INTENTIONAL LEARNING IN NURSING CURRICULAR REFORM

by

KRISTY FOLK

B.S.N, Okanagan University College, 2003

A MAJOR PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE

REQUIREMENTS FOR THE DEGREE OF

MASTER OF SCIENCE IN NURSING

We accept the major project as conforming to the required standard

Charlene Strumpel, Supervisor

Sheila Epp, Committee Member

UNIVERSITY OF BRITISH COLUMBIA OKANANGAN

December 31, 2016

Table of Contents

Chapter 1

Introduction and Problem Statement

Over the past two decades there has been a call for curriculum reform in nursing education as a response to the presence of a theory practice gap that has been observed in existing programs. Paired with this gap is the continual increase of content being added to an already saturated curriculum and a scarcity of clinical resources needed to accommodate increasing student numbers (Benner, Sutphen, Leonard & Day, 2010; Stanley & Dougherty, 2010; Tanner, Gubrud-Howe & Shores, 2008; Giddens & Brady 2007). As a reply to the above, nursing scholars across North America and abroad have been calling for curriculum reform to meet these new demands and challenges. One recommended change that has been taken up by some nurse educators is the notion of a more focused and tailored learning experience for nursing students that integrates theory and clinical experiences (Nielsen, Noone, Voss, & Mathews, 2013; Gubrud-Howe & Schoessler; 2008, Tanner, 2006). The purpose of this paper is to take a critical look at intentional learning, a new teaching strategy incorporated into the proposed revised curriculum at the University of British Columbia Okanagan campus and to review current literature to determine potential outcomes that have been associated with its integration into the clinical portion of other undergraduate nursing programs.

The main problem faced when trying to find current and relevant research on the concept of intentional learning is the lack of a single definition or title for this teaching/learning format. A variety of terms are being used by different groups to define what seems, on the surface, to be the same concept. The term 'intentional' is interchangeable with focused, discovery, situational, active, targeted, concept-based and

situated. The term 'learning' is found to be synonymous with approach and engagement. Other synonyms for 'curriculum' are model, format and approach. In order to do a thorough review of this new approach to teaching and learning within a nursing context, a common definition needs to be established. By compiling the many descriptors that are currently being used and finding a summative and cohesive definition for intentional learning it is possible to determine what literature is relevant to intentional learning in a clinical perspective. For the purposes of this paper intentional learning will be defined as using a framework of focused, experiential-based learning opportunities designed to intergrate theory and practice to assist the learner to meet specific learning outcomes while gaining a deeper and more contextualized understanding of key concepts (Neilsen et al, 2013; Benner, 2012; Gubrud-Howe & Schoessler, 2008). This defintion will be used to form the criteria for an exhaustive literature search for critical review.

Background

Present day nursing has become an ever-changing and challenging career filled with many complexities such as escalating medical acuity of patients, increasing technological demands on nurses, social inequity, profit driven medical systems, staff shortages, and ever-increasing aging populations with wide-spread cultural needs (Institute of Medicine, 2008; Handwerker, 2012). As a result, the new graduate nurse is expected to meet more demanding and complex competencies than ever before by merging ethical, relational, medical and theoretical knowledge to provide safe, efficient, quality care for diverse patients (Nielsen et al., 2013). Curriculum changes in response to these increasing demands must not only give due consideration to the theory practice gap already apparent in nursing education but must also be visionary in preparing nurses for

the possible changes that will occur in health care in the next 10 to 15 years (Waters,

Rochester, & McMillan, 2012). Therefore, curriculum changes should enhance the

existing nursing educational foundations to better provide students with the skills to learn

and adapt throughout their careers, despite upcoming transformations in healthcare.

Intentional learning practices appear to be the popular choice for many undergraduate

nursing programs in Canada, the United Kingdom, Australia, and the United States of

America in answering this call and addressing the needs listed above (Handwerker, 2012;

Hope, Garside, & Prescott, 2011; Gubrud-Howe & Schoessler, 2009, Cooke & Donovan,

1998).

Scardamalia and Bereiter (2010) first mentioned intentional learning in an

educational context in 1983. The work was originally published in Hebrew and was not

translated into English until 2002 (Scardamalia, & Bereiter, 2010). According to

Scardamalia and Bereiter intentional learning at its beginning point was based on the

pursuit of a 'mental life' where the learner meets not only the learning objectives but also

takes responsibility for the attaining of knowledge. With further study of the concept,

Scardamalia and Bereiter learned that curiosity and desire were not enough to sustain

motivated inquiry and that long term goals and active student participation were needed

to achieve desired skills and knowledge. It became apparent during the development of

intentional learning, that the old patterns of didactic learning and classroom environments

can hinder those achievements and magnify dependence on the teacher (Scardamalia &

Bereiter, 2010). Hung (2014) noted that in traditional teacher/learner environments it is

not uncommon to see inquiry activities used to engage students in independent learning.

Although the intent is to have independent learning occur, students have a goal of

completing the specific task and they do not engage in the learning process. When students take the initiative for seeking out knowledge, the focus may shift away from content coverage and move towards analytical thinking (Stanley & Dougherty, 2010). Faculty should guide students in self-evaluation to determine and admit deficiencies in knowledge and skills and then develop a goal for learning that they are motivated to attain (Hung, 2014). Although intentional learning is often self-initiated, it can also occur due to the presence of an external locus (Hung, 2014). External factors such as problem solving, formal education, a teachers' explanation of the consequence of failing to master a subject or the importance of learning a subject can trigger intentional learning (Hung, 2014). These types of triggers open the door for instructional intervention that could assist students to engage in the intentional learning process (Hung, 2014). Therefore, intentional learning practices incorporated into clinical teaching, may be valuable in stimulating the students' internal locus of control for learning.

Significance of intentional learning in the clinical context. Traditional undergraduate nursing clinical teaching models include a total patient care approach that may at times overwhelm beginning student capabilities, limit the number of student/patient interactions, consume teacher time with review of student preparation and therefore, decrease time available for significant interactions that support a more complex understanding of clinical situations (Nielsen, 2009). Traditional programs have little consistency between students' learning experiences as placements are driven by patient/nurse availability and opportunities for learning are dictated by chance (Niederhauser, Schoessler, Gubrud-Howe, Magnussen & Codier, 2012). Patricia Benner and colleagues have noted that many nursing students feel as if clinical and classroom

content are separated, as if they were taking two separate courses (Handwerker, 2012).

Traditional programs rely on the availability of patients, from across the life-span, with

varying illnesses, within clinical placements to ensure students get a variety experiences

to learn from but this is increasingly difficult for staff, facilities and faculty to provide

adequately (Gubrud-Howe & Schoessler, 2008).

   Theoretical basis for intentional learning. Traditionally, clinical and classroom

education has been presented with a behaviouristic teacher-centred philosophy. While

this approach has been credited as an efficient way to teach large amounts of factual

content it does not lend well to developing a higher order of cognitive skills that are

needed by nurses in the increasingly complex world of clinical nursing (Chambers,

Thiekötter, & Chambers, 2013). New clinical frameworks have been moving away from

a philosophical approach to one with a stronger focus on student-centred learning

(Stanley & Dougherty, 2010). Constructivism is a philosophy in which learning is an

active process of meaning making from different experiences; teachers are guides to the

student making sense of information on their own (Chambers et al., 2013). In this way

the learner becomes a much more active participant in learning. Students are able to

challenge previous thoughts and attempt aspects of their nursing role with guidance

(Handwerker, 2012). According to Bruner, students will actively build their knowledge

based upon the information they know and have known (as cited in Chambers et al.,

2013; Brandon & All, 2010). Further, constructivism can be viewed as a spiral, where

the inner ring encompasses students. Within this inner ring students interact with each

other and the educator serves to bring them closer to context by creating meaningful

learning at the student level, thereby bridging concepts through interactions (Brandon &

All, 2010). With each new experience, previous knowledge may be utilized and could

develop into more complex ideas with the integration of new information (Brandon &

All, 2010). When students becomes active in learning a new role they can develop

metacognition and can better transfer their knowledge and skills to new situations

(Handwerker, 2012). Nursing programs already utilize some constructivist philosophies

in their curricula both in the classroom and the clinical setting that include:

- Problem based learning utilizing

    a) Case studies

    b) Concept mapping

- Aspects of apprenticeship in clinical teaching utilizing

    a) Scaffolding

    b) Simulation

    c) Coaching

    d) Reflection

(Handwerker, 2012).

Despite these constructivist approaches, the theory practice gap has remained.

Critical thinking in nursing does not develop in clinical practice or the classroom alone;

there is a need to bridge theory and practice together to invite students to engage in a

higher level of thinking (Waters et al, 2012). Creative and innovative approaches to

nursing education, particularly practice placement, need to be explored.

Intentional learning reflects the principles of a constructivist design. As stated

previously, intentional learning for the purposes of this paper was defined as using a

framework of focused, experiential-based learning opportunities designed to intergrate

theory and practice to assist the learner to meet specific learning outcomes while gaining

a deeper and more contextualized understanding of key concepts (Neilsen et al, 2013;

Benner, 2012; Gubrud-Howe & Schoessler, 2008). Benner discusses the usefulness of

experiential learning from a constructivist perspective in leading students to think and act

in authentic situations and that real life settings are the best form of experiential learning

(as cited in Handwerker, 2012). Additionally, motivation has been touted as being key to

intentional learning and there is evidence supporting that motivation may be achieved by

external factors such as problem solving and decision-making. Therefore the

incorporation of intentional learning, with specifically tailored learning experiences in a

clinical setting guided by faculty, fits this framework (Hung, 2014). This idea lends well

to the clinical strategy of scaffolding clinical experiences and layering increasing

difficulty as the learner's knowledge base and cohesion of concepts increase. Scaffolding

has been described by Bruner and used in the implementation of intentional learning

practices where the teacher initially provides assistance and guidance and then withdraws

the level of support as the student develops (as cited in Chambers et al., 2013;

Handwerker, 2012).

   Intentional learning in nursing with simulation. Simulation learning can be

viewed as an intentional learning practice as it focuses on a specific concept using

experiential exercises and can be designed to integrate the current studied theory into the

simulation (Giddens et al., 2008). Schools of nursing have been using low-fidelity

patient simulation such as repetitive intramuscular injections into foam or latex arms to

practice psychomotor skills for over 25 years (Seropian, Brown, Samuelson Gavilanes &

Driggers, 2003).

As technology advances, simulation has developed. To address clinical

placement issues, inconsistent student clinical learning experiences, as well as the theory

practice gap, many universities have been incorporating increasing amounts of high

fidelity patient simulation (HFPS) into their nursing curricula (Feingold, Calaluce &

Kallen, 2004; Giddens, Brady, Brown, Wright, Smith & Harris, 2008; Neiderhauser et al.,

2012; Waters et al., 2012). HFPS mimics real patients, interacts with students, and can

offer a multitude of complex health situations with real time patient and faculty feedback

in a safe learning environment (Feingold et al., 2004; Medley & Horne, 2005). Situations

that cannot ethically be duplicated in real clinical settings can also be presented in HFPS

(Giddens et al, 2008). Studies conducted on the use of simulation in nursing curricula

have shown benefits such as confidence building, positive student learning experiences,

students becoming active participants in learning, improved teamwork and delegation, the

ability to work through theory and practice in a safe environment, as well as developing

critical thinking (Neiderhauser et al., 2012; Hope et al., 2011; Giddens et al., 2008;

Medley & Horne, 2005; Feingold et al., 2004).

Some challenges with the use of simulation include questions about the

transferability of clinical competence from lab to real clinical situations and whether

HFPS is an effective tool to teach interpersonal interaction, communication, caring and

nursing understanding (Neiderhauser et al., 2012; Hope et al., 2011; Medley & Horne,

2005; Feingold et al., 2004). Other challenges include the time commitment for faculty

to become skilled on the simulators and the concern that complex scenarios may confuse

students about the desired learning outcomes (Neiderhauser et al., 2012; Hope et al.,

2011; Medley & Horne, 2005; Feingold et al., 2004). The consensus in nursing education

is that simulation alone can never replace real clinical experiences and should be used as an adjunct to other clinical learning practices (Waters et al., 2012; Giddens et al, 2008; Feingold et al., 2004).

  New designs for clinical based intentional learning. The above shortcomings of 'random access opportunity' learning in the clinical setting and simulated clinical learning serve to create a need for learning opportunities specifically designed to provide the nursing students with clinical experiences that integrate the course content at their level (Gubrud-Howe & Schoessler, 2008). Nursing faculty at many universities are beginning to review curricula and are considering the addition of intentional learning concepts in practicum settings as one way to enrich the clinical learning experience (Handwerker, 2012; Hope et al., 2011; Gubrud-Howe & Schoessler, 2009, Cooke & Donovan, 1998). A more focused design of linking course content with clinical experiences to enhance learning, such as those used in the Oregon Clinical Education Model (OCEM), appear to address the theory practice gap (Nielsen et al., 2013). The OCEM includes five different elements for clinical education: concept-based, case-based, intervention skill-based, integrative clinical experiences, and focused direct client care (Nielsen et al., 2013). This model directs student clinical experiences so that they apply directly to the proposed learning outcomes at the students' level (Nielsen et al., 2013). Planning the clinical curriculum to target specific objectives allows faculty to scaffold learning and to help change students' focus from a task orientation to a deeper understanding of the contextual factors that influence nursing care and clinical judgement (Nielsen et al., 2013).

Using intentional learning practices to integrate classroom and clinical practice education can foster a deeper understanding of content (Nielsen, 2009). Within the OCEM, clinical situations are designed to create learning opportunities that pair with relevant classroom content, learning outcomes, and developmental levels of students instead of merely hoping the appropriate context happens during clinical experiences (Nielsen et al., 2013). As the students' knowledge and skill level develops, nurse educators should plan increasingly difficult learning opportunities, layering content and complexity, allowing students to build upon previous experiences to develop their critical thinking and ground their knowledge base (Nielsen et al., 2013). As situations become more uncertain the teacher provides support by 'scaffolding' in the form of cues, modelling and coaching until proficiency at this level is achieved and the assistance is withdrawn. This cycle can be repeated and layered in differing contexts and environments, all while linking course content with designed clinical experiences. Optimal learning is thus both contextual and conceptual (Gubrud-Howe & Schoessler, 2009).

Purpose

The goal of this paper was two-fold. The first goal was to review the current literature for the use of intentional learning in undergraduate nursing clinical curricula. The second goal was to examine the qualitative or quantitative outcomes that have been reported with the implementation of intentional learning designs in clinical nursing curricula further examining how these outcomes should inform future curricular change.

The questions that will be explored to thoroughly meet the goals of this paper include:

- What specific intentional learning practices are being implemented at the clinical level?

- How are nursing programs integrating classroom content and intentional learning clinical experiences?

- How are nursing faculty creating intentional learning experiences to pair and develop along with the changing student level?

- What have faculty, students, and practicing nurses reported about the inclusion of intentional learning practices into clinical experiences?

- How has intentional learning changed student workload?

- How does intentional learning affect student attrition from nursing programs and regulatory exam pass rates?

The answers to these questions can inform nursing faculty about the impact of intentional learning practices on student learning, development of critical thinking and application of material. The findings reported in this paper will inform future changes in clinical curricular design.

Chapter 2

Methods and Approach

Inclusion and exclusion criteria for accepted literature was based on the definition of intentional learning stated above and therefore needed to have:

- The presence of a focused framework with experiential-based learning opportunities

- Course content clearly linked with the clinical content

- Clinical experiences designed to meet specific learning outcomes

- Been implemented within undergraduate nursing programs

- Research studies conducted in a qualitative and or quantitative format

Parameters for publication dates were also set. Articles discussing the outcomes of intentional learning practices were accepted back to 2009 to keep the information current. When looking at curriculum development, including intentional learning practices articles published from 2002 on were used, as curriculum design and implementation requires many years of work.

The literature search terms that were initially used were broad due to the infancy of intentional learning in a clinical nursing context. The CINAHL database was used with English language and academic journals as limiters. Multiple terms were used with a Boolean search technique including intent*, learn*, curriculum, develop*, targeted, active*, direct*, nurs*, education, concept-based, clinical, teaching, and situated (see Appendix A). An additional search was conducted in EBSCOhost database including CINAHL, ERIC and Medline with full text with English language and scholarly peer reviewed journals as limiters (see Appendix A). An author search was then done in this same database with recurring author names found in previous searches and the terms nurs*, curriculum, education and clinical (see Appendix A).

A total of 193,677 hits occurred with the search terms used. By using the Boolean technique with the terms and search results the total number of hits per grouping decreased to more manageable numbers (see Appendix A) that could be reviewed individually by abstracts to determine if the content was applicable. A review of abstracts provided 26 articles that contained historical, background or research question information applicable for this paper within the parameters listed. By using the snowball

technique from those reference lists another 15 articles were found. After reviewing these in more detail, 11 additional articles were kept. After removing duplicates, there were a total of 37 articles. Once historical and background information was reviewed, a further 14 articles did not meet criteria, leaving 23 articles that met the inclusion criteria based on their abstracts. Upon reading each article, only 3 met the inclusion criteria and were included in this review (see Appendix B).

Two of the included articles were research studies by Giddens and Morton (2010) and Ostrogorsky and Raber (2014). They were accepted only after an examination of two previous articles that discussed their intentional learning curricula in more detail. These earlier articles were Giddens et al. (2008) and Gubrud-Howe and Schoessler (2009) respectively.

Chapter 3

Intentional Learning Literature Review

Literature on intentional learning in the context of clinical practice education for undergraduate nurses was limited; however, each of the identified articles evaluated some aspect of an undergraduate nursing curriculum that incorporated intentional learning approaches. This literature review will discuss the parameters of each study and then focus on the aspects that relate to intentional learning as defined in this paper. Two of the articles presented examine the same program and were written by faculty from the Oregon Health and Sciences University. The article by Lasater and Nielsen (2009) describes the use of CBLAs, a specific intentional learning strategy used in the clinical setting. The second, by Ostrogorsky and Raber (2014) describes first-year student

experiences during curriculum changes. Giddens and Morton (2010) discuss the impact

of a new concept-based nursing curriculum at the University of New Mexico (UNM).

Concept-based learning. Lasater and Nielsen (2009) evaluated the use of

concept-based learning activities (CBLAs), which were based on Tanner's clinical

judgement framework for enhancing the development of clinical judgement in

baccalaureate nursing students. Lasater and Nielsen conducted a quasi-experimental

study with third-quarter undergraduate nursing students at an Oregon university. The

study involved a convenience sample of 15 student participants using CBLAs in a

pediatric and postpartum clinical setting and a control group of 17 students who were not

exposed to CBLAs. After participating in the use of two to four CBLAs, which

encompassed the use of specific concepts, the students then progressed to the traditional

total patient care model integrating what they learned from the CBLAs. Results

suggested that CBLAs are one means of facilitating deeper clinical thinking and sounder

clinical judgements.

The CBLAs were presented in the format of a study guide to prepare for clinical

practice. Each CBLA had a specific concept as a focus (such as fluid and electrolyte

balance) that included the expected learning outcomes, pre-readings, questions, and

discussions on previous experiences. In clinical practice, patients were selected based on

the CBLA focus and students would review charts and assess patients in relation to that

concept. During the latter portion of the day, faculty guided students through rounds on

all of the assigned patients, and students shared their learning with their peers (Lasater &

Nielsen 2009).

Both groups also incorporated simulation labs focused on clinical judgement throughout the term. Student performance in the simulation laboratory was measured using the Lasater Clinical Judgement Rubric (derived from Tanner, as cited in Lasater & Nielsen, 2009). Results showed that the treatment group scored significantly higher in all four phases of clinical judgement (noticing, responding, interpreting, and reflecting) as well as in total clinical judgement (Lasater & Nielsen, 2009).

Additionally, Lasater and Nielsen (2009) obtained qualitative data from videotaped interviews of a focus group comprised of five voluntary participants from the 15 CBLA participants. Key themes identified from this data included: importance of study guide structure, use of concept-based learning activities to enhance clinical learning, bridge between theory and practice, and development of students' thinking and clinical judgement (Lasater & Nielsen, 2009). Study guide pre-reading paired with focused concept work allowed students to delve further into a topic rather than get distracted with other aspects of patient care. Interactive learning with peers, along with faculty feedback and guidance, supported a deeper understanding of clinical content. Students found the use of focused CBLAs, just prior to clinical interaction, kept content in the forefront and addressed the theory practice gap. Students believed that the use of CBLAs assisted in the development of critical thinking skills by supporting their interpretation of patient assessment findings including possible causative factors and treatment strategies. It is important to note that faculty interaction during CBLA use was imperative for the noted deeper exploration of concepts (Lasater & Nielsen, 2009). Lasater and Nielsen suggested that the intentional design of the clinical course work explored in this study may contribute to an increase in clinical judgment skills.

Lasater and Nielsen (2009) also commented on faculty responses to CBLA implementation but did not state how they obtained their information. They noted that faculty found the structure of CBLAs to be beneficial to less experienced learners. One recommendation from faculty was to expand the teachers' knowledge and understanding of CBLAs, to support each teacher to be consistent and thorough with the implementation and explanation of the tool. Faculty also expressed a need to further work on explaining the importance and value of in the patient round portion of the activities (Lasater & Nielsen, 2009). The intended focus of patient rounds had been to bridge information over life spans and illnesses to fully explore specific concepts, although some students did not see the value of this activity (Lasater & Nielsen, 2009). The authors recommended that faculty attempt to reframe the CBLAs to address the confusion experienced by students when faced with patients who did not present with expected assessment abnormalities; however, no specific strategies to do so were discussed (Lasater & Nielsen, 2009).

Concept-based curriculum. Giddens and Morton (2010) evaluated a concept-based baccalaureate nursing curriculum at the University of New Mexico (UNM). They conducted a formative and summative evaluation of the new curriculum involving 200 undergraduate students, in three cohorts, who entered the program between the springs of 2006-2007. Program evaluation results included strengths and weaknesses from student and faculty perspectives, as well as performance on standardized testing.

The new curriculum merged three separate degree tracks to minimize content duplication and decrease use of faculty resources. Along with this change, new admission criteria were added to promote diversity in the student population to mirror that of the state (Giddens et al., 2008). The new curriculum was built on foundational

concepts including health and illness, lifespan, and care delivery and included a revised format for clinical education (Giddens and Morton, 2010). The conceptual foundations were developed to decrease content over-saturation and to create a conceptual learning environment (Giddens and Morton, 2010). The revised format for the clinical portion of this new curriculum included preceptorship beginning in the first clinical exposure, simulation labs, concept-focused experiences and senior year clinical intensives (Giddens et al., 2008). Another change in the curriculum was the inclusion, across all courses, of an innovative web-based virtual simulation teaching platform called "The Neighbourhood" (Giddens et al., 2008). This virtual community consisted of characters, households, and community agencies and incorporated case studies and stories to aid with conceptual teaching over three semesters (Giddens et al., 2008).

The concept-focused learning experiences used at UNM met the defined intentional learning criteria of this literature review as they were focused, experiential-based clinical learning opportunities that intergrated class theory and practice. For example, a specific concept – such as oxygenation – would be explored in the skills lab and then further explored through concept-focused learning experiences in the clinical setting to facilitate a deeper understanding of how that concept related to a patient's assessment and care (Giddens et al., 2008). Clinical conferences brought students from a variety of settings together to discuss how a concept manifested in patients from different populations and settings (e.g. community, acute care) (Giddens et al., 2008).

Program evaluation data included both formative and summative data. The formative program evaluation data included course assessments, midterm course evaluations, student surveys, student focus groups, concept assessments, and standardized

examinations including exit exams and the NCLEX. Summative program evaluation

included faculty surveys, graduation rates, first-time NCLEX pass rates, and surveys of

graduates, alumni, and employers of graduates (Giddens & Morton, 2010).

Results from the formative evaluation showed that students, faculty, preceptors

and staff all perceived that the conceptual approach had merit. While only limited

specific survey results were offered in the study report, it was noted that students believed

conceptual learning from course content had been integrated into their clinical practice

(Giddens & Morton, 2010). Faculty were also satisfied with the implementation of

conceptual teaching as it facilitated a shift away from a content saturated curriculum.

Additionally, both faculty and students noted the curricular strengths to be that of the

interactive small-group learning activities, early patient care experiences and clinical

intensives (Giddens & Morton, 2010). Furthermore, both preceptors and community

members reported a noticeable, positive difference in graduates although these positive

differences were not delineated (Giddens & Morton, 2010).

Data from the program evaluations showed a number of areas in need of

improvement. One recommendation was to improve the connections between classroom

content and focused clinical experiences (Giddens & Morton, 2010). This

recommendation was taken up, and there was purposeful effort to link prerequisite

courses such as pharmacology with application-related learning activities (Giddens &

Morton, 2010).

Intentional learning practices were generally concept focused and therefore

required building on previous knowledge and experiences to scaffold complexity as

students progressed through their program (Giddens & Morton, 2010). Unfortunately, this

study showed that students had concerns over content repetition in the nursing concept

courses, as they did not recognize the designed spiralling of complex content exemplars

in more than one course (Giddens & Morton, 2010). In response to this concern, faculty

eliminated one course and taught concepts in-depth in a designated course that made

explicit connections with other content (Giddens & Morton, 2010).

 Competency-based curriculum. Ostrogorsky and Raber (2014) conducted a

quantitative study, surveying first year nursing students on their experiences during an

education redesign of the Oregon Consortium for Nursing Education (OCNE) over a

four-year period (2007-2010). This study included the cohort from Oregon Health and

Sciences University where CBLAs were implemented, described by Lasater and Nielsen

(2009). All first year students, for four consecutive years, were asked to participate in the

survey at the end of their first year. A total of 1,648 students were contacted and 908

surveys were completed across 12 campuses over the four-year period (Ostrogorsky &

Raber, 2014). The survey had 41 scaled questions encompassing seven factors that

broadly explored their experience.

 Ostrogorsky and Raber (2014) found that students rated the overall program

effectiveness as "meeting expectations" or "very good". Additionally, the study results

showed students were satisfied with fellow students, faculty/courses, and course

lectures/interaction. Despite the above positive quantitative data, the responses to the

accompanying open-ended question revealed several shortcomings. While the intentional

learning practices were meant to close the theory practice gap, students felt that

expectations were unclear due to a misalignment of readings and clinical experiences,

inexperienced faculty, and faculty reliance on team teaching. Students also

misinterpreted self-directed learning to mean that they needed to teach themselves

Students were only slightly satisfied with course lectures and interactions due to a

perceived misalignment of class content to lab, simulation and clinical experiences.

Open-ended comments indicated that some students felt overloaded with content and did

not find that there was the desired integration of course and clinical content that would

help to foster deeper understanding (Ostrogorsky & Raber, 2014). Conversely,

Ostrogorsky and Raber did not find that students experienced more stress or burden with

the new program than with a traditional nursing program.

Chapter 4

Discussion of Findings

Intentional learning in the nursing clinical context is still a new concept. The

following section will examine the qualitative and quantitative outcomes in the contexts

of this review's guiding questions in an attempt to determine what intentional learning

practices are currently being implemented and to gain a deeper understanding of what

impact they have had on nursing education.

What specific intentional learning practices are being implemented at the

clinical level? The nursing programs at UNM and the OCNE included a number of

intentional learning practices. The OCNE program used CBLAs as an intentional

learning tool to move away from rote memorization and focused on deeper learning of

specific concepts as well as promoting pattern recognition (Ostrogorsky & Raber, 2014).

Clinical assignments had an in-depth integrative learning focus rather than the total

patient care approach of traditional clinical settings (Benner, 2012). In this manner,

students and faculty could focus on critically thinking about the concept and how it

related to patients and health/illness instead of focusing on task-orientation (Nielsen et al., 2013).

Giddens et al. (2008) noted that a concept-based curriculum can de-emphasize content, foster critical thinking and de-emphasize boundaries produced by population- or setting-based instruction. The new curriculum introduced at UNM used concept-focused clinical experiences set up much like the CBLAs of the OCNE. Students reviewed concepts prior to clinical practice, participated in clinical experiences, and then further explored the differing presentations with peers in post conference. The preparation and reflection used in the application of these tools promoted cognitive development and practical application and helped to bridge the theory practice gap (Nielsen et al., 2013). Both the CBLAs in the OCNE and the concept-focused clinical experiences at UNM have shown promising results but require further study to confirm these findings (Giddens & Morton 2010; Lasater & Nielsen, 2009).

How are nursing programs integrating classroom content and intentional learning clinical experiences? The OCNE and the UNM curricula have attempted to address the limitations of random access learning opportunities in the clinical setting by utilizing CBLAs, direct-focused client care experiences, concept-focused learning experiences, and HFPS (Giddens & Morton, 2010; Lasater & Nielsen, 2009). The timing of preparatory work just prior to clinical exposure aided students in transferring theory into practice (Lasater & Nielsen, 2009). Findings indicated that faculty guidance during clinical teaching remained important for students to make the appropriate linkages between didactic course work and clinical experiences (Giddens et al., 2008).

In the OCNE and at UNM, simulation played an interesting role in bridging classroom and clinical content with mock clinical experiences. The UNM curriculum incorporated HFPS that linked didactic course material into clinical application. The simulation labs had specifically designed learning experiences that linked with theory as an adjunct to traditional clinical practices to address the shortage in clinical placements (Lee & Hung, 2014; Robinson & Dearmon, 2013; Waters et al., 2012; Hope et al., 2011; Giddens et al., 2008). Evidence illustrated that the active experience of simulation increased student motivation and interest while developing skills in teamwork, delegation, communication, psychomotor practice and clinical decision-making within a safe environment (Giddens et al., 2008; Medley & Horne, 2005). These findings support Hope et al.'s (2011) argument that simulation should be used in conjunction with other clinical teaching modalities and that simulation may be useful to address situations that may be uncommon, hazardous, or costly to set up.

How are nursing faculty creating intentional learning experiences to pair and develop along with the changing student level? Scaffolding of concepts was a strong theme common in all three studies (Ostrogorsky & Raber, 2014; Giddens & Morton, 2010; Lasater and Nielsen, 2009) as a means to adapt to students' advancing learning needs. The authors all agreed that previously learned concepts should be layered with advancing complexity and be delivered with decreasing faculty support in order to promote autonomy in learning. It is important to note that beginning UNM students misinterpreted increasingly complex exemplars bridged across courses as content repetition resulting in faculty needing to alter their scaffolding approach (Giddens & Morton, 2010).

As students were first introduced to clinical learning at the OCNE, concept-based experiences such as CBLAs were used to promote pattern recognition regarding the concept being explored (Gubrud-Howe & Schoessler, 2009). At the UNM, Giddens and Morton (2010) noted that relating prerequisite courses such as pharmacology with concept-focused learning activities in earlier years, helped to create conceptual linkages with clinical courses.

As students continued to gain knowledge and experience in the OCNE, they transitioned to direct-focused client care experiences. This differed from total patient care in that students focused only on activities that would assist them to meet course competencies. Students did assume responsibilities for care that they had mastered but the focus remained on the learning of more complex course outcomes such as becoming a therapeutic agent (Nielsen et al., 2013; Gubrud-Howe & Schoessler, 2009).

The UNM program utilized clinical intensives in later years to support specialty knowledge surrounding specific populations and built on concepts garnered in earlier years (Giddens et al., 2008). In line with adult learning theory, students were able to choose their clinical intensives based on their own perceived learning needs (Giddens et al., 2008).

As students progressed to degree completion, intentional learning experiences at the clinical level became less defined. The OCNE used integrative experiences, which had a clinical focus of integrated concepts, case-based learning, and skills that were specific to the course outcomes at a senior level (such as population-based care) (Nielsen et al., 2013). There were no reported clear linkages between course content and clinical practice experiences as students were assigned to a staff nurse. Students at this level

were expected to guide their own learning to meet course competencies. This element challenged students to merge what they had learned with new concepts in order to increase their understanding of practice from differing perspectives (Nielsen et al., 2013).

What have faculty, students, and practicing nurses reported about the inclusion of intentional learning practices into clinical experiences? Faculty and student feedback on the inclusion of intentional learning practices has generally been positive. At the OCNE, students using CBLAs found they were beneficial to connect theory with patient findings and that they provided a bridge between theory and practice (Lasater & Nielsen, 2009). However, during initial program implementation, students noted some frustration with the perceived disconnection between classroom content and clinical experiences (Ostrogorsky & Raber, 2014). This contradiction in student responses could lend to the continued presence of a theory practice gap. This is interesting to note as closing the gap between theory and practice is one of the main focuses of a new intentionally designed clinical curriculum.

Nielsen (2009) noted that intentionally designed learning situations fostered a deeper understanding and increased critical thinking in students' regarding the focused concept. They also helped students focus on the relationship between assessment findings, nursing care, and patient outcomes rather than on completing tasks, thereby supporting complexity in student learning (Nielsen, 2009). Although Lasater and Nielsen's CBLA study (2009) was a relatively small mixed methods study, results were promising as the data showed that this type of learning activity was successful in guiding clinical thinking when students had limited experience with subject matter and may have increased clinical judgement.

Nielsen (2009) reported that typically, faculty time during traditional total patient care clinical practicums focused on comprehensive aspects of patient care and safety. By moving away from total patient care, to an intentionally focused clinical experience, faculty were able to shift their attention to concept interaction with the student learner. Lasater and Nielsen (2009) noted that the learning curve for faculty to introduce CBLAs into their clinical curriculum could act as a barrier to using them at their full potential. Giddens et al. (2008) also noted that CBLAs and concept-focused learning experiences changed the activities of students and faculty at the clinical practice sites, and both staff and institutions needed time to adapt. New technology at the UNM, including "The Neighbourhood" web based community program and HFPS, also required time for faculty to become proficient. Clearly, when new approaches were implemented, it was evident that time was needed for faculty and staff to fully utilize them effectively.

How has intentional learning changed student workload? The only literature that addressed workload pressures on students with the addition of intentional learning practices in clinical experiences was Ostrogorsky and Raber (2014). Student feedback indicated frustration resulting from a sense of detachment between classroom content and clinical experiences. This frustration was intensified by course content overload and assignment timelines, not as a result of intentional learning assignments per se. It is also salient to note, that despite this sense of detachment, the overall findings did not indicate an increase in student stress in comparison to traditional nursing programs (Ostrogorsky & Raber, 2014).

How does intentional learning affect student attrition from nursing programs and regulatory exam pass rates? Progression and attrition data related to intentional

learning practices was limited and therefore offered limited evidence. The UNM 2007

NCLEX first time pass rate data from the new program dropped from 90% to 83%

(Giddens and Morton, 2010). In 2009, after the new curriculum had been delivered for 2

years, and program adjustments had been made in response to student and faculty

feedback, the first time NCLEX pass rate increased to 89% (Giddens & Morton, 2010).

Giddens and Morton (2010) noted that a decrease in pass rates may be an unintentional

consequence of beginning any new curriculum. The relevance of this data specific to

intentional learning is unclear as there was an array of changes that occurred during the

curriculum implementation. These changes included a change in admission criteria,

program delivery length, addition of rural satellite sites, several new teaching modalities

as well as changes in administrative leadership and faculty (Giddens & Morton, 2010).

Chapter 5

Implications for Curriculum Development

Benner et al. (2010) highlight the need for nursing education reform to address the

theory practice gap and content saturation that is apparent in traditional nursing curricula.

Unfortunately, designing nursing curricula to meet this call for reform is not an easy task

as there is limited literature on program evaluation and curriculum design to inform such

a transformation. The studies reviewed in this paper (Ostrogorsky & Raber, 2014;

Giddens & Morton, 2010; Lasater & Nielsen, 2009) were conducted as program

evaluations and reported on the effectiveness of intentional learning practices that were

designed as one way to address the call for nursing education reform.

Intentional learning approaches show promise. Theoretically, intentional

learning looks to be a promising strategy to address the current issues of both content

saturation and the theory practice gap facing nursing education. Interestingly, the limited

studies available thus far do provide some evidence to support intentional learning as an

effective method.

Data showed that intentional learning enabled students to relate concepts directly

to patient care and also increased their ability to use learned information in later

experiences (Lasater and Nielsen, 2009). Moreover, students reported a deeper

understanding of specific concepts, when clinically based learning activities were coupled

with faculty-assisted discussions (Lasater & Nielsen, 2009). Additionally, students noted

that conceptual learning transferred over to inform their practice, and preceptors noted a

positive change in graduates, although specific examples where not given (Giddens and

Morton, 2010).

Furthermore, the literature revealed that the theory practice gap was reduced when

teaching of key concepts was synchronized in theory and practice courses (Giddens and

Morton, 2010; Lasater & Nielsen, 2009).   Students clearly and consistently identified

that it was critical to align classroom and clinical content in order to support effective

learning (Ostrogorsky and Raber, 2014). In addition to the need to align classroom and

clinical teaching, there was also evidence that faculty guidance in the linking of theory to

the clinical findings was critical to support student learning (Giddens & Morton 2010).

Critical thinking and clinical judgement. The literature also indicated that

intentional learning as a curricular framework has the potential benefit of enhancing

clinical learning in nursing education (Ostrogorsky & Raber, 2014; Giddens & Morton,

2010; Lasater & Nielsen, 2009). The general consensus was that intentional learning

practices in the clinical setting helped to foster a deeper understanding of concepts and

increased both critical thinking and clinical judgement in student nurses (Ostrogorsky &

Raber, 2014; Giddens & Morton, 2010; Lasater & Nielsen, 2009).

The literature suggests that when there is a scaffolding of concepts across courses

or years, it is paramount to ensure increasing complexity to meet the changing learning

needs of advancing students. It is strongly recommended that due diligence is taken to

ensure clear links when building in new content and threading older concepts so as to

decrease student frustration and maximize the benefit of the scaffolding technique

(Giddens & Morton, 2010).

Informing curriculum revisions. The findings within this review show that the

curriculum revisions incorporating intentional learning or new technology requires

careful planning and support for implementation. It is imperative to provide faculty

development and support as well as allowing adequate time for faculty to become well

versed with the new program and technologies being used (Ostrogorsky & Raber, 2014;

Giddens & Morton, 2010; Lasater & Nielsen, 2009).

Giddens et al. (2008) noted the need for faculty oversight and support during the

implemented changes to ensure quality and consistency. Resistance to change can greatly

impact success with curriculum revisions. It is recommended that institutions assess the

level of adherence to implemented changes to accurately assess any impact the changes

may have on student learning and performance (Herinckx, Munkvold, Paschall, Winter &

Tanner, 2014).

Recommendations for further research. Currently, there is limited information

available in the literature about the results of curricular changes in nursing programs.

Nurse educators must embrace program evaluation research and disseminate their results

so that others can learn from their experiences, gaining insight into the most effective

educational approaches. Additional research is needed on the outcomes of utilizing

intentional learning and conceptual approaches in clinical nursing education across four-

year baccalaureate nursing programs (Spector & Kim, 2014). Moreover, additional

studies are needed to examine the impact of intentional learning practices on outcomes

such as critical thinking and clinical judgement. Research should include exploring

factors that support or hinder the linking of didactic content and to clinical learning.

Chapter 6

Conclusion

Globally, there has been an increase in the complexity of health care and health

care environments that coincides with an increasing nursing shortage (Benner, 2012).

These dramatic changes demand that nursing revisits how new nurses are educated and

prepared to enter this challenging profession. Clinical practice education is a cornerstone

in the discipline of nursing as it provides experiential learning in which students learn in

action (Nielsen, 2013). No one questions the need for clinical experiences as part of

nursing curricula; however, there have been questions regarding the best approach.

Ironically, despite the questioning, there has been little change in the approach to clinical

teaching over the past few decades (Giddens, 2008). The increased patient acuity and

complexity of care have served to place increased stress on student nurses' ability to

learn, as well as on the ability of faculty and nursing staff to adequately supervise

students to ensure patient safety – a requirement that is part and parcel of random access

learning (Robinson & Dearmon, 2013; Benner, 2010; Benner, 2012; Nielsen, 2009;

Gubrud-Howe, & Schoessler, 2008; Tanner, 2006; Tanner, 2007; Tanner et al., 2008).

Intentional learning approaches have been one response to Benner et al.'s (2010) call for reform in nursing curricula to bridge the theory practice gap, address content saturation, and alleviate pressure on overtaxed clinical settings. In this review, three studies were examined to further understand the impact that intentional learning approaches in the clinical setting have had on teaching and learning in nursing education (Ostrogorsky & Raber, 2014; Giddens & Morton, 2010; Lasater & Nielsen, 2009). Although the research is limited, the findings to date provide evidence that suggests intentional learning strategies increase critical thinking, increase clinical judgement, and provide stronger connections between didactic theory and clinical practice. The review further uncovered that intentional learning is based on a conceptual approach to teaching that helps students connect classroom content to clinical learning. It is vital that faculty ensure that clear and strong links are made between concepts in theory and practice to best support student learning (Ostrogorsky and Raber, 2014; Giddens & Morton 2010).

Nursing is a complex profession with a vast knowledge base and a need for a diverse skill set. It is of the utmost importance to develop nursing curricula that promote successful progressive learning opportunities, providing students with the competencies necessary to transition into the complex health care environment. Experiences with curriculum design/re-design should be evaluated or researched, and findings should be disseminated so that nurse educators may review the evidence to identify best practices. Thus far, there is promising support for conceptual teaching and intentional learning based upon the limited publications of a few relatively new programs. Hopefully, as more nursing institutions adopt conceptual approaches and intentional learning practices into their clinical practice education; the body of literature will grow.

Appendix A

CINAHL Database (English, Academic Journals)		Search combined due to #'s	Articles Having
Search Terms	**Number of Hits**		**Applicable Content**
1. Nurs*,education, clinical teaching	2019	Too large #	
2. Curriculum, new	3382	Too large #	
1 & 2 (and)	34		2
3. Nurs* education, reform, curriculum	112	Too large #	
4. Nurs*, curriculum, change	559	Too large #	
3 & 4 (and)	35		0
5. Nurs*, clinical	76,741	Too large #	
3 & 4 (and) & 5	13		4
6. Concept-based, clinical, nurs*	13		5
7. Nurs*, curriculum development, reform	31		0
8. Nurs*, directed learning, clinical	205	Too large #	
9. Undergraduate nurs*, clinical	416	Too large #	
8 & 9 (and)	5		0
10. Intent* learning, nurs*, clinical	14		1
11. Nurs*, situated learning	28		0
12. Clinical, nurs*	72,700	Too large #	
11 & 12 (and)	20		0
13. Oregon Consortium (or) OCNE	14		2
14. Situated learning model, nurs*	5		0
15. Outcomes, nurs* education, concept-based	9		2
16. Clinical, practice, nurs*	21,190	Too large #	
17. Nurs* student, active learn*	143	Too large #	
16 & 17 (and)	21		0
18. Active learning, nursing students, practice	36		1
19. Intent*, develop*, nurs*	1110	Too large #	
20. Learn*, education, teach*	14,509	Too large #	
19 & 20 (and)	64		0
21. Curriculum change, nurs*	125	Too large #	
19 & 20 (and) & 21	2		0

EBSCOhost (ERIC, CINAHL, Medline with full text- English, Scholarly peer reviewed journals)

	Number of Hits		Applicable Content
1. Intent* learn*, nurs*, clinical	7		1
2. Nurs*, situated learn*, clinical	8		0
3. Nurs*, targeted learning, clinical	5		0
4, Benner, p, nurs*, education	29		1
5. Tanner, c, nurs*, curriculum	14		1
6. Gubrud-Howe, nurs*	12		3
7. Schoessler, nurs* curriculum	5		2
8. Schoessler, nurs*, clinical	24		3

Snowballing Technique

	15		11

Appendix B

Inclusion Criteria for Literature Review

- The presence of a focused framework with experiential-based learning

  opportunities

- Course content clearly linked with the clinical content

- Clinical experiences designed to meet specific learning outcomes

- Undergraduate nursing programs

- Qualitative or quantitative research

Article	Included (meets criteria)	Excluded (reason)
Lasater, K. & Nielsen, A. (2009) The influence of concept-based learning activities on students' clinical judgment development	X	
Ostrogorsky, T.L & Raber, A.M. (2014) Experiences of first-year nursing students during an education redesign: findings from the oregano consortium for nursing education	X	
Giddens, J. G & Morton, N. (2010) Report card: An evaluation of concept-based curriculum	X	
Robinson, B., K., & Dearmon, V. (2013).		Based on lab simulation outside of clinical, narrative
Hope, A., Garside, J., & Prescott, S. (2011).		Based on lab simulation outside of clinical
Waters, C., Denise, Rochester, S., Freda, & Mcmillan, M., Anna. (2012).		Narrative,
Paulson, C. (2011).		Faculty outcomes of implementation on

		simulation labs replacing clinical experiences
Niederhauser, V., Schoessler, M., Gubrud-Howe, P., Magnussen, L., & Codier, E. (2012).		Virtual clinical environments using avatars
Stanley, M., & Dougherty, J. P. (2010).		Narrative
Ironside, P. M. (1999).		Narrative, does not have course content clearly linked with clinical, out of date parameters
Tanner, C. A. (2007).		Narrative
Giddens, J. F., & Brady, D. P. (2007).		Narrative, based on classroom not clinical
Lewis, L., S. (2014).		Concept-based curriculum not clearly linked with clinical
Giddens, J.F., Wright, M., & Gray, I. (2012).		Narrative, Concept-based curriculum not clearly linked with clinical
Ironside, P., & McNelis, P. (2010).		Survey on faculty difficulties in clinical not on a specific clinical format or framework
Cooke, M., & Donovan, A. (1998).		Classroom teaching, out of date parameters
Gubrud-Howe, P., & Schoessler, M. (2008).		Narrative
Benner, P. (2012).		Narrative
Herinckx, H., Munkvold, J., Paschall, Winter, E., & Tanner, C., A. (2014).		Study to measure the implementation adherence of a new curriculum, not about actual curriculum
Gubrud-Howe, P., & Schoessler, M. (2009).		Narrative about OCNE
Nielsen, A. (2009).		Narrative
Tanner, C. A., Gubrud-Howe, P., & Shores, L. (2008).		Narrative
Nielsen, A., E., Noone, J., Voss, H., & Mathews, L., Rae. (2013).		Narrative

References

Benner, P., Sutphen, M., Leonard, V., & Day, L. (2010). *Educating nurses. A call for radical transformation.* Stanford, CA: Jossey-Bass.

Benner, P. (2012). Educating nurses: A call for radical transformation-how far have we come? *The Journal of Nursing Education, 51*(4), 183-184. doi:10.3928/01484834-20120402-01

Brandon, A. F., & All, A. C. (2010). Constructivism theory analysis and application to curricula. *Nursing Education Perspectives, 31*(2), 89-92. Retrieved from http://www.nln.org/newsroom/newsletters-and-journal/nursing-education-perspectives-journal

Chambers, D., Thiekötter, A., & Chambers, L. (2013). Preparing student nurses for contemporary practice: The case for discovery learning. *Journal of Nursing Education and Practice, 3*(9), 106. doi:10.5430/jnep.v3n9p106

Cooke, M., & Donovan, A. (1998). The nature of the problem: The intentional design of problems to facilitate different levels of student learning. *Nurse Education Today, 18*(6), 462-469. Retrieved from http://www.nurseeducationtoday.com/

Feingold, D. E., Calaluce, M., & Kallen, M. A. (2004). Computerized patient model and simulated clinical experiences: Evaluation with baccalaureate nursing students. *Journal of Nursing Education, 43*(4), 156-163. Retrieved from http://www.healio.com/nursing/journals/jne

Giddens, J. F., & Brady, D. P. (2007). Rescuing nursing education from content saturation: The case for a concept-based curriculum. *Journal of Nursing Education, 46*(2), 65-69. Retrieved from http://www.healio.com/nursing/journals/jne

Giddens, J., Brady, D., Brown, P., Wright, M., Smith, D., & Harris, J. (2008). A new

    curriculum for a new era of nursing education. *Nursing Education Perspectives,*

    29(4), 200-204. Retrieved from http://www.nln.org/newsroom/newsletters-and-

    journal/nursing-education-perspectives-journal

Giddens, J. F., & Morton, N. (2010). Report card: An evaluation of a concept-based

    curriculum. *Nursing Education Perspectives, 31*(6), 372-377. doi:10.1043/1536-

    5026-31.6.372

Gubrud-Howe, P., & Schoessler, M. (2009). *OCNE clinical education model.* In Ard, N.,

    & Valiga, T. M. (Eds.), *Clinical nursing education: Current reflections. 3*(39-58).

Gubrud-Howe, P., & Schoessler, M. (2008). Guest editorial from random access

    opportunity to a clinical education curriculum. *Journal of Nursing Education, 47*(1),

    3-4. Retrieved from http://www.healio.com/nursing/journals/jne

Handwerker, S., M. (2012). Transforming nursing education: A review of current

    curricular practices in relation to Benner's latest work. *International Journal of*

    Nursing Education Scholarship, 9(1), 1-16. doi:10.1515/1548-923X.2510

Herinckx, H., Munkvold, J., Paschall, Winter, E., & Tanner, C., A. (2014). A measure to

    evaluate classroom teaching practices in nursing. *Nursing Education Perspectives,*

    35(1), 30-36. doi:10.5480/11-535.1

Hope, A., Garside, J., & Prescott, S. (2011). Rethinking theory and practice: Pre-

    registration student nurses experiences of simulation teaching and learning in the

    acquisition of clinical skills in preparation for practice. *Nurse Education Today,*

    31(7), 711-715. doi:10.1016/j.nedt.2010.12.011

Hung, W. (2014). Intrinsic and extrinsic intentional learning: The difference made by

    self-determination. *Australian Journal of Education, 58*(1), 50-58.

    doi:10.1177/0004944113517832

Institute of Medicine. (2008). *IOM report: Evidence-based medicine and the changing*

    nature of healthcare: Workshop summary. Washington, DC: National Academy

    Press.

Lasater, K., & Nielsen, A. (2009). The influence of concept-based learning activities on

    students' clinical judgment development. *Journal of Nursing Education, 48*(8), 441-

    446. doi:10.3928/01484834-20090518-04

Lee, C. B., & Hung, W. (2014). From the guest editors: Fostering intentional learning

    with technologies. *Australian Journal of Education, 58*(1), 3-8.

    doi:10.1177/0004944113517795

Medley, C. F., & Horne, C. (2005). Using simulation technology for undergraduate

    nursing education. *Journal of Nursing Education, 44*(1), 31-34. Retrieved from

    http://www.healio.com/nursing/journals/jne

 Niederhauser, V., Schoessler, M., Gubrud-Howe, P., Magnussen, L., & Codier, E.

    (2012). Creating innovative models of clinical nursing education. *Journal of Nursing*

    Education, 51(11), 603-608. doi:10.3928/01484834-20121011-02

Nielsen, A. (2009). Educational innovations. Concept-based learning activities using the

    clinical judgment model as a foundation for clinical learning. *Journal of Nursing*

    Education, 48(6), 350-354. doi:10.3928/01484834-20090515-09

Nielsen, A., E., Noone, J., Voss, H., & Mathews, L., Rae. (2013). Preparing nursing

students for the future: An innovative approach to clinical education. *Nurse

Education in Practice, 13*(4), 301-309. doi:10.1016/j.nepr.2013.03.015

Ostrogorsky, T. L., & Raber, A. M. (2014). Experiences of first-year nursing students

during an education redesign: Findings from the Oregon consortium for nursing

education. *Nursing Education Perspectives, 35* (2), 115-121. doi:10.5480/12-854.1

Robinson, B., K., & Dearmon, V. (2013). Evidence-based nursing education: Effective

use of instructional design and simulated learning environments to enhance

knowledge transfer in undergraduate nursing students. *Journal of Professional

Nursing, 29*(4), 203-209. doi:10.1016/j.profnurs.2012.04.022

Scardamalia, M., & Bereiter, C. (2010). A brief history of knowledge

building. *Canadian Journal of Learning and Technology / La revue canadienne

de l'apprentissage et de la technologie, 36*(1), 1-16. Retrieved from

http://www.cjlt.ca

Seropian, M. A., Brown, K., Gavilanes, J. S., & Driggers, B. (2004). Simulation: Not

just a manikin. *Journal of Nursing Education, 43*(4), 164-169. Retrieved from

http://www.healio.com/nursing/journals/jne

Smith, A. (2001). Soap box nursing in a time of change: A case of critical thinking.

Contemporary Nurse: A Journal for the Australian Nursing Profession, 10(3), 194-

200. doi:10.5172/conu.10.3-4.194

Spector, J. M., & Kim, C. (2014). Technologies for intentional learning: Beyond a

cognitive perspective. *Australian Journal of Education, 58*(1), 9-22.

doi:10.1177/0004944113517828

Stanley, M., & Dougherty, J. P. (2010). Nursing education model. A paradigm shift in

    nursing education: A new model. *Nursing Education Perspectives, 31*(6), 378-380.

    doi:10.1043/1536-5026-31.6.378

Tanner, C. A. (2006). The next transformation: Clinical education. [Editorial]. *Journal of*

    Nursing Education, 45, 99-100. Retrieved from

    http://www.healio.com/nursing/journals/jne

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. Retrieved from

    http://www.healio.com/nursing/journals/jne

Tanner, C. A. (2007). Nursing education: Current themes, puzzles and paradoxes.

    Communicating Nursing Research, 40, 3-14.

Tanner, C. A., Gubrud-Howe, P., & Shores, L. (2008). The Oregon consortium for

    nursing education: A response to the nursing shortage. *Policy, Politics & Nursing*

    Practice, 9(3), 203-209. Retrieved from http://ppn.sagepub.com

Waters, C., Denise, Rochester, S., Freda, & Mcmillan, M., Anna. (2012). Drivers for

    renewal and reform of contemporary nursing curricula: A blueprint for change.

    Contemporary Nurse: A Journal for the Australian Nursing Profession, 41(2), 206-

    215. Retrieved from http://www.contemporarynurse.com