandra.Wordsworth@whitireia.ac.nz

Thank you very much for your time and support and if you consent to participating please start by clicking the arrow below.

Participant Data (heading)

1. Your Primary Role (tick box)

   Providing nursing education in the tertiary education setting

   Supporting nursing education in the clinical setting (more inclusive of DoN's)

2. How many years' experience have you had in using simulation as a teaching tool (tick box)

   <1

   1-5

   6 - 8

   9 -12

   >12

Domain One: Professional Responsibility

Competent professional responsibility requires that students demonstrate appropriate knowledge and judgement and accountability for their own actions and decisions.

Indicate your level of agreement with the inclusion of the following in learning outcomes for **scenario based clinical simulation** learning experiences.					
	Strongly Agree	**Agree**	**Undecided**	**Disagree**	**Strongly Disagree**
1. Practices in accordance with the nursing professions codes of ethics, conduct and legislation requirements.					
2. Complies with professional expectations of behaviour.					
3. Understands and practises within own scope of practice.					
4. Recognises the differences in accountability and responsibility between Registered Nurses, Enrolled Nurses and unregulated healthcare workers.					
5. Demonstrates culturally safe practice in interactions with others.					
6. Practises in a way that acknowledges the dignity, culture, values, beliefs and rights of individuals/groups.					
7. Advocates for individuals/groups and their rights for nursing and health care within organisational and management structures.					
8. Demonstrates ethical decision making in partnership with health care consumer and family.					
Are these learning outcomes appropriately **categorised in the correct domain?**				**Yes**	**No**
Any further comments or additions you would like to make?					

Domain 2: Management of nursing care

Competent management of nursing care requires that students demonstrate effective assessment and clinical decision making and interventions in practice, supported by evidence based nursing knowledge.

Indicate your level of agreement with the inclusion of the following in learning outcomes for **scenario based clinical simulation** learning experiences.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
9. Facilitates a holistic approach to nursing care.					
10. Facilitates safe management of nursing care e.g. follows infection control principles and utilises risk assessment tools					
11. Facilitates the use of a multidisciplinary approach to healthcare e.g. collaborating with the MDT via documentation, referral and handover processes.					
12. Demonstrates clinical judgement[1] in assessment and management of nursing care.					
13. Demonstrates clinical reasoning[2] in assessment and management of nursing care.					
14. Demonstrates understanding of the management of health consumers with co morbidities.					
15. Effective assessment and management of the deteriorating health consumer in a variety of settings e.g. hospital, community, home.					
16. Understands and utilises the principles of crisis management[3] in a variety of settings e.g. hospital, community, home.					
17. Understands and can demonstrate the principles of resource allocation in crisis management.					
18. Can utilise pharmacological knowledge to demonstrate appropriate assessment and monitoring of health care consumer					
19. Demonstrates safe medication administration e.g. oral, topical, subcutaneous, intramuscular and intravenous therapy.					
20. Demonstrates mastery of core nursing skills e.g. holistic assessment skills including measurement of vital signs, use of relevant assessment tools and equipment.					
21. Demonstrates skills in coaching of the health care consumer.					
22. Demonstrates an ability in education of the health care consumer and their family using health literacy					
Are these learning outcomes in the correct domain?				**Yes**	**No**

Any further comments or additions you would like to make?

[1] **Clinical judgement is** the ability to decide what is important to respond to in a given nurse-patient encounter (Tanner, 2006)

[2] **Clinical reasoning is** the process of how clinicians think about the problems they deal with in clinical practice. It involves clinical judgments (deciding what is wrong with a health care consumer), and clinical decision-making (deciding what to do) (Levett-Jones, Hoffman, Dempsey, Yeun-Sim Jeong, Noble, Norton, Roche and Hickey, 2010)

[3] **Crisis management is** the ability to identify unexpected/unplanned and respond with appropriate actions which include direction, delegation, leadership, teamwork and ability to access relevant nursing knowledge and skills (Salas, Fowlkes, Stout, Milanovich Prince, 1999 and ANSAT, 2014)

Domain 3: Interpersonal Relationships

Competent interpersonal relationship practice requires that students demonstrate effective interpersonal and therapeutic communication with health consumers, other nursing staff and interprofessional communication and documentation.

Indicate your level of agreement with the inclusion of the following in learning outcomes for **scenario based clinical simulation** learning experiences.					
	Strongly Agree	**Agree**	**Undecided**	**Disagree**	**Strongly Disagree**
23. Effectively utilises therapeutic communication with health consumers and their family e.g. forms therapeutic relationships, therapeutic listening, responding to the needs of the health care consumer and their family					
24. Effectively communicates with the health care team e.g. verbal and written.					
Are these learning outcomes in the correct domain?				**Yes**	**No**
Any further comments or additions you would like to make?					

Domain 4: Interprofessional Healthcare and Quality Improvement

Effective interprofessional practice requires that students demonstrate that as a member of the health care team, they can evaluate the quality and effectiveness of care and promote a nursing perspective within the interprofessional activities of the team.

Indicate your level of agreement with the inclusion of the following in learning outcomes for **scenario based clinical simulation** learning experiences.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
25. Demonstrates beginning leadership skills e.g. providing clear communication to health care team members when managing health consumer care					
26. Demonstrates appropriate direction and delegation within the nursing team					
27. Demonstrates the ability to provide nursing care as directed and delegated within the health care team					
28. Facilitates collaboration with the health care team to provide the holistic care required for the health consumer in variety settings e.g hospital, community, home					
29. Demonstrates the ability to follow relevant policies and procedures that guide nursing care					
30. Demonstrates and utilises principles of quality improvement when providing nursing care e.g audit, evidence based practice					
31. Demonstrates the principles of mentoring e.g students, colleagues, enrolled nurses, healthcare assistants and care givers					
32. Independently begins to critically reflect and discuss their professional development needs					
33. Demonstrates the ability to use information technology to support effective management of the healthcare.					
34. Considers research evidence, health consumers preferences and clinical knowledge in management of nursing care					

Are these learning outcomes in the correct domain?	**Yes**	**No**

Any further comments or additions you would like to make?

Appendix Two: Phase Three Survey

Intro

What shall we teach? The development of key clinical learning outcomes for scenario based clinical simulation learning experiences in undergraduate nursing education.

You have been invited to participate in an expert panel to build a consensus on the most important clinical learning outcomes for simulation experiences in undergraduate nursing programmes in recognition of your leadership in nursing education and workforce development. Scenario based simulation is the replication of a desired clinical situation (scenario), where learners can practice skills and recreate interactions that they may meet in the clinical environment (Jeffries, 2005). Learning outcomes determine the focus and expected outcome of the learning experience and may range from key concepts in nursing practice to more comprehensive nursing skill development.

The Nurse Education in the Tertiary Sector (Aotearoa NZ) (NETS) group have commissioned nurse researchers from the Faculty of Health, Whitireia NZ to undertake this research project which has three phases. We have now completed the second phase and have analysed the learning outcomes that you have agreed as being important for scenario based clinical simulation learning experiences in undergraduate nursing education. We have taken the learning outcomes that have reached 80% or higher as either agreed or strongly agreed to indicate a level of consensus. Please refer to attached document which has the results of Phase one for your consideration.

You are now invited to participate in the Phase Three to prioritise learning outcomes by ranking your top fifteen key learning outcomes from the agreed list developed in Phase Two. The development of key learning outcomes for scenario based clinical simulations will support the development of graduate competence and confidence and readiness for practice as required by the NCNZ education standards. The intent is to enable a standardised approach to scenario development and increase potential for collaboration and resource sharing across the nursing education sector.

Your survey responses will be strictly confidential and data from this research will be reported only in the aggregate.

If you have questions at any time about the survey or the procedures, you may contact Alexandra Wordsworth by email at Alexandra.Wordsworth@whitireia.ac.nz

Thank you very much for your time and support and if you consent to participating please start by clicking the arrow below.

Insert drop number 0 – 15 next to each statement

Please rank your top fifteen learning outcomes for scenario based clinical simulation learning experiences 1-15 (1 being most important, 15 being least important)

1. **Practices in accordance with the nursing professions codes of ethics, conduct and legislation requirements**
2. **Complies with professional expectations of behaviour**
3. **Understands and practices within their own scope of practice**
4. **Recognises the differences in accountability and responsibility between Registered Nurses, Enrolled Nurses and unregulated healthcare workers.**
5. **Demonstrates culturally safe practice in interactions with others**
6. **Practises in a way that acknowledges the dignity, culture, values, beliefs and rights of individuals/groups**
7. **Advocates for individuals/groups and their rights for nursing and health care within organisational and management structures**
8. **Demonstrates ethical decision making in partnership with health care consumer and family.**
9. **Facilitates a holistic approach to nursing care**
10. **Facilitates safe management of nursing care e.g follows infection control principles and utilises risk assessment tools**
11. **Facilitates the use of a multidisciplinary approach to healthcare e.g collaborating with the MDT via documentation, referral and handover processes**
12. **Demonstrates clinical judgment in assessment and management of nursing care**
13. **Demonstrates clinical reasoning in assessment and management of nursing care**
14. **Demonstrates understanding of the management of health consumers with co morbidities**
15. **Effective assessment and management of the deteriorating health consumer in a variety of settings e.g. hospital, community, home**
16. **Understands and utilises the principles of crisis management in a variety of settings e.g. hospital, community, home**
17. **Can utilise pharmacological knowledge to demonstrate appropriate assessment and monitoring of health care consumer**
18. **Demonstrates safe medication administration e.g. oral, topical, subcutaneous, intramuscular and intravenous therapy**
19. **Demonstrates mastery of core nursing skills e.g. holistic assessment skills including measurement of vital signs, use of relevant assessment tools and equipment.**
20. **Demonstrates skills in coaching of the health care consumer**
21. **Demonstrates an ability in education of the health care consumer and their family using health literacy**
22. **Effectively utilises therapeutic communication with health consumers and their family e.g. forms therapeutic relationships, therapeutic listening, responding to the needs of the health care consumer and their family**
23. **Effectively communicates with the health care team e.g. verbal and written.**
24. **Demonstrates beginning leadership skills e.g. providing clear communication to health care team members when managing health consumer care**
25. **Demonstrates appropriate direction and delegation within the nursing team**
26. **Demonstrates the ability to provide nursing care as directed and delegated within the health care team**

27. **Demonstrates the ability to follow relevant policies and procedures that guide nursing care**
28. **Demonstrates and utilises principles of quality improvement when providing nursing care e.g. audit, evidence based practice**
29. **Independently begins to critically reflect and discuss their professional development needs**
30. **Demonstrates the ability to use information technology to support effective management of the healthcare.**
31. **Considers research evidence, health consumers preferences and clinical knowledge in management of nursing care**

Any further comments or additions you would like to make?