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The Effects of a Concept-Based Curriculum on Nursing Students' NCLEX-RN Exam Scores

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COLLEGE OF EDUCATION

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MN, Emory University, 1984

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

The Institute of Medicine and the National League of Nursing have called for curricular reform that promotes high first-time pass rates on the National Counsel of Licensure Examination for Registered Nurses (NCLEX-RN). A campus in the southeastern region of the United States implemented a concept-based curriculum; however, the effect on the first-time NCLEX-RN pass rates was unknown. The purpose of this comparative study was to determine if the concept-based curriculum improved student scores on the NCLEX-RN. Dreyfus' model of learning guided this study because of the andragogy tenets, which in turn supported the concept-based curricula. The research questions examined the differences in NCLEX-RN pass rates, Diagnostic, and Readiness exam scores between students taught with a content-based and those taught with the concept-based curriculum. The chi-square test for pass rates and MANOVA for test scores was employed to analyze archival test data from 237 participants, 100 who had studied under the content-based and 137 under a concept-based curriculum. Participants included all nursing graduates from the years 2008-2014 who had taken the NCLEX-RN exam. Results indicated that concept-based curriculum had significantly better first-time pass rates on the NCLEX-RN exam (85%) than did content-based curriculum (73%). Results also indicated that the concept-based curriculum had a higher Diagnostic exam mean score (64.77) as compared to the content-based curriculum (61.19) as well as Readiness exam mean score (70.99) as compared to the content-based curriculum (61.19). Implications for positive social change include providing the research site with results that support shifting the curriculum of the nursing program to a more innovative, concept-based approach to improve exam scores and first-time pass rates.

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Table of Contents

List of Tables

List of Figures

Section 1: The Problem

Introduction

In the past decade, an increasing number of nursing programs have rejected traditional content-based nursing curriculum in favor of concept-based curricula (Brady, 2011; Giddens, 2007; Giddens & Brady, 2007; Hardin & Richardson, 2012). With this shift in curriculum, nursing educators will close the education-to-practice gap allowing the emerging workforce of nurses to think critically which is necessary to provide quality patient care (Colucciello, 1997; Herinckx, Munkvold, & Tanner, 2014; Kantor, 2010; McNiesh, Benner & Chesla, 2010). Yet, there has been little research demonstrating the effects of concept-based curriculum on academic performance measures such as first-try pass rates on the National Counsel of Licensure Examination for Registered Nurses (NCLEX-RN).

I found results for measuring outcomes of concept-based curricula to be diverse at the local level. At a local nursing school in Orlando, Florida, nursing programs must transition from a traditional content-based curriculum to a concept-based curriculum while maintaining high NCLEX-RN first-try pass rates. Giddens and Morton (2010) wrote that concept-based curricula may improve critical thinking skills and help prepare nursing students for practice, yet this type of curricula have not been validated by NCLEX-RN pass rates (Herinckx et al., 2014; Lewis, 2014). The NCLEX-RN is a content-driven test, which may not have a one-to-one correlation with the concepts taught in concept-based curricula that typically cover less content (Kantor, 2010; Nielsen, 2009). To gauge student preparation before NCLEX-RN attempts, the school under review had administered the NCLEX-RN Readiness and Diagnostic Exams, which demonstrated a

92.7% accurate determination of whether a student would pass or fail the NCLEX-RN on the first try (Kaplan Nursing, 2014). As such, the Readiness and Diagnostic exams were used as comparable to the scores students would receive on the NCLEX-RN.

This section defined the problem, elaborated on the project rationale, provided significance of the problem both in practice and for institutionalized nursing education, discussed the current literature, and identified potential implications for the research.

Definition of the Problem

Recent years have seen the Institute of Medicine (IOM, 2003) and National League of Nursing (NLN, 2005) produce seminal publications calling for radical reform in nursing education in order to prepare the nursing workforce for competency in the 21st century health care environment. Traditional content-based pedagogical models are no longer adequate given the rapidly evolving arena of health information technology, significant changes in health care delivery, and the perceived academic-practice gap among nurses (Giddens & Brady, 2007). Furthermore, the emergence of evidence-based practice as the predominant approach to clinical health care requires nurses to use critical thinking skills to adapt clinical practice based on the rapidly evolving body of scientific evidence (McNiesh, Benner, & Chesla, 2010).

Chief among the concerns about the traditional teaching model is content saturation, which researchers have described as a barrier to the development of critical thinking skills (Giddens & Brady, 2007; Giddens et al., 2008). Over the past 10 years, nursing program curricula changes have focused on adding content rather than refining essential concepts needed to prepare nurses for entry into the work force (Tanner, 2010). This has led education specialists to describe nursing curricula at all degree levels as

"overly crowded" (IOM, 2003, p. 38) and "content saturated" (Giddens & Brady, 2007, p. 65). Furthermore, the traditional medical diagnosis approach endorses repetition of information and has a tendency to teach concepts in isolation (Hardin & Richardson, 2012). A concept-based curriculum alleviates this content saturation by concentrating on defined concepts and identified exemplars that prevent repetition of instruction thus focusing on the practice base (Hardin & Richardson, 2012). The change from a traditional content-based curriculum to a concept-centered curriculum has facilitated nurse educators' focus on theoretical concepts, critical thinking skills, and nursing knowledge (Kantor, 2010).

On the other hand, studies have demonstrated that conceptual learning promotes critical thinking and active learning skills by fostering critical thinking skills necessary for the nursing profession (Giddens et al., 2008; Rideout et al., 2002). Shaped by the six core learning principles described by Knowles' (1980, 2011) model of andragogy, concept-based instruction encourages students to engage in self-directed learning and to apply concepts to a wide range of applications in the classroom, laboratory and clinical settings. Only within the last decade have scholars and practitioners endorsed concept-based curriculum as the framework of choice for nursing education (Giddens et al., 2008). In nursing programs, the organization of a concept-based curriculum will focus around competency of knowledge and patient-care skills through development of critical thinking and analytical proficiency. Equipped with this research, collegiate nursing programs throughout the United States have begun to transition from the traditional content-based approach to a concept-based model.

To date, there has been little evidence to support the effectiveness of the shift toward concept-based nursing programs. Early studies have assessed faculty and student perceptions regarding the concept-based approach rather than examining impacts on academic performance measures (Giddens & Brady, 2007; Giddens & Morton, 2010; Nielsen, Noone, Voss, & Mathews, 2013). Researchers on this subject have concluded that additional empirical data are required to validate this major educational reform and lend credibility to the new curriculum model (Giddens et al., 2008; Lewis, 2014; Schreier, Perry, & McLean, 2009).

Purpose Statement

The purpose of the study was to determine whether prospective nurses who completed concept-based curriculum achieved higher scores on national standardized nursing examinations, as measured by the Kaplan Readiness, Kaplan Diagnostic and NCLEX-RN than those who completed traditional content-based curriculum. In addition, based on the quantitative results of archival data from the program's implementation, I developed a policy paper designed to convince those within the university to transition all campuses to a concept-based curriculum.

Rationale

Evidence of the Problem at the Local Level

A university in Orlando houses one of the three largest Associate Degree Nursing (ADN) programs in central Florida. In 2008, the program's NCLEX-RN pass rate was 81.48%, which is 5.25% below the national average, and in 2009, the NCLEX-RN pass rate was 83.33%, which is 5.09% below the national average (National Council of State Boards of Nursing, 2015). Prompted by concerns that the university's traditional content-

based nursing program curriculum failed to meet key student academic performance measures, faculty and leadership made the strategic decision to transition to concept-based curricula. Since the May 2011 implementation of the concept-based curriculum, nursing faculty had expressed concerns that students were not performing as well academically and feared that the NCLEX-RN pass rate would decrease (Nursing Faculty Minutes, personal communication, May 26, 2011). The 2011 NCLEX-RN pass rate for the nursing program was 93%, which was above the national NCLEX-RN pass rate average (Nursing Faculty Minutes, personal communication, February 24, 2011) yet still well below the target pass rate of 95%. University stakeholders required evidence to support or debunk the new approach to enable university faculty to chart their best path forward, adapting curriculum in a way that best meets the demands of the profession and achieves buy-in from nursing faculty.

Evidence of the Problem from the Professional Literature

One of the greatest concerns among faculty regarding concept-based curricula is that students will fail to pass the NCLEX-RN on the first attempt (Hickey, Forbes & Greenfield, 2010; Schreier et al., 2009). The yearly first-time pass rate on the NCLEX-RN for a nursing program has remained one of the most used indicators of success by state boards of nursing and accrediting bodies (NLN, 2005). According to some prominent nursing education specialists, an acceptable nursing curriculum must prepare the student to pass the NCLEX-RN on the first try (Davis, 2011).

Faculty buy-in into the development and implementation of a concept-focused curriculum is paramount for its success (Morse & Jutras, 2008). Young (2004) wrote that nursing faculty who resist change or any type of curricular reform often point to

successful pass rates on the NCLEX as a barrier to reform. Faculty who expressed concern about content saturation in the nursing curriculum also feared students would not pass the licensure exam if a change was made; therefore, faculty have been hesitant to embrace curriculum reform (Tanner, 2010). According to Benner (2012), instructors are also hesitant to employ critical thinking teaching techniques over lecture styles in a concept-based curriculum because of the amount of content students must grasp before taking the NCLEX exam. Faculty resistance exacerbates the troubles with the transition, and more data regarding the pass rates may assist in continuing the transition or validating faculty concerns.

It has become clear that nursing program reforms at a university in Orlando, Florida are representative of a much broader paradigm shift in the field of nursing education. Because implementation of the concept-based approach has occurred only recently in nursing programs throughout the country, it is imperative that research be performed to evaluate its early successes and shortcomings as part of an interactive education reform process.

Definitions

Concept-based curriculum. Concept-based curriculum is a three-dimensional instruction model that frames factual content and skills with disciplinary concepts, generalizations and principles (Erickson, 2012). Concept-based curriculum provides a foundation and structure for delivery of nursing content based on defined concepts and their applications (Giddens et al., 2008). It deemphasizes content, fosters critical thinking, and decreases artificial boundaries (Giddens et al., 2008).

Critical thinking. Critical thinking is the ability to ascertain and analyze a situation based on applicable knowledge (Colucciello, 1997). Halpern (1993) defined critical thinking as purposeful, goal-directed thinking. Critical thinking, in nursing students, consists of both cognitive and affective components (Colucciello, 1997). Critical thinking skills are the ability to apply critical thinking in appropriate contexts (Paul & Heaslip, 1995).

Diagnostic exam. A standardized exam given through Kaplan Integrated Testing, that provides a probability score of the student passing the NCLEX-RN exam.

NCLEX-RN exam. A licensure exam for registered nurses that measures the competencies needed to perform safely and effectively as a newly licensed, entry-level Registered Nurse (Kaplan Nursing, 2013).

NCLEX-RN program pass rate. A nursing program's NCLEX-RN pass rate is reported quarterly and yearly in percentages.

Readiness exam. A standardized exam given during the Kaplan NCLEX-RN Review Course that provides a probability score of the student passing the NCLEX-RN exam.

Student academic performance. Performance defined by the scores on the Diagnostic, Readiness, and NCLEX-RN exams.

Traditional content-based curriculum. "The traditional two-dimensional model of topic-based curriculum focuses on factual content and skills with assumed rather than deliberate attention to the development of conceptual understanding and the transfer of knowledge" (Erickson, 2012, p. 4). The content-based model emphasizes a medical diagnosis approach and is often considered a segregated by specialty model (i.e., adult

health, maternal-child health, mental health; Giddens et al., 2008). This approach places emphasis on students focusing on topics, memorizing facts, and restating them for evaluation purposes (Giddens et al., 2008).

Significance

The move from traditional content-based curriculum to a concept-based approach represents a paradigm shift in nursing education. Both the IOM (2003) and NLN (2005) have expressed the need for radical education reform within the nursing profession to meet the demands of a dynamic 21st century health care environment. Most importantly, nurses must be equipped to think critically, which means to apply knowledge across diverse situations and subfields; and, to respond and adapt their practice to an ever-changing base of scientific evidence (Colucciello, 1997; Halpern, 1993). Concept-based curriculum is the predominant approach for achieving these goals for a workforce so critical to the functioning of the health care sector. Evidence-based practice must validate the concept-based approach if it is to become the new gold standard for nursing education. Because implementation of the concept-based approach has occurred only recently in nursing programs throughout the country, research is needed to evaluate its early successes and shortcomings as part of a comprehensive education reform process.

Evidence of support or rejection of the concept-based curriculum at a local nursing program in Orlando, Florida will help refine the program's instructional approaches and guide future curriculum reform plans. Because reform was implemented just years prior (2011), it was imperative for the university to collect data on whether the reform was achieving its desired outcomes. First-time pass rates for NCLEX-RN were not only an important measure to faculty, but also reflected on the university as a whole

and the reputation of the nursing program. Buy-in from identified stakeholders (students, faculty, university leadership, etc.) occurred through identified measures and perceived reform value.

Research Questions

The purpose of this study was to examine the effect that a concept-based curriculum would have on nursing student academic performance as compared to a traditional content-based curriculum. The research questions for this study were as follows:

Research Question 1: What significant differences exist between traditional content-based curriculum and concept-based curriculum on student achievement, as measured by NCLEX-RN?

$H_0$1**:** There is not a significant relationship between traditional content-based curriculum and concept-based curriculum on student achievement as measured by the nursing program's NCLEX-RN pass rate.

*Ha*1**:** There is a significant relationship between traditional content-based curriculum and concept-based curriculum on student achievement as measured by the nursing program's NCLEX-RN pass rate.

Research Question 2: What significant differences exist between traditional content-based curriculum and concept-based curriculum on student achievement, as measured by Diagnostic Exam scores and Readiness Exam scores?

*H_0*2**:** No significant differences exist between traditional content-based curriculum and concept-based curriculum on student achievement as measured by the Diagnostic Exam score and the Readiness Exam score.

*Ha*2**:** Concept-based curriculum students will have better student academic performance scores, as measured by the nursing program's Diagnostic exam scores and Readiness exam scores, than traditional content-based curriculum students.

Prior researchers have assessed faculty and student perceptions regarding the concept-based approach as an appropriate first step toward researching the feasibility and implementation of such a dramatic paradigm shift in nursing curriculum. With many nursing programs across the country having completed the transition to concept-based curriculum, the next logical step is to gather empirical data to determine whether the shift has had an impact on student performance measures. This study provided much needed data on the impact of the curriculum shift locally with limited generalizability to nursing schools throughout the United States that have undergone a similar transition.

Review of the Literature

The first step in determining a need for this study was a comprehensive literature search. CINAHL Complete, Google Scholar, and Academic Search Premier were used to complete the search with such keywords as *andragogy and Knowles*, *Benner and novice-to expert*, *concept-based curriculum*, *concept-based learning*, *nursing and resistance to change*, *student success*, *nursing faculty*, *nursing education*, *nursing pedagogy*, *traditional content-based nursing curriculum*, *evidence-based practice and nursing*, and *student academic performance being used*. Categories identified as pertinent to the literature review were the call for nursing education reform, nursing education reform (including guidelines, inhibitors, and motivation), use of the NCLEX-RN to evaluate

nursing curriculum change, and concept-based learning (including determining concepts, outcomes and drawbacks).

Theoretical Framework

For the study at hand, I used theory developed in the andragogical model of learning. According to the andragogical educational theory, adults require different best practices than those effective for children. Beginning in the 1950s, Knowles radically challenged traditional content-based models of pedagogy, suggesting that many best practices for teaching children would be ineffective for handling concerns of adult learners (Knowles, 1980). Specifically, Knowles (1980) cited tenets of the traditional content-based curricula such as lectures, assigned readings, drill, quizzes, memorization, and examinations (p. 40). By adhering to the natural learning process that most adults follow when attempting to learn something, Knowles argued that pedagogy could expand to better fit the traits typically associated with adults, that is, self-directedness, increased learners' experience, readiness to learn through demonstration of applicability, and performance-centered orientation toward learning. In general, adults prefer diversity, flexibility, active learning strategies, media rich content, and multiple learning modalities in educational environments (Brady, 2011) as opposed to the static role where traditional content-based curricula generally place the learner.

Although the concept of andragogy has been widely accepted by nurse educators, some critics have argued that separating the concept of andragogy from pedagogy has negative consequences (Darbyshire, 1993; Hartree, 1984; Tennant, 1986). Darbyshire (1993) noted that the evaluations that determined andragogy as an effective theory and led to its widespread use were its close relations with problem-based and self-directed

learning, despite these concepts being pedagogical practices in their own right. Darbyshire (1993) noted that the use of pedagogy provided significant opportunities for nursing reform by encouraging cross-disciplinary teaching practices. Tennant (1986) similarly argued that the widespread adoption of the theory called for scrutiny of its core assumptions, particularly the concept of self-actualization. In essence, many critics argued that the separation of andragogy and pedagogy has been unnecessary (Darbyshire, 1993; Davenport, 1993; Griffin, 1983; Tennant, 1986). However, in their focus on the development of the self as a political move, those who critique the theory may be missing the implications in learning that develop from the core concept that adults have a different orientation towards learning than children do.

In order to highlight the same notion of independent, self-guiding learning suggested by andragogy, I drew on the theory of novice-to-expert nursing education developed by Benner (1982), a model that depended on the Dreyfus model of learning, developed by Dreyfus and Dreyfus in 1980. The Dreyfus model proposed that learners progressed through five levels of proficiency (Dreyfus & Dreyfus, 1980). According to Dreyfus and Dreyfus (1980), the first level is that of a novice, or a person unfamiliar with the concept or task. The second level is that of the advanced beginner, who demonstrates more familiarity with the concept, but needs guidance completing the task. The third level is competency, which means that the person can perform the task alone, without guidance. The fourth level is proficiency, which means facility completing the task alone. The fifth level is expert, which means a person is able to perform the task each time expertly and able to teach the concept/task to another (Dreyfus & Dreyfus, 1980). Movement through the levels of development reflect a move from dependence on the

instructor to independence from the instructor, from abstract principles used in the early stages to specific concrete experiences as the learner progressed, and perception change, to the ability to sort pieces of events according to their importance. Benner (1982) applied this model to a group of nurses/nursing students in various stages of their careers in different settings, and found that this model was particularly descriptive of the learning process of nurses.

Benner's (1982) model has been thoroughly critiqued, particularly Benner's definition of the expert stage (Cash, 1995; English, 1993; Gobet & Chassy, 2008). In particular, English (1993) determined that Benner's definition of expertise as working from an intuitive base was unclear and therefore not useful as a construct in the theory. Cash (1995) disputed the idea of there being an expert due to the implications that this return to authoritarian models of nursing would have, that is, shifting from the push for open, anti-hierarchical educational strategies back to those that are more authoritative. However, all critics of Benner's theory did not dispute the general model of learning, but rather disputed definitions of stages (English, 1993); for example, Gobet and Chassy (2008) proposed a different orientation towards expertise and intuition in nursing, linking perception and conscious problem solving to determine an understanding of expertise that did not re-inscribe hierarchical attitudes towards nursing education. Thus, Benner's general model guided the study with its focus on adult learning practices, even though attempts to avoid the return to authoritarian practices in nursing education occurred.

In essence combining the theories of Knowles (1980) and Benner (1982), and therefore essential for understanding the theoretical framework of the study, Nielsen (2009) described nursing education as a four-step process that develops from dependence

to self-direction. In Stage 1 of the learning process, learners require explicit direction and lack necessary knowledge to recognize important information (Nielsen, 2009). At this stage, instruction should be closely supervised and focus on identifiable skills regarding one specific problem at a time. In Stage 2 of the process, investment of the learner occurs with the beginning development of self-direction. In order to optimize outcomes, instruction during this stage should focus on confidence building, motivation, and guidance (Nielsen, 2009). In Stage 3 of the process, learners are involved, view themselves as active participants in the educational process, and can reflect on their learning process (Nielsen, 2009). At this point, instruction should become facilitative rather than directive (Nielsen, 2009). Finally, after progressing through these stages, learners reach the fourth stage, where they are self-directed. Stage four completion brings about consultant phase where the instructor sets challenges and allows students to come to their own conclusions. All stages of the learning process are important when making curriculum changes (Brandon & All, 2010; Nielsen, et al., 2013).

In order to further the understanding of the learning processes of adults in nursing programs, Brandon and All's (2010) call for nursing programs to implement a constructivist approach to learning, wherein the learning process is active and constructive of new ideas and concepts, has guided the direction of this research. This focus has been evident in Knowles's (1980) theory of andragogy, Benner's (1982) novice-to-expert nursing education theory, and Nielsen's (2009) combination of these ideas into learning practices and associated instructor roles. Brandon and All argued that viewing learning through the constructivist lens lends itself to the recommendations for concept-based learning because the learning process has already formed around

conceptual understanding. Active-learning strategies therefore stimulate the natural processes of knowledge acquisition, rather than counteracting them as traditional strategies might.

Acknowledging the different processes of education proposed by Brandon and All (2010), and fostering it through classroom processes is essential to educating nurses successfully. For example, implementing simulations and other tenets of evidence-based practice can help close the gap between classroom and real-world application (Brady, 2011). These theoretical frameworks guide the push towards evidence-based practice and general nursing education reform evident in the current setting and should influence best practices in developing effective nurses. This theory is essential in reforming nursing education, as has been the trend in recent scholarship, discussed at length in the next section.

Call for Nursing Education Reform

The professional environment that new nurses enter has been steadily evolving and reforming for the past decade (Hickey et al., 2010, Nielsen, 2009, Tanner, 2010). Differences in the field include increasing demands for complexity and acuity in care, decreased lengths of stay, increased patient-to-nurse staffing ratios, shifted focus of recovery to home and community settings, developing technology and knowledge, and increased responsibilities for nursing staff (McNiesh et al., 2010; Nielsen, 2009; Tanner, 2010). In the midst of this changing environment, nurses demonstrate competency, which according to the NCSBN is "the application of knowledge and the interpersonal, decision-making, and psychomotor skills expected for the practice role, within the context of public health, safety, and welfare" (p. 109). Much of nurse education currently

requires that nurses specialize early in their careers based on outmoded views of nursing (Kenward & Zhong, 2006). In fact, the Carnegie Foundation for the Advancement of Teaching determined that nursing schools were not adequately responding to technological and science developments occurring in the practice setting (Tse et al., 2014).

Meanwhile, contrary to the assumption that some nurse educators have that most nurses are predominately entering specialized fields of nursing, as of 2006 87% received first employment in hospital settings (Kenward & Zhong, 2006). Eventually, however, the statistics became more equitable, with 60% of nurses practicing in hospitals while 40% practice in nonacute care settings (Tanner, 2010). Additionally, Tanner (2010) proposed that the nursing profession is shifting to a focus on community-based, rather than hospital-based, care, requiring different training for nurses and thus a "transformation of pre-licensure education" (p. 351). Based on these changing contexts, nurses obtaining their education must have generalist knowledge and core competencies that can translate to different contexts because their careers will most likely develop in different healthcare settings (Grady & Hobbins, 2009). The changing field of nursing brings about the inclusion of all factors as they relate to practice.

Having observed the changing field, the IOM (2003) determined five core competencies that all health care professionals needed to obtain to successfully practice nursing: patient-centered care, interdisciplinary teamwork, evidence-based practice, capability to improve, and use of informatics. New IOM strategies resulted from changing patient demographics, technology, and knowledge in nursing field (Hickey et al., 2010). One of these standards was the increasing the percentage of nurses with a

Bachelor of Science in Nursing (BSN) or higher to 80% by 2020 (Goodman & East, 2014; Phillips et al., 2012).

In 2005, the NLN published *Innovation in Nursing Education: A Call to Reform,* which identified areas for improvement in nursing education. In order to ensure the application of the tenets of the IOM, the Robert Wood Johnson foundation funded the Quality and Safety Education for Nurses initiative (Brown, Feller, & Benedict, 2010). These suggestions were also incorporated into the American Association of Colleges of Nursing (AACN, 2008)'s *Essentials of Baccalaureate Education* document (Forbes & Hickey, 2009; Hickey et al., 2010). As the organization that sets standards for nursing programs, the AACN has traditionally determined the direction for nursing education (AACN, 2014). Its nine essential elements for nursing practice are a generalist baccalaureate nursing degree and co-requisite liberal education, leadership in quality care and patient safety, evidence-based practice, information and technology management skills, health care policy knowledge, communication skills, clinical prevention and population health, and professionalism (AACN, 2008).

To meet the demands of the changing workforce, the AACN and state licensure boards continued to increase required student outcomes based on developing content in the nursing field; therefore, traditional content-based curricula become oversaturated with content, spending little if any time on developing nursing skills (Grady & Hobbins, 2009; Hardin & Richardson, 2012). During clinical, nursing students are asked to deliver total patient care, demanding an understanding of many aspects of care for patients with complex requirements, so classroom instruction has emphasized drilling nursing students to ensure preparedness and basic student safety (Forbes & Hickey, 2009; Nielsen, 2009).

Nielsen (2009) proposed that this focus decreased the capability for thorough understanding of clinical situations. Traditional content-based curricula's overload of content results in "superficial coverage of content, a failure to engage students in rehearsing for clinical practice by grappling with real-life clinical situations, and a failure to integrate across-knowledge, clinical reasoning, skilled know-how, and ethical comportment" (Tanner, 2010, p. 349). Distressingly, these curricula often have the sole aim of maintaining NCLEX-RN assessment scores based on state boards' accreditation standards for nursing schools, ignoring the standards of competency at the core of the call to reform (Benner, 2012; Forbes & Hickey, 2009; Klein & Fowles, 2009; Tanner, 2010).

Although competency in nursing education often relies solely on NCLEX-RN assessment scores, perceived weaknesses in new graduates entering the field as determined by potential employers include multitasking, technological advancement, prioritization, and communication (Hickey et al., 2010). Meanwhile, the content that is taught may potentially be extraneous in typical nursing practice; Giddens (2007) and Secrest, Norwood, and Dumont (as cited in Tanner, 2010) demonstrated that a mere one-third to one-fourth of techniques taught in standard courses for health assessment were used routinely by practicing nurses. Nurses entering the workforce are underprepared, perhaps due to the tendency of curricular changes merely to add content to existing curricula rather than transforming nursing education (Giddens & Brady, 2007; Hickey et al., 2010; Tanner, 2010). Thus far, the additive nature of nursing reform has created several issues in nursing education, namely an oversaturation of content (Forbes & Hickey, 2009; Giddens & Brady, 2007; Stanley & Dougherty, 2010).

These issues have demonstrated a need for innovation and reform of nursing education, as the IOM reported in its 2010 evaluation of the future of nursing (Hardin & Richardson, 2012). *The Future of Nursing: Leading Change, Advancing Health,* IOM's 2010 report, developed eight recommendations for the future of nursing that will likely guide any developments in curriculum reform. The first recommendation is removing scope of practice barriers. The second recommendation is to expand opportunities for nurse leadership and collaboration. Four recommendations center on including more opportunities for training and professional development: implementing nurse residency programs; increasing the number of nurses with a baccalaureate degree to 80% and doubling the number of nurses with doctorates by 2020; and ensuring that nurses will be lifelong learners. These changes lead to the next recommendation, which is that nurses will be prepared to lead change in the healthcare system. The final recommendation regards appropriate collection of healthcare data to improve evidence-based practice.

By enforcing these recommendations, the IOM (2003) has proposed to update the nursing profession. However, without the education to reinforce these concepts, these developments will likely gain little traction among nurses. The expanding need for qualified nursing professionals has resulted in the need for extended programs offering affordable, high-quality nursing instruction that adequately prepares nurses for practice (Goodman & East, 2014; Phillips et al., 2012). Therefore, the changing nursing field required nursing education curriculum reform.

Nursing Education Curriculum Reform

Traditional content-based models of nursing education have featured teacher-centered pedagogies and heavy content, learned primarily through rote memorization of

disease processes, signs, symptoms, and nursing interventions (Bristol & Rosati, 2013; Giddens & Brady, 2007; Tanner, 2010). Beginning with the IOM and NLN's call for education reform, scholars began to refer to nursing curricula as saturated with content due to changing technology, changes in health care delivery, teacher-centered pedagogy, repetition of content, and the gap between academic preparation and actual practice (Forbes & Hickey, 2009; Giddens & Brady, 2007; Stanley & Dougherty, 2010). The saturation of content led to less allotted time to focus on students' understanding of complex nursing situations (Nielsen, et al., 2013). Therefore, the IOM (2010) proposed in the report section titled "Focus on Education" that "new approaches and educational models must be developed to respond to burgeoning information in the field" (p. 2). Despite this call, Brown, Kirkpatrick, Greer, Matthias, and Swanson (2009) found in their global survey of nurse educators that conventional, teacher-centered approaches were still the most prevalent model used in the classrooms, with 56% of the sample of 946 nurse educators utilizing this pedagogy. Brown et al. (2009) determined that this lag in educational innovation might stem from the lacking evidence base for the effectiveness of pedagogical innovation. These critiques led to increased efforts to reform nursing education.

As nursing colleges increased efforts to achieve the appropriate reform, increasing information in the field and pressure for student success on NCLEX-RN led to professors' resistance to change/delete content (Davis, 2011; Grady & Hobbins, 2009; Hickey et al., 2010). Because appropriate reform must involve decentering content and focusing on student thinking, Hickey et al., (2010), Diekelman (2002) and Ironside et al. (2001) encouraged nurse educators to adopt context-determined curricula. This process

involved teachers and students thinking about thinking in the classroom and reflecting on the processes of learning while learning occurred (Mitchell, Jonas-Simpson, & Cross, 2013). Broad knowledge application, or larger scale thinking that encompassed multiple situations, was determined as a viable option for actually preparing nurses for the workforce instead of overloading them with content and expecting this knowledge to transfer (Bristol & Rosati, 2013; Giddens, 2007; Phillips et al., 2012). Competency-based education invokes this type of learning initiatives (Klein & Fowles, 2009).

Echoing the IOM (2003) report, Tanner (2010) intended to propel forward movement in nursing education by providing three recommendations for improving nursing education and meeting the increasing demand for trained nurses. Tanner's first recommendation was extending nursing education into community colleges in order to improve access to quality education and meet the demand for skilled nurses. This extension into the community college required what Tanner proposed as the second recommendation, namely developing a model pre-licensure framework curriculum based in best practice theory and health care needs for local curricula. Finally, Tanner proposed that nursing education should promote change by investing in a national initiative for nurse educator innovation. These factors would lead to a systematic change in the nursing profession. In order to develop these changes; students, educators, administration, and state licensure boards must collaborate, and programs must be evaluated for effectiveness (Davis, 2011; Hickey et al.; 2010; Klein & Fowles, 2009; Young, 2004). Tanner's argument, and the others cited in this section, have propelled the recent conversations about nursing education reform and led to the development of appropriate guidelines when determining reform efforts. Understanding and following

appropriate guidelines for curriculum reform is essential to meeting the call for nursing reform.

Guidelines for Curriculum Reform

Guidelines from various agencies determine much of nursing pedagogy. Examples include the competencies developed from the IOM (2003; Hickey et al., 2010; Tanner, 2010), the AACN (2008; Nielsen, 2009), and the National Advisory Board for Quality and Safety Education for Nurses (Brady, 2011; Brown et al., 2010). Based on these guidelines, case-based, concept-based, and integrative clinical experiences have been the primary focus for curriculum reform (Nielsen et al., 2013). Developing curricula based on the application of these guidelines has given courses structure and allowed them to have maximum effect in training efficient and effective nurses (Brady, 2011). However, to avoid saturation, it has become imperative to evaluate necessary skills and decrease coverage on obsolete or unnecessary content (Stanley & Dougherty, 2010). Nursing curriculum reform in its practical aspect needs to take into account decreasing these oversaturation issues.

More conceptually, curriculum reform for nursing should take into account the unique schooling and professional context nurses will enter. The nursing education environment is somewhat different from other disciplines due to the implementation of clinical instruction as a capstone to degree completion. Hickey et al. (2010) advised that part of this shift would involve implementing Candela's model of learning centered curricula, essentially promoting a shift from what professors think students should know to what students need to know. Alternatively, this requires that teachers act as facilitators

of student inquiry rather than directive determiners of content (Carr, 2011; Mitchell et al., 2013).

In part, the process of shifting to a student-centered perspective has involved taking into account the cultural contexts and backgrounds of learners as well as instructors, as opposed to the typical focus only on the instructor's assessment of needs. Stanley and Dougherty (2010) developed a model of nursing education intended to facilitate the coming together of learner and instructor input in outcomes (Figure 1).

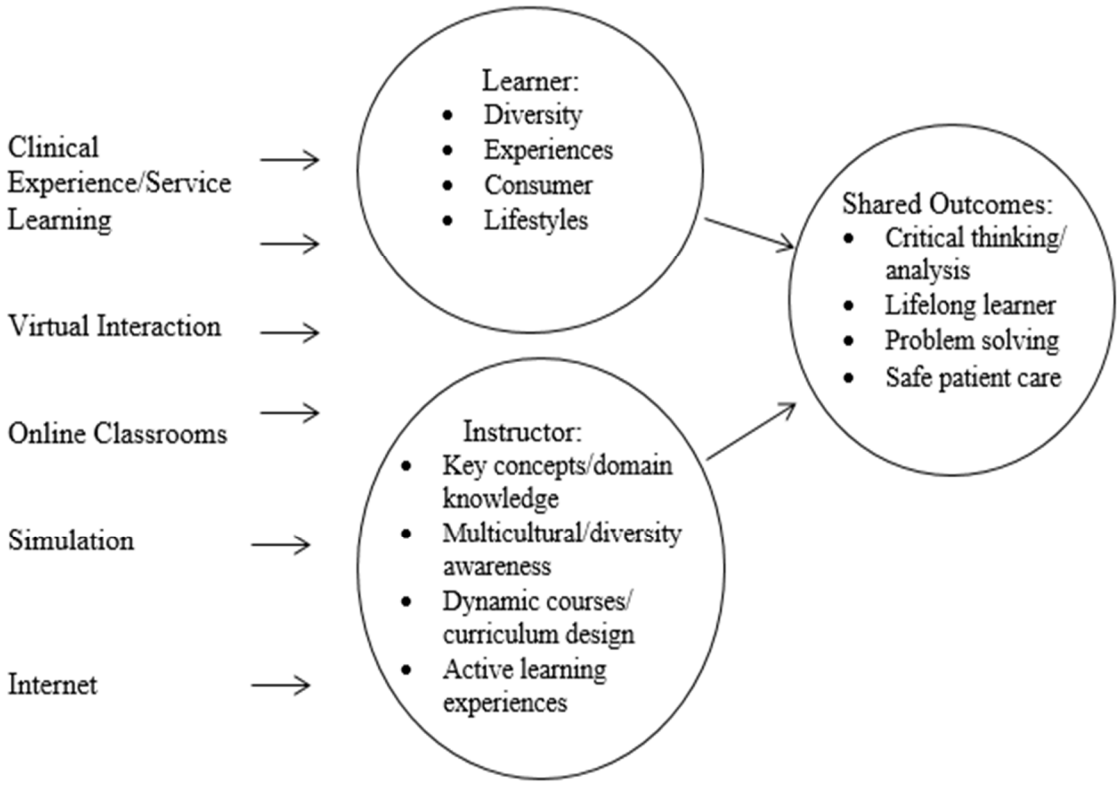

Figure 1. Stanley and Dougherty's (2010) nursing education model.

By following the proposed model wherein instructor and learner influence roles to produce fundamental outcomes, Stanley and Dougherty (2010) argued that the state of

nursing education must meet current demands from regulatory boards and nurse educators.

As a whole, nursing students report that self-directed development, that is, that which will help students become successful nurses, plays an imperative role in successful nursing education (Nielsen, 2009). According to evidence-based nursing practice and education, student feedback into the educational process is needed (Thomas & Baker, 2011). In order to foster this kind of environment, Mitchell et al. (2013) proposed a pedagogy based in complexity grounded in the 4 Rs: richness, recursion, relations, and rigor:

> Richness—maximize student choice for engaging course content according to interests and learning style; recursion—create learning opportunities open to students as they transfer concepts across multiple contexts; relations—help students clarify and develop personal understanding about ideas, values, and actions in relation to chosen field of study; and rigor—scrutinize, enable, and provoke debate and dialogue among students in order to identify emergent learning and new insights from collegial engagement. (p. 33)

By emphasizing these four criteria, Mitchell et al. (2013) proposed that nursing education could better engage students in the learning process. Student reflection and long-term outcomes are essential for evaluating nursing education program's success. The newness of this research has not proven or disproven this true.

In addition to these researchers' recommendations, Hickey et al. (2010) determined guidelines for reform that would assist in developing new curricula, emphasizing these guidelines be grounded in key/central concepts/framework. Hickey et

al. also determined that the curriculum should reflect the current and future practice environment, therefore fulfilling and address all accreditation requirements and recent recommendations. By implementing these changes, curricula would adequately prepare students for competent generalist practice. However, Hickey et al. noted that curricula should be developed specifically for our student population, and be congruent with the overarching goals and mission of the university at large. Altogether, these recommendations determined a place for nursing instructors as enablers of student inquiry, rather than dictators of fact (Davis, 2011; Giddens, 2007; Hickey et al., 2010; Young, 2004). Evaluation of programs based on these criteria is just as critical as developing and conducting research into new nursing pedagogies (Tanner, 2010). Identifying curriculum reform inhibitors before implementation will minimize angst during the process. Focusing on what factors motivate curriculum reform can surpass these inhibitors to reform.

Inhibitors and Motivators to Curriculum Reform

Several factors may work to inhibit implementation of curriculum changes. Revising curriculum has traditionally taken significant commitment and time and can be affected by factors such as an established faculty, which makes a change process more difficult, or the lack of formal education training for nursing faculty (Forbes & Hickey, 2009; Giddens & Morton, 2010; Hickey et al., 2010). Even if faculty has been appropriately trained, that training may lead them to compare new innovations with what they are used to, and doubt the efficacy of new pedagogical approaches; this doubt can undermine the efficacy of the pedagogical approach (Forbes & Hickey, 2009; Phillips et al., 2012; Young, 2004). Furthermore, pressure to perform on standardized tests, such as

the NCLEX-RN, may cause nursing faculty and schools concern about the potential failure of newly implemented curriculum changes (Davis, 2011; Grady & Hobbins, 2009; Nielsen, 2009; Spurlock, 2013; Young, 2004), and consensus about necessary content has rarely been reached (Forbes & Hickey, 2009; Valiga & Bruderle, 1994). The implementation of a new curriculum often brings about failure owing to not having sufficient change structures and learning processes in place to handle the overwhelming change process. (Herinckx et al., 2014).

Multiple issues have stemmed from these barriers to change, as is demonstrated by the research conducted by Grady and Hobbins (2009) on the Nursing Education Advisory Council's recommendations about removing barriers to innovation in nursing education. Chiefly, Grady and Hobbins determined that barriers stemmed from state regulatory boards' involvement, including the perception of a lack of support for innovation by the boards, close regulation of content in nursing education, singular focus on NCLEX-RN scores to determine achievement, and little incentive or support for innovative programs. Traditional content-based curricula cram an enormous amount of content into a few lecture hours as defined by the state boards of nursing, the NCLEX-RN exam test plan, and state-determined outcomes for topic areas. Moreover, Grady and Hobbins suggested that increasing the content that a program must cover due to developments in medical knowledge did not allow for a focus on critical thinking. Although standardizing and maintaining consistency across schools is necessary, Grady and Hobbins proposed that state boards provide public support for innovation by programs and faculty. Reduction in faculty fear or resistance to change could help promote curricula innovation and thus increase the number of nursing programs who

move toward nursing education reform.. Additional inhibition to change has proven to stem from the status of the organization promoting change. Typically, change supported by normative accreditation boards has enjoyed the most success, whereas other programs may have less likelihood of being adopted (Grady & Hobbins, 2009).

Several factors have been determined to increase motivation towards curriculum change, despite these inhibitions. Hedderick (2009) discussed one model of change theory that increases motivation among nursing faculty so they can move in a positive direction toward curricula change. While implementing remedial programs for standardized tests into nursing curriculum, Hedderick discovered that using Organization Change Theory, as developed by Kofman and Senge (1993) could facilitate the change process in nursing education. Namely, this process included promoting shared vision, implementing mental modeling and team learning, and developing systems thinking. Essentially, this theory called for leaders to develop any change as happening in a systematic, wide-scale way, rather than attempting to change via authoritarian, top-down injunctions. By encouraging buy-in from those who will play the largest role in the change, leadership can reduce its enforcement status and increase the chances of organizational change.

In attempting to apply this theory to nursing education reform, therefore, it is imperative to target faculty as essential proponents of curricular change (Giddens & Morton, 2010; Nielsen, 2009). Because students frequently provide excellent testimonials for classes with innovative, student-centered underpinnings (Young, 2004), the most pressing of the factors to address in the education reform movement has been increasing faculty investment in the curricular developments. Nielsen (2009)

acknowledged that support from accrediting boards in these innovations was also imperative in incentivizing change for faculty. Determining the resultant outcomes on student achievement via exams that receive high attention in the field, such as the NCLEX-RN, would also seem to incentivize these developments based on research that suggested that these scores are of primary concern in nursing education (Carr, 2011; Spurlock, 2013; Tanner, 2010). Much research on educational reform therefore defers to NCLEX-RN scores in order to validate the efficacy of different approaches.

Use of NCLEX-RN to Evaluate Curriculum Changes in Nursing

The NCLEX-RN is a licensure exam developed by the National Council of State Boards of Nursing (NCBSN) that plays an integral role in evaluating the success of nursing programs (Carr, 2011; Grady & Hobbins, 2009; Nielsen, 2009). In this examination, students are evaluated based on essential core competencies and a knowledge base appropriate for registered nurses in order to ensure quality control in the nursing profession through a six-hour computerized test that, depending on student performance, can be 75 to 265 items (NCSBN, 2014). Test questions can be multiple choice, short response, fill-in-the-blank, ordered response, and/or hot spots with determination of question type being governed by the CAT program.

According to the Test Plan document released by the NCSBN (2013), the exam assesses the nursing candidates' ethical adherence to core beliefs about the nursing profession as well as their ability to perform specific tasks necessary for the profession. Beliefs assessed are the nurse's view of clients as individuals with rights to make their own healthcare decisions, and his or her own role as an aid in achieving overall health in clients. Client needs assessed are safe and effective care environment, health promotion

and maintenance, psychosocial integrity, and physiological integrity. Assessment of the candidates on their ability to integrate processes such as nursing process, caring, communication and documentation, and teaching/learning occurs as they care for clients. The NCBSN Board of Directors reviews passing standards every three years, and revises the test based on the board's recommendations; in 2012, for example, the NCLEX-RN passing standard was raised (NCSBN, 2014). As with many summative assessments, the test measures a student's ability to recall knowledge in one setting, rather than applying knowledge to particular contexts as encountered in practice (Spurlock, 2013).

The NCLEX-RN first-time pass rate scores for the programs' graduates steer nursing schools decision-making processes; and success rates on this examination is linked to the overall program achievement (Hickey et al., 2010; Tanner, 2010). Performance on this examination potentially can negatively affect faculty compliance with curriculum changes due to fear about lowering NCLEX-RN scores (Hickey et al., 2010; Nielsen, 2009; Spurlock, 2013; Young, 2004). In contrast, some faculty believe that solitary reliance on NCLEX-RN, or other standardized tests', scores as a measure of program success is problematic because it does not necessarily measure the critical thinking skills necessary for success in the nursing profession (Carr, 2011; Giddens & Morton, 2010). Nevertheless, NCLEX-RN scores remain a significant concern, particularly for administration in these schools as they conduct program assessment.

NCLEX-RN and Program Assessment

Because of the integral role NCLEX-RN pass rates have in the accreditation process, nursing schools must pay careful attention to these rates and intervene if the rates decrease. Exemplifying this practice, Carr (2011) conducted a study to determine

the reasons for low NCLEX-RN pass rates in a private university. Factors affecting these scores were determined to be due to gaps in curriculum content, students' attitudes towards the test, and delays in taking the exam after graduation, inadequate student preparation, and inaccurate and ineffective exit examinations. In order to correct these barriers to passing, Carr (2011) implemented curriculum changes, attempted to gain student attention and engagement in the process, revised exit exams and implemented mid-curricular and other standardized exams across the school, and employed remedial education for students who had done poorly on these tests. After these interventions, NCLEX-RN scores improved dramatically. However, in the process of improving these scores, Carr demonstrated the process that schools frequently undergo in adhering to standardized tests, namely, "teaching to the test" by cramming content directly related to these tests into the curriculum. Therefore, the single-minded focus on the NCLEX-RN may prohibit innovation in curriculum (Grady & Hobbins, 2009; Nielsen, 2009; Phillips et al., 2012; Spurlock, 2013; Tanner, 2010). Faculty's focus should be making students prepared to take the test, rather than solely "teaching to the test" (Thomas & Baker, 2011, p. 246).

However, this single-minded focus on teaching to the test noted in some research will sabotage the student into thinking they are performing better than they really are. Remediation courses have been the primary method of dealing with nursing students who score below passing on pre-NCLEX-RN examinations (Thomas & Baker, 2011; Pennington & Spurlock, 2010). For example, Hedderick (2009), after fully surveying NCLEX-RN remediation tools, found that the most significant factor affecting higher NCLEX-RN scores was a school-wide initiative, complete with almost total faculty

compliance and frequent pre-assessment intended to gauge the likelihood of students performing well on the NCLEX-RN. Specifically, Hedderick (2009) suggested that if students were unsuccessful in the initial assessments that they attend rigorous remediation courses intended to improve their scores. The courses taught in a traditional style classroom found the instructor reviewing content necessary for obtaining a passing score on the exam not critically thinking through questions. According to Hedderick (2009), these interventions resulted in higher pass rates in the Pennsylvania schools examined by this study. Focusing on NCLEX-RN scores may potentially lead to higher scores according to the research thus far.

While this research demonstrated higher results as far as NCLEX-RN scores go, these programs failed to answer the call for nursing education reform through educational innovation; this attitude has seemed common among instructors and programs focused on NCLEX-RN scores (Davis, 2011; Grady & Hobbins, 2009; Nielsen, 2009; Pennington & Spurlock, 2010; Spurlock, 2013; Young, 2004). Furthermore, despite significant scholarship attempting to determine whether these remediation efforts significantly improved NCLEX-RN pass rates compared to other methods of preparation, Pennington and Spurlock (2010) argued that the studies on this issue have not yet reached a solid conclusion. Many factors found in these studies led Pennington and Spurlock (2010) to make such a conclusion, such as, non-comprehensive and unclear results, methodological issues including design (e.g., retrospective), small or isolated sample sizes, lack of intervention quality and clarity, and other issues with the data. Therefore, the curriculum reform thus far has been ineffective.

Moreover, the emphasis on first-time pass rates may lead schools to engage in unethical fluffing of scores, thereby reducing the validity of NCLEX-RN scores as measures of nursing programs' success. Spurlock (2013) found that restrictive progression policies in nursing schools prevented some students from taking the NCLEX-RN if they assumed that those students would not do well. As the whole point of using first-time NCLEX-RN scores as an evaluation tool for programs is to assess whether schools adequately prepare students for licensure, these practices undermine the legitimacy of this metric.

In some nursing education research, NCLEX-RN scores have been criticized by the nursing accrediting bodies, even while state accreditation boards rely heavily on them; these contradictory attitudes led to issues among faculty and administration, yet another problem for encouraging wide scale reform (Grady & Hobbins, 2009; Nielsen, 2009; Pennington & Spurlock, 2010; Spurlock, 2013). Phillips et al. (2012) argued that NCLEX-RN pass rates may not accurately reflect excellent teaching and learning, and that new methods of testing may be required to assess this process. In fact, the very instructors who are predisposed to innovate may be those who are skeptical of standardized measures of student success; these attitudes may be causing instructors evaluating programs on NCLEX-RN scores leave out this information in their evaluations.

Implementation of active learning techniques has demonstrated student success and thus faculty satisfaction when self-reporting outcome measures (Davis, 2011; Giddens & Morton, 2010; Herinckx et al., 2014; Rideout et al., 2002; Young, 2004). Few studies have had as their focus the relationship between curriculum changes and NCLEX-

RN scores, despite the integral role that these scores have in determining funding, support, and accreditation (Tanner, 2010). Davis (2011) found that implementing an evidence-based curriculum had multiple demonstrated outcomes for nursing students, including progression, retention, graduation, and NCLEX-RN success. Giddens and Morton (2010) found that in the time they introduced their concept-based curriculum, a decrease in NCLEX-RN scores occurred causing this issue to become paramount in the determination of the new curriculum future. These studies demonstrated that more research is necessary regarding NCLEX-RN scores and curriculum changes.

On the other hand, Lewis (2014) demonstrated success after implementing a concept-based curriculum, and Thomas and Baker (2011) noted that evidence-based nursing could have positive outcomes on NCLEX-RN scores. For example, key skills necessary for passing the test were mastering content, overcoming test anxiety, and learning test taking strategies, and Thomas and Baker explained that encouraging self-reflection and other precepts of evidence-based nursing could increase critical thinking, reflection, and priority setting—all necessary skills for improving the aforementioned needs. Demonstrating positive outcomes on the NCLEX-RN, as Thomas and Baker suggested evidence-based strategies would, would seem to affect the likelihood of the viability of curriculum reform and faculty's willingness to change. Yet, there has been a particular controversy surrounding what many consider the most promising avenue for curriculum reform: concept-based learning.

Concept-Based Learning

In its 2010 report about the future of nursing, the IOM specifically mentioned concept-based learning as a solution to the issues with traditional content-based curricula:

"fundamental concepts that can be applied across all settings and in different situations need to be taught, rather than requiring rote memorization" (IOM, 2010, p. 2). In nursing, concept-based learning is a focused approach to singular nursing care concept that enables students to examine important concepts using a study guide for data collection, conduct a focused patient assessment, and evaluate the concept in terms of its practical application (Giddens & Brady, 2007; Nielsen, 2009). Concepts are "the strands, threads, or unifying themes that faculty have identified to shape, organize, and implement the curriculum in some logical, focused way" (Valiga & Bruderdle, 1994, p. 117). In other words, concepts are "a collection of social, cultural, and historical constructions and ideas that, over time, maintain similar form, structure, and patterns" (Hardin & Richardson, 2012, p. 155). By focusing on these concepts, nursing education can eliminate miniscule and overly specific details, instead focusing on transferrable constructs that can apply as the field continues to develop (Giddens, 2007; Giddens & Brady, 2007; Hardin & Richardson, 2012; Herinckx et al., 2014; Nielsen et al., 2013).

Working concept-based pedagogy into the nursing curriculum has seemed to solve the problem of traditional content-based nursing teaching. Teachers are encouraged to focus on the nursing students' learning rather than on keeping the patient safe, though both outcomes stem from this focus (Nielsen et al., 2013). Combining three tenets of educational development, namely storytelling, case-based learning, and interpretive pedagogy, concept-based learning allows students to obtain an in-depth understanding of concepts as well as critical thinking skills, and it encourages the implementation of these skills in real-life situations (Giddens, 2007; Nielsen, 2009). The four areas that nursing concepts fit into are biophysical, psychosocial, professional, and the health care system

(Goodman & East, 2014). These different concepts prepare nurses to enter complex nursing situations through increased holistic understanding of the needs of the profession (Nielsen et al., 2013).

Introduction of a broad concept and then a specific exemplar (example) during the lecture phase promotes the concept-based learning model (Bristol & Rosati, 2013). Integration of these concepts has been referred to as "spiraling" (Herinckx et al., 2014, p. 31) to reflect the close interweaving of these concepts into the curriculum and the connection of these concepts across classes, rather than learning specific skills for specific classes and failing to translate them into other contexts (Giddens, 2007). Instead of focusing courses on traditional content areas like pediatrics, maternity, or mental health to concept-based courses that determine concepts and allow for them to be seen in both clinical and didactic courses (Giddens & Brady, 2007), these pedagogies encourage students to learn about healthcare as they will encounter it in real-life settings (Giddens, 2007; Herinckx et al., 2014).

Hardin and Richardson (2012) explained core components and teaching methods for concept-based classrooms. They determined three core components of conceptual teaching: addressing misconceptions, building enduring understandings, and developing metacognition. Addressing misconceptions involves dispelling and preconceived notions that students may bring to the classroom that could interfere with their development as nurses. The recommended strategies for encouraging this include a misconception and preconception check conducted early in the educational process. Building enduring understandings is the encouragement that leads students to become lifelong learners. For example, by introducing a discrepant event (i.e., a case study with an unexpected

outcome) the researchers suggest that students are encouraged to think of learning as an ongoing process rather than a static event. Developing metacognition involves implementing and reinforcing students' reflection on their learning processes in order to improve personal development (Brady, 2011; Hardin & Richardson, 2012). Reflection activities, brief and conceptual formative quizzes, encourage this aspect of learning. Altogether, Hardin & Richardson demonstrated that this concept-based learning developed enduring knowledge cognizant of contextual influences—essential skills for the perceived issues in nurses entering the workforce.

Exemplifying a program based in concept-based pedagogy, Herinckx et al. (2014) developed their reformed curriculum based on specific concepts determined by the Oregon Consortium for Nursing Education (OCNE). Essentially, OCNE was an organization that involved a partnership between eight community colleges and Oregon Health Sciences University that reformed their curriculum based on recent calls for change in the field. Instead of focusing on a specific specialization, the curriculum concentrated on core concepts solicited from faculty members, such as promotion of health, acute care, chronic care, population-based care, leadership, and outcomes management. These concepts were reinforced through active learning strategies based on specific competencies: acting according to core nursing values, reflecting on personal actions to develop insight, learning intentionally, demonstrating leadership, participating in health care teams, contributing to the healthcare system at large, developing relationships with patients, communicating effectively, making accurate judgments, and finding the most accurate and appropriate evidence. The newness of the program did not allow for full evaluation of the program. Like a large portion of the studies on concept-

based curricula, this study focused more on the implementation of the program than on metrics and outcomes, which is lacking in the literature.

Thus, concept-based learning has shown efficacy in single-school implementations (Giddens, 2007; Herinckx et al., 2010; Nielsen, 2009). Goodman and East (2014) proposed that transitioning to a concept-based curriculum would allow nurses to apply and develop the holistic skills necessary for nursing practice and encourage nurses to be lifelong learners. As previously noted, curriculum reform has been strongly encouraged among the entire nurse education profession. Before this kind of systematic adoption of concept-based curricula is encouraged, however, it is essential to understand how concepts for concept-based learning have been selected, and to what effect.

Determining Concepts for Concept-Based Learning

Determining which concepts will be included in concept-based curriculum has become an issue in current nursing education (Bristol & Rosati, 2013). Frequently, the conceptual aspects that ground concept-based learning are solicited from faculty (Davis, 2011; Herinckx et al., 2014) or from core competency standards like those set by the IOM or AACN (Nielsen, 2009; Tanner, 2010). However, the concepts that instructors choose may reflect their own personal biases, rather than assessing what students need from a curriculum (Hickey et al., 2010). Thus, most concept-based learning environments have stressed that faculty must challenge themselves to look to what students need, rather than what instructors think, they need, in the constructing of the concepts (Davis, 2011).

In an early study, Valiga and Bruderdle (1994) attempted to determine some of the key concepts required for nursing curricula by surveying a random sample of 70

baccalaureate and 67 associate degree programs across each of the six regional accrediting areas. The dissimulation of surveys, which listed concepts that were pre-determined by the researchers, solicited additional concepts from the participants. Ninety-five percent of the respondents stated that these concepts are important for inclusion on the list: nursing process, communication, ethics, accountability, aging, and culture/cultural diversity. Concepts found to be most relevant were overwhelmingly process-oriented for both baccalaureate and associate degree programs. The standardization of concepts among nursing programs is in question because of the variability and lack of consensus among practitioners in their definition of a critical concept.

Guidelines, created by regulatory state boards, federal, and professional organizations, for standardization of core competencies prevent programs from creating their own. Studies by Hickey et al. (2010), Nielsen (2009), and Tanner (2010) used IOM standards to determine their core competencies for curriculum reform. For IOM (2003), five core competencies serve as the basis for accreditation and licensure, which combine to determine that accreditation rests on evidence-based patient care supported by interdisciplinary teamwork and quality improvement approaches, including informatics (p. 4). The AACN and National Organization of Nurse Practitioner Faculties (NONPF) determine additional standards for baccalaureate nurses. NONPF-determined core competencies for nurse practitioners include "scientific foundation, leadership, quality, practice, technology and information literacy, policy, home delivery system, ethics, and independent practice" (Pressler & Kenner, 2013, p. 230). Altogether, these standards have made determining concepts for concept-based curriculum uniform in nursing

programs, requiring less guesswork for curriculum reformers (Hickey et al., 2010). Yet, concept-based curriculum adoption has systematically not occurred (Brown et al., 2009). Hesitancy on the part of schools to adopt concept-based curricula may stem from the mixed or uncertain outcome results noted in the review literature.

Outcomes of a Concept-Based Curriculum

Studies, on concept-based curricula implementation, show positive results when vesting of the curricula happens on the first day. Students have developed transferrable knowledge that extends to different contexts and lifelong learning habits (Hardin & Richardson, 2012). Student perceptions of concept-based curricula have demonstrated positive results. Rideout et al. (2002) measured both student satisfaction rates and outcomes on the Canadian National Nursing Registration Examination between nursing programs with problem-based curricula and those with conventional curricula. In their study, Rideout et al. found no significant differences in the students' perceptions of their preparedness to enter the nursing profession or in the outcomes on nursing examinations. However, the study did determine that students in programs that emphasized problem-based learning reported higher levels of satisfaction with their education and showed higher functioning in the areas of communication and self-directed learning. These results represent a now dated sample; curricular developments and more established problem-based programs might have affected the outcomes shown in 2002, specifically regarding standardized measures of achievement.

The majority of evaluations of concept-based curriculum in practice relied on subjective data or discussed the implementation of the programs that could not yet be measured (Kantor, 2010; Nielsen, 2009; Tse et al., 2014). The literature demonstrated

that students learning from concept-based curricula perceived themselves as more agentic and involved in their learning processes; for example, students are encouraged to think critically and compassionately through concept-based learning rather than memorizing and applying these memorized rules (Kantor, 2010; Nielsen, 2009). Moreover, rather than viewing the instructor as the ultimate arbiter of content knowledge the instructor becomes a collaborator and director of inquiry (Kantor, 2010). Though programs demonstrated initial success for improving students' grasp of nursing concepts and practice, the measure of success has primarily been through teachers' perceptions (Kantor, 2010) or students' self-reporting (Nielsen, 2009).

Some shortcomings may result from the implementation of concept-based curricula. In preliminary reports of the implementation of a state-implemented concept-based curriculum in two community colleges and one four-year university after two years, Tse et al. (2014) demonstrated that implementing this curriculum had mixed effects on nursing faculty's work experiences, quality of education, and teaching productivity. Significant positive impact after the first year of the curriculum's implementation included an increase in clinical skill confidence, whereas the students' assessment of their confidence after two years decreased, when compared with a traditional content-based curriculum.

The radical shift in teachers' roles has resulted in faculty resistance (Forbes & Hickey, 2009; Giddens, 2007; Giddens & Morton, 2010; Kantor, 2010; Young, 2004). Tse et al. ((2014) determined that in their sample, faculty outcomes were mixed. In survey results, Tse et al. found that faculty reported increased burnout, decreased collaboration, and decreased collegiality. Informant interviews showed the opposite

findings (decreased burnout, increased collaboration and collegiality). Therefore, Tse et al. determined that representing concept-based curriculum, as an immediate fix for the issues with nursing curricula may not provide an accurate depiction of the actual outcomes of nursing programs, but that the overall systemic change would be positive.

Few studies have attempted to measure the effects of concept-based curricula on concrete outcome measures, specifically on NCLEX-RN pass rates. The two discovered in this research demonstrated contradictory results. In her foundational studies of concept-based curriculum in nursing programs, Giddens (2007) found that innovation-mirroring students' developing learning preferences, that is, delivering content through online venues where students direct their own learning, could facilitate change. Using an online program called The Neighborhood, Giddens imported a community of people into an online webspace to demonstrate the holistic nature of healthcare and implement evidence-based practice. Students were encouraged to peruse the web community on their own time, which allowed class time for making connections and discussing students' inquiries into aspects of this care. By fostering this kind of self-directed study, students were encouraged to develop critical thinking and an understanding of patient care as multifaceted.

In the follow up to the implementation of this concept-based curriculum, Giddens and Morton (2010) reported the outcomes of their program two years after beginning the initial trial. Due to IOM standards, the researchers acknowledged that the population being served by this curriculum had significantly changed to diversify the admissions process, and the school experienced administration changes and high rates of faculty turnover based on non-related issues—all factors that may have potentially affected the

outcomes of the study. An external review board evaluated the curriculum, and faculty was encouraged to participate in the reflection and revision process for the curriculum. The review had formative data gathered from course assessments, concept assessments, level assessments, and standardized tests (NCLEX-RN pass rates). The summative data were culled from faculty surveys and benchmarking surveys. After all data were combined, positive results of the curriculum were determined to be the conceptual approach, the emphasis on small group learning activities, including The Neighborhood, clinical intensives, and patient care experiences early on in education. Concerns included linking concepts across courses and noting imbalances of work through the educational experience as revision of the work took place. Most significantly was the decrease in NCLEX-RN pass rates when implementation of the program occurred. Whether this deficiency stemmed from the aforementioned issues with the school or from the concept-based curriculum, it was indeterminable, and requires verification. Considering Giddens' place as a forerunner of this educational approach, these negative results could potentially inhibit future considerations of implementing this approach.

On the other hand, Lewis (2014) reported on a highly similar program at her institution that had positive effects on NCLEX-RN scores. Faculty identified fourteen core concepts and exemplars to develop students' ability to practice as nurse generalists and in accordance with NCLEX-RN requirements. Unlike in Giddens and Morton's (2010) study, the school did not experience significant admissions changes or faculty turnover. The school's NCLEX-RN pass rate before implementation of the new curriculum was traditionally high. Yet, after the curriculum changes were initiated, retention and on-time graduation rates increased by 2.3% and 1.3% respectively. The

NCLEX-RN scores increased by 1%. On the other hand, negative outcomes were experienced in student end-of-program satisfaction (-9.6%) and alumni satisfaction (-6.3%). In addition, unlike Giddens and Morton's study, the diversity of the population of students remained unreported. Contradictory findings has led to a gap in the literature that requires verification. This verification will also determine some of the contributing factors for successful concept-based curricula programs.

Potential Contributors to the Success of Concept-Based Curriculum

Studies were designed that evaluated strategies for appropriately implementing a concept-based curricula in a nursing program. Giddens (2007) found that using technology, which students were familiar with and enjoyed, improved the success of her concept-based classroom. Similarly, Bristol and Rosati (2013) found that consistently implementing technological tools in the classroom, such as e-books, electronic health record tools, discussion forums, and online quizzes, might facilitate these changes and better prepare nurses for the reality of the workforce. These electronic implementations of more traditional elements of the classroom may also increase faculty's comfort with innovative strategies and encourage adaptation of innovation (Giddens, 2007; Knowles, 1980). Classroom practices must reflect the goal of the course through active-learning strategies and encouragement of reflection and student input (Hardin & Richardson, 2012; Kantor, 2010; Klein & Fowles, 2009).

In order to ensure the success of these changes, faculty evaluated their adherence to the alternative teaching method. Faculty may not adhere to the non-traditional role of the teacher in concept-based learning based on their own views of what a teacher should do in the classroom (Davis, 2011; Young, 2004). Moreover, pressure for students to

perform on standardized assessments may lead to faculty's unwillingness to take risks (Lewis, 2014; Grady & Hobbins, 2009; Nielsen, 2009). In addition, faculty perceived their teaching efforts differently than would actually be assessed pedagogically. Although the majority of educators currently use traditional teacher-centered methods in their classrooms, faculty already view themselves not as the center of the classroom but as the facilitator (88% of a global sample). Only 65% of the same sample evaluated themselves as information provider, a more accurate descriptor for the traditional content-based classroom (Brown et al., 2009). These faulty self-conceptions may inhibit innovative efforts.

For these reasons, Herinckx et al. (2014) determined that evaluation of nursing education changes is equally as important as making the changes themselves. In order to measure these effects in their own program, the researchers developed the Oregon Consortium for Nursing Education (OCNE) Classroom Teaching Fidelity Scale and tested it in ten OCNE colleges in 2009. Based on the fidelity scale that the researchers developed, a classroom assessment based on fidelity to following a reformed curriculum occurred. Assessment included adherence to nursing competencies, maintaining focus on the learner in the classroom, integrating evidence-based educational practices, and monitoring faculty's adaptation to specific learning environments. They found that personally developed fidelity scales accurately determined faculty adherence and motivated the transition to evidence-based practice and advocate for similar creation in programs attempting to implement curriculum change. Giddens and Morton (2010) also advocated that these reforms should involve student, faculty, and external feedback to

reflect outcomes accurately. By soliciting this feedback, schools may be able to avoid some of the potential drawbacks of concept-based curricula.

Potential Drawbacks of a Concept-Based Curriculum

Criticism of concept-based curriculum in nursing has centered on the idea that introducing these concepts repeat the mistake of the medical-based curricula in which these models replace (Condon, 2014). Specifically, Condon (2014) argued that concept-based curricula stymied nursing students' imaginative thinking processes through the creation of a more refined outcomes list taught using the traditional content-based models of teaching, and that concept-based learning is a theoretical underpinning. Therefore, while concept-based learning models might help with nursing curriculum saturation, Condon (2014) noted that these models might maintain the same outmoded models of learning or be non-applicable to the particular challenges of nursing education.

The most significant drawback to implementing concept-based curriculum is faculty resistance (Giddens, 2007; Hickey et al., 2010; Nielsen, 2009; Young, 2004). Teachers have a tendency to instruct how they were instructed and because of this, their role in a student-centered or inquiry-based environment is undervalued (Young, 2004). A small evidence base for innovative teaching, as that demonstrated for concept-based learning, has deterred nurse educators from implementing change in the classroom (Brown et al., 2009). Moreover, fear about students' performance, particularly on standardized tests, such as, the NCLEX-RN, can lead to resistance in changing from the traditional content-based curriculum (Nielsen, 2009; Spurlock, 2013; Young, 2004). This kind of resistance can damage the effectiveness of programs due to improper or insufficient restructuring of classroom practices (Davis, 2011).

Moreover, as Giddens (2007) argued, concept-based curricula may challenge the expectations that students have developed for college-level instruction. The concept-based curriculum may not facilitate learning for those students who prefer structured learning through lectures and faculty-determined content, e.g., predetermined guided reading assignments (Giddens, 2007). Students may feel like "guinea pigs" and therefore report less satisfaction with their education in self-reporting surveys, especially when programs are newly implemented (Lewis, 2014). The preconceived expectations and necessary transition for putting any new model into place have been challenges that concept-based curricula have faced, particularly in the evidence-based, student-centered model that has privileged student input in educational practice (Stanley & Dougherty, 2010).

Most importantly in the current nursing educational system, the lack of consistent data regarding the pass rates on the NCLEX-RN after education in concept-based curricula has stood in the way of wide-scale adaptation despite endorsements. Giddens and Morton (2010) and Lewis (2014) have been the only researchers to date that has evaluated concept-based curricula using NCLEX-RN scores. Confounding study results make it unclear and contradictory, with one study resulting in a decrease in NCLEX-RN scores over the period of time in which the curriculum was implemented, decreasing from 90% to 83% (Giddens & Morton, 2010) and the other reporting a 1% increase (Lewis, 2014). These findings directly contradict those demonstrated by Lewis' (2014) evaluation of a concept-based curriculum. As an essential element of the evaluation and accreditation of nursing programs (Grady & Hobbins, 2009; Nielsen, 2009), future evaluations of concept-based curricula must report on the success on this standardized

examination, barring overhaul of the nursing education system. Brown et al. (2009) argued that stymied innovation, even among educators committed to traditional content-based pedagogical models, occurred.

Implications

The impact of the recently implemented concept-based method on student academic performance at a central Florida university compared to traditional content-based methods will guide ongoing curriculum reform efforts at the University. Since a positive correlation between the new method and student achievement came forth, faculty may be more willing to embrace the reformed practice. This is particularly relevant due to cited faculty concerns about students' academic performance under the new curriculum structure.

The implications of this research reached well beyond the university in Orlando, FL. The study revealed that student academic performance measures are the same or higher when using the concept-based approach versus the traditional content-based model; therefore, results may be shared as evidence of the effectiveness of the approach. If combined with similar assessments conducted at other nursing school programs, the research has the potential to contribute to a growing base of evidence to support the current state of nursing education reform. Future researchers may use this data to conduct meta-analysis that expands the generalizability of the findings. In sum, this study was an important early step in assessing the effectiveness of nursing education reform in the United States.

The study also has broad implications for the field of education in general. While many licensure exams are content-based, education reform in multiple disciplines has

emphasized the importance of a conceptual framework. Since concept-based approaches to learning are equally, or more, effective in preparing students for content-based examinations in the field of nursing, the study opens the door for further research into concept-based learning in nursing and other disciplines.

Summary

The last decade has seen a paradigm shift in the nursing education model from the traditional content-based toward a concept-based curriculum. Concept-based curriculum will better prepare the nursing workforce for the rigorous demands of the 21st century health field. A university in Orlando, Florida is one of many ADN programs to implement a concept-based curriculum. Yet, dissent remains among University nursing faculty who fear that concept-based curriculum will not sufficiently prepare nursing students for content-heavy licensure examinations. Conducting a study that focuses on student academic performance measures among nursing students before and after the transition to concept-based curriculum provided much needed data about the effects of this model on student achievement. The research is an important next step in validating the new approach to developing a competent health care work force while strengthening the platform for continued innovation in nursing education. Section 2 discusses the methodologies for executing this research.

Section 2: Methodology

This section presents a description of the methodology used. The research design approach includes the outline and a rationale. Then, I detail the target population and sample of interest needed for the study. Next, I identify and define the variables in the study, followed by the data analysis procedures. I used archival data for this study, and did not distribute survey instruments or collect data. I also outline a discussion of study limitations, along with the threats of internal and external validity and findings. Finally, this section concludes with a brief summary of the project.

Research Design and Approach

The study was a quantitative comparative design with archival data. I determined whether favorable or unfavorable statistical differences existed between those nursing students taught with a concept-based curriculum and those students taught with a traditional content-based curriculum on Diagnostic scores, Readiness scores, and NCLEX-RN pass rates. The independent variable of the study was curriculum type (traditional content-based vs. concept-based) and the dependent variables were defined as NCLEX-RN pass rates (pass vs. fail) and student scores on the Diagnostic and Readiness exams.

Population

I utilized archival data because individual instructors teaching either Nursing VI (concept-based) or the Medical-Surgical Nursing III (traditional) courses previously collected both cohorts' data. The researcher intended the ideal population for this study to include nursing students throughout the United States (Lodico, Spaulding, & Voegtle, 2010); however, the target population included all nursing students at a university in

Orlando. I collected the entire archival data set of 237 from the nursing cohorts of graduated students who received instruction through the concept-based curriculum approach (n = 137) and the nursing cohorts of graduated students who participated in the traditional content-based curriculum (n = 100) for comparison purposes. Defining which cohorts graduated during the designated period determined the sample size.

Instrumentation and Materials

I used the individual participants' exam scores on the Diagnostic and Readiness exams from Kaplan's Integrated Test Preparation, as well as pass/fail results from the NCLEX-RN exam to assess student achievement (dependent variables). Standardized exam scores are available from password-protected websites housed at the Kaplan testing company. I determined the curriculum type (independent variable) by the type of instruction participants received. Kaplan or NCSBN performed the creating and grading of the exams. A detailed description of how I measured each variable (the operationalization) follows.

The first test administered to the nursing cohorts during their final term of the nursing program was the Diagnostic exam that contains 180 multiple choice style questions with a time limit of 240 minutes (Irwin & Buckhardt, 2014) and is based on the NCLEX-RN test plan blueprint (NCSBN, 2013). I set a normed score of 68 after reviewing the results of the study performed by Irwin and Buckhardt (2014), which equates to a 95.3% probability of passing the NCLEX-RN exam. Irwin and Buckhardt used descriptive statistics and logistic regression to examine the relationships and to predict the probability of passing the NCLEX-RN exam using the Kaplan exam scores. They found that the relationship between the Diagnostic exam scores and the NCLEX-

RN pass/fail decision was statistically significant at 0.15 (p = .00), indicating that as the Diagnostic exam score increased, so did the likelihood that the examinee would pass the NCLEX-RN (Irwin & Buckhardt, 2014). Examinees who scored 65% or higher on the Diagnostic exam only had a slight probability of failing (1% to 2% of these examinees failed (Irwin & Buckhardt, 2014). For examinees with Diagnostic exam scores below 55%, there was an increased risk of failing the NCLEX-RN, as 8% to 14% of these examinees failed (Irwin & Buckhardt, 2014). I treated the Diagnostic exam score as a continuous variable within this study.

Scores were collected from the second exam (Readiness) to the nursing cohorts after the students completed the 4-day Kaplan NCLEX-RN Review course. The Readiness exam contains 180 multiple choice style questions with a time limit of 240 minutes to complete (Irwin & Buckhardt, 2014) and is also based on the NCLEX-RN test blueprint (NCSBN, 2013). I set a normed score of 75, which equates to a 98.1% probability of passing the NCLEX-RN exam (Irwin & Buckhardt, 2014). Irwin and Buckhardt (2014) once again used descriptive statistics and logistic regression to examine the relationships and to predict the probability of passing the NCLEX-RN exam using the Kaplan exam scores. The researchers found that the relationship between the Readiness exam scores and the NCLEX-RN pass/fail decision was statistically significant at 0.26 (p = .00), indicating that as the Readiness exam score increased, so did the likelihood that the examinee would pass the NCLEX-RN (Irwin & Buckhardt, 2014). Examinees who scored 60% or higher on the Readiness exam only had a slight probability of failing (1% to 3% of these examinees failed) and for those scoring below 50% there was an increased

risk of failing, with about 28% to 30% (Irwin & Buckhardt, 2014). I also considered this variable continuous within this study.

Scores were collected for the NCLEX-RN exam from the target population of nursing students after the candidates graduated from a recognized nursing program and met specific requirements required by the state board of nursing (NCSBN, 2013). The NCLEX-RN exam contains a minimum of 75 and a maximum of 265 questions (NCSBN, 2013). The exam has 15 pretest items and has a maximum time allowance of six hours, which includes tutorials and breaks (NCSBN, 2013). The passing standard for this exam is 0.00 logit, indicating that passing is decided when a candidate's ability based on item difficulty have no relative difference, which I implemented on April 1, 2013 (NCSBN, 2013). Computerized adaptive testing (CAT) administers the NCLEX-RN, exam that merges computer technology with current measurement theory to increase the efficiency of the exam process (NCSBN, 2013). Computerized adaptive testing has three general principles: (a) re-evaluates answers and ability; (b) calculates a 50% chance that the next question is correct; and (c) estimates candidate's ability, which becomes more precise over time (NCSBN, 2014). Understanding the make-up of each exam (NCLEX-RN, Diagnostic and Readiness) and how grading occurred, allowed the operationalization (measurable, quantifiable, and valid index) of the variables.

Operationalization of Variables

Scores were collected from two exams, Diagnostic and Readiness, for nursing students through the Kaplan Student Integrated Testing website during the final 8 weeks of the nursing program. The students received the NCLEX-RN exam post-graduation through Pearson Vue, and the Florida Board of Nursing website reported the students'

pass/fail results. The NCLEX-RN exam measured "the competencies needed to perform safely and effectively as a newly licensed, entry-level registered nurse" (NCSBN, 2013, p. 1). Exam results for this study were from 2009 through 2014. The Diagnostic and Readiness exams measured the probability that a student would pass the NCLEX-RN exam (Irwin & Buckhardt, 2014). For the research questions, the independent variable corresponded curriculum type (traditional content-based vs concept-based). The dependent variables corresponded to pass/fail rates on the NCLEX-RN exam, Diagnostic exam scores, and Readiness exam scores.

According to the NCSBN (2014), the CAT decides whether the candidate has passed or failed the exam by using the following rules:

- 95% confidence interval rule;
- Maximum-length exam rule; or
- Run-out-of –time (R.O.O.T.) rule.

I treated this variable as a dichotomous variable (pass vs. fail).

Because the data collected were archival data, I used all of the variables, as they were collected:

- Diagnostic exam score: The score from a standardized exam given through Kaplan Integrated Testing provides a probability score of the student passing the NCLEX-RN exam. I treated this score as a continuous variable.
- Readiness exam score: The score from a standardized exam given during the Kaplan NCLEX-RN Review course, which provides a probability score of the student passing the NCLEX-RN exam. I treated this as a continuous variable.

- NCLEX-RN pass rate: A nursing program's pass rate on the NCLEX-RN, reported in quarterly and yearly percentages. I treated this as a dichotomous variable (pass vs. fail).
- Curriculum type: Identifies those graduated nursing students who received instruction through concept-based curriculum and through traditional content-based curriculum. I treated this as a dichotomous grouping variable.

Data Analysis Procedures and Sample Size

I calculated descriptive statistics to describe the characteristics of the data set. I conducted frequencies and percentages on categorical data, and means and standard deviations on continuous data (Howell, 2010). The project addressed two main research questions and related hypotheses.

Research Question 1: What significant differences exist between traditional content-based curriculum and concept-based curriculum on student achievement, as measured by NCLEX-RN?

$H_0$1**:** There is not a significant relationship between traditional content-based curriculum and concept-based curriculum on student achievement as measured by the nursing program's NCLEX-RN pass rate.

*Ha*1**:** There is a significant relationship between traditional content-based curriculum and concept-based curriculum on student achievement as measured by the nursing program's NCLEX-RN pass rate.

Research Question 2: What significant differences exist between traditional content-based curriculum and concept-based curriculum on student achievement, as measured by Diagnostic Exam scores and Readiness Exam scores?

*H_0*2**:** No significant differences exist between traditional content-based curriculum and concept-based curriculum on student achievement as measured by the Diagnostic Exam score and the Readiness Exam score.

*Ha*2**:** Concept-based curriculum students will have better student academic performance scores, as measured by the nursing program's Diagnostic Exam scores and Readiness Exam scores, than traditional content-based curriculum students.

To address Research Question 1, a chi square test-of-independence was conducted to determine if a significant relationship exists between the frequency distributions of NCLEX-RN pass rates (pass vs. fail) and curriculum type (traditional content-based vs. concept-based).

The chi square test-of-independence is the appropriate analysis to determine if there is a significant relationship between two categorical variables, such as pass rates and curriculum type. A categorical variable is a variable that can take on one of a fixed number of possible values. In this case, I categorized pass rates into either pass or fail, and categorized curriculum type into either traditional content-based or concept-based. As a result, there was not an independent variable or dependent variable for this analysis and association was being measuring between the two variables. I compared the calculated chi-square coefficient (χ^2) and the critical value coefficient to determine significance of the results. Using an alpha of .05 and given the degrees of freedom, if the calculated value was larger than the critical value it indicated a significant relationship. I calculated the degrees of freedom for a chi-square using the following equation: (r - 1) x

(*c* - l), where *c* equaled the number of columns and *r* equals the number of rows (Howell, 2010).

To address Research Question 2, a multivariate analysis of variance (MANOVA) was conducted to determine if statistically significant differences existed on Diagnostic exam and Readiness exam scores between curriculum types (traditional content-based vs. concept-based). The continuous dependent variables in the analysis were Diagnostic exam and Readiness exam scores. The independent grouping variable in this analysis was curriculum type (traditional content-based vs. concept-based). Statistical significance was determined using an alpha value of .05.

The MANOVA is the appropriate analysis when the goal of research is to assess if simultaneous mean differences exist on two or more continuous dependent variables by two or more groups. The MANOVA uses the *F* test and creates a linear combination of the dependent variables for a grand mean, and determines if there are significant differences by curriculum type. The MANOVA determines whether there were differences simultaneously between the exam scores, and then examines the scores individually. A researcher rejects the null hypothesis if the obtained *F* is larger than the critical *F*. If the MANOVA model were statistically significant, then I interpreted the individual ANOVAs (one per dependent variable) and conducted pair-wise comparisons to determine where the significant differences lay. Prior to analysis, I assessed the assumptions of the MANOVA—absence of outliers, normality, absence of multicollinearity, and homogeneity of variance/covariance matrices were assessed. Univariate outliers were assessed for each individual dependent variable using standardized values, or *z* scores, where values beyond + 3.29 are considered extreme

cases (Tabachnick & Fidell, 2012). I assessed multivariate outliers for the set of dependent variables using Mahalanobis distances. Given that two dependent variables were assessed in the MANOVA model, Mahalanobis distance values beyond $\chi^2(2) = 13.82$, at $p = .001$, were considered extreme cases (Tabachnick & Fidell, 2012). Normality assumes that the two continuous variables were normally distributed (symmetrical bell shaped) for both curriculum groups. I assessed normality with a Kolmogorov Smirnov (KS) test.

I assessed homogeneity of variance using Levene's test and assumed that both curriculum groups would have equal error variances. Homogeneity of covariance matrices is the multivariate equivalent to homogeneity of variance and was tested using Box's M test (Leech, Barrett, & Morgan, 2008). If the MANOVA results were statistically significant, the individual ANOVAs were interpreted (Tabachnick & Fidell, 2012).

Sample Size

I conducted power analyses using G*Power 3.1.7 (Faul, Erdfelder, Buchner, & Lang, 2013) to determine a sufficient sample size for the study given the inferential statistical analyses proposed. For the chi square test with one degree of freedom, a power of .80, an alpha value of .05, and a medium effect size ($w = .30$), the calculated minimum required sample size was 88. For the MANOVA analysis with two dependent variables, two curriculum groups, a power of .80, an alpha value of .05, and a medium effect size ($f^2 = .0625$), the calculated minimum required sample size was 158. I expected to collect data from 200 nursing students; however, the entire archival data set of 237 participants was included.

Assumptions, Limitations, Scope, and Delimitations

Assumptions

I assumed that the NCLEX-RN, Diagnostic, and Readiness exam scores were an adequate indicator of student academic achievement. Next, I assumed that the survey population answered the questions on the above exams to the best of their knowledge and ability.

Limitations

Using secondary data allows researchers to examine existing data and address research questions to bring forth new content or research questions. However, there are limitations to using archival data. One potential matter in using secondary data is that it may be difficult to find data pertinent to the research question (Colorado State University, 2010). Additionally, variables in the data set could be controlled and altered. Another limitation of using secondary data is that with large data files it is difficult to ensure that statistical software packages did not influence validity of the research (Colorado State University, 2010). Small sample sizes, along with biasness based on race, socioeconomic status, and other similarly related factors, may be a concern in regards of generalization.

Internal validity issues. In order to attain validity, demonstration of causal inferences require attainment. Such causal inferences can occur when causes precede effects, when cause and effect relate to each other, and when no plausible alternative explanations effect exist. Threats to internal validity involve the procedures, treatments, and or experiences of the study subjects that prevent accurate conclusions or inferences from the data (Creswell, 2011). Thus, key threats to internal validity can happen if temporal sequence of cause and effect are confused (Yin, 2014). Other potential threats

to internal validity include alternative causes not accounted for (Creswell, 2011). In the case of this study, the key threat to internal validity was selection bias of the archival data.

External validity issues. External validity is a measure of how well readers and other researchers can generalize the results of a study either to the complete population or to a larger population (Creswell, 2011). A small sample size may limit the generalizability of the study. In the case of this study, the first generalization was from the sample to the total population of nursing graduates from a college university in Orlando, Florida. Key threats to external validity entail the interaction of selection and treatment, interaction of setting and treatment, and interaction of history and treatment (Creswell, 2011). These threats include attributes of the sample that bias measured results, situational specifics of the study data collected, or effects that result from the use of specific settings.

Scope and Delimitations

The scope of the study was to investigate how traditional content-based versus concept-based nursing program curriculums differentially affect student achievement outcomes. The delimitations of the study were that it only includes data from students in the Orlando area. Furthermore, the focus of the research was on curriculum differences and student achievement; noting that other variables not measured could account for differences in student testing performance scores.

Data Analysis and Findings

I analyzed 238 participants in the study. I removed one participant from analysis as an outlier (response #56); thus, 237 participants composed the final analyses. A

majority of subjects was female (203, 86%). Most participants' ages fell between 30-39 (100, 43%) and 20-29 (96, 42%). Most subjects were White (96, 41%), followed by 64 (27%) subjects with Black ethnicity. A majority of participants passed the NCLEX-RN exam (190, 80%). Most subjects used the concept-based curriculum (137, 58%). Table 1 shows frequencies and percentages for the sample demographics and categorical variables.

Table 1

Frequencies and Percentages for Sample Demographics

Demographic	*n*	%
Gender		
Male	34	14
Female	203	86
Age		
20–29	96	42
30–39	100	43
40–49	31	13
50– 59	10	5
Ethnicity		
White	96	41
Black	64	27
Hispanic	45	19
Asian	3	1
Two or more races	1	1
Not specified	28	12
NCLEX-RN		
Pass	190	80
Fail	47	20
Curriculum type		
Traditional content-based	100	42
Concept-based	137	58

Age of subjects ranged from 20.00 to 54.00, with $M = 32.68$ and $SD = 7.56$.

Diagnostic exam scores ranged from 46.67 to 85.00, with $M = 63.26$ and $SD = 6.73$.

Readiness exam scores ranged from 44.44 to 96.10, with $M = 69.41$ and $SD = 8.66$.

Table 2 shows mean and standard deviations for continuous variables.

Table 2

Mean and Standard Deviations for Continuous Variables

Scales	*Min.*	*Max.*	*M*	*SD*
Age	20.00	54.00	32.68	7.56
Diagnostic Exam Scores	46.67	85.00	63.26	6.73
Readiness Exam Scores	44.44	96.10	69.41	8.66

Research Questions

Research Question 1: What significant differences exist between traditional content-based curriculum and concept-based curriculum on student achievement, as measured by the NCLEX-RN exam?

$H_0$1**:** There is not a significant relationship between traditional content-based curriculum and concept-based curriculum on student achievement as measured by the nursing program's NCLEX-RN pass rate.

*Ha*1**:** There is a significant relationship between traditional content-based curriculum and concept-based curriculum on student achievement as measured by the nursing program's NCLEX-RN pass rate.

To address Research Question 1, I conducted a chi square analysis between curriculum type and student academic performance. Prior to conducting the chi square, I assessed the assumptions of the test. Traditional caution in chi square examination is that expected frequencies below five should not compose more than 20% of the cells, and no cell should have an expected frequency of less than one. Observations should be independent of one another; participants can only contribute one observation to the data

(the row and column totals should be equal to the number of participants; Howell, 2010). Out of the resulting four cells, each of them met the criteria for expected cell size. None of the cells had expected values less than one; the lowest expected value for a cell was 20.

Results indicated a significant relationship between NCLEX-RN pass/fail rates and curriculum type ($\chi^2(1) = 5.59$, $p = .018$). Students using the concept-based curriculum performed considerably better than those using the traditional content-based curriculum did. An 85% total (117/137) of students using the concept-based curriculum passed the NCLEX-RN as opposed to 73% (73/100) of students using the traditional content-based curriculum. Table 3 presents results of the chi square analysis.

Table 3

Chi Square Analysis of NCLEX-RN Exam Results with Curriculum Type

	NCLEX-RN Results			
Curriculum Type	Pass	Fail	$\chi^2(1)$	*p*
Traditional content-based	73 [80]	27 [20]	5.59	.018
Concept-based	117 [110]	20 [27]		

Note. Bracketed values display expected counts for each cell.

Research Question 2: What significant differences exist between traditional content-based curriculum and concept-based curriculum on student achievement, as measured by Diagnostic Exam scores and Readiness Exam scores?

*H_0*2**:** No significant differences exist between traditional content-based curriculum and concept-based curriculum on student achievement as measured by the Diagnostic exam score and the Readiness exam score.

*Ha*2**:** Concept-based curriculum students will have better student academic performance scores, as measured by the nursing program's Diagnostic exam scores and Readiness exam scores, than traditional content-based curriculum students.

To address Research Question 2, I conducted a MANOVA to determine if significant differences exist between curriculum type (traditional content-based vs. concept-based) and exam scores (diagnostic and readiness). The dependent variables in the analysis were the exam types (diagnostic and readiness). The independent variable in the analysis was the curriculum type (traditional content-based vs. concept-based).

Statistical significance was determined at $\alpha = .05$. Prior to analysis, I assessed the assumptions of the MANOVA. I assessed normality of the two exams with Kolmogorov Smirnov (KS) tests. The results of the KS test were statistically significant for Readiness exam scores ($p = .002$); however, the results were not statistically significant for Diagnostic exam scores ($p = .054$). As a result, the assumption of normality was met for the Diagnostic exam scores but not for Readiness exam scores. Although the assumptions did not pass, the MANOVA is robust for stringent assumptions when the sample size is large (> 100; Stevens, 2009). I assessed homogeneity of covariance with Box's M test and results were statistically significant at $\alpha = .001$ (Pallant, 2010); thus, the assumption was not met. Homogeneity of variance was assessed with Levene's test and the results were statistically significant for Readiness exam scores, $p = .002$; however, the results were not statistically significant for Diagnostic exam scores, $p = .913$. The assumption was met that equal variance occurred with the Diagnostic exam scores, but not for Readiness exam scores. Due to the violation of Levene's test, Tabachnick and Fidell (2012) suggest the use of a more stringent alpha level. As such, I used an alpha level of .025 to determine significance for the ANOVA for readiness.

Results of the MANOVA indicated overall significant differences between the exams and curriculum types ($F(2, 234) = 10.48$, $p < .001$, Partial $\eta^2 = .08$). Because of significance, I further analyzed the individual ANOVAs. Analyzing the ANOVAs determined if there were significant mean differences between each exam based on curriculum type. Results of the first ANOVA indicated there were significant differences for Diagnostic exam scores between traditional content-based and concept-based curriculum ($F(1, 235) = 17.54$, $p < .001$, Partial $\eta^2 = .07$). The mean for Diagnostic

exam scores was significantly higher for concept-based curriculum (64.77) compared to traditional content-based curriculum (61.19). Results of the second ANOVA also indicated there were significant differences for Readiness exam scores between traditional content-based and concept-based curriculum scores ($F(1, 235) = 11.24$, $p = .001$, Partial $\eta^2 = .05$). The mean for Readiness exam scores was significantly higher for concept-based curriculum (70.99) compared to traditional content-based curriculum (67.25). Table 4 presents the results of the MANOVA and subsequent ANOVAs. Table 5 presents the results of the means and standard deviations for exams by curriculum type.

Table 4

MANOVA for Diagnostic Exam Scores and Readiness Exam Scores Based on Curriculum Type

	MANOVA	ANOVA $F(1, 235)$	
Source	$F(2, 234)$	Diagnostic	Readiness
Curriculum	10.48**	17.54**	11.24**

Note. * $p \leq .050$. ** $p \leq .010$. Otherwise $p > .050$.

Table 5

Means and Standard Deviations for Exams by Curriculum Types

	Diagnostic Exam Scores		Readiness Exam Scores	
Curriculum type	*M*	*SD*	*M*	*SD*
Traditional content-based	61.19	6.52	67.25	6.90
Concept-based	64.77	6.49	70.99	9.47

Project as an Outcome

Results of the analyses indicated that students using the concept-based curriculum obtained considerably higher scores than those using the traditional content-based curriculum. The pass rates for the NCLEX-RN exams were significantly higher for those utilizing the concept-based curriculum. More specifically, the results of the Diagnostic exam indicated that individuals who utilized the concept-based curriculum scored significantly higher than those who used the traditional content-based curriculum. The results of the Readiness exam also indicated that individuals who utilized the concept-based curriculum scored significantly higher than those who used the traditional content-based curriculum.

Participants' Rights

I took measures to assure that the research participant within this study was protected (Lodico et al., 2010). Since this study used archival data, informed consent from the participant was not be required. I requested approval from the university in Orlando, FL to use student exam results found on the Kaplan and university websites, which the university approved (Creswell, 2012). I stored raw data in a password-protected electronic file to guarantee safeguarding of participant's exam scores. Justifications for not seeking informed or ethical consent from the participants of this study are as follows:

- The study did not use primary data. The archival data found on the Kaplan or university website housed the Diagnostic, Readiness, and NCLEX-RN exam scores (Creswell, 2012).

- The research involves no more than minimal risk to the participant. Identifiers collected were participants' graduation date along with the Diagnostic, Readiness, and NCLEX-RN exam scores (Creswell, 2009).
- There is no participant involvement or observation involved in this study. I did not disclose any data to any other party, and I will destroy all data identifiers after completing data collection (Lodico et al., 2010).

I will store the data used for this study for a minimum of 5 years or until it is inactive and appropriate to destroy. If someone challenges this research, I will retain all relevant data until the matter is resolved. I will shred hard copies of the data and delete any electronic data files from all storage devices, including recycling bins.

Summary

This section entailed a quantitative comparative study conducted using archival data on graduated nursing students from a college university in Orlando, Florida. The results of the study indicated significant positive differences in student academic performance for students in concept-based curriculum programs compared to traditional content-based curriculum programs. The next section will identify the goals of the project, rationale, and a review of the literature. The steps to implement the project and implications for social change will follow.

Section 3: The Project

Introduction

This project was intended to develop an innovative academic policy to transform a university's nursing programs from a traditional content-based to a concept-based curriculum model through the creation of a policy paper. A writer of a policy paper develops a workable plan of action for addressing a problem through critical analysis and research (Foster, 2007). In order to propose change to existing policies and practices in a university setting, I required an intensive understanding of all stakeholder viewpoints, policy and practice restrictions, and accrediting body requirements, as well as full understanding of the decision making process within the university. I adhered to all of these constraints as I composed the complete policy paper, located in Appendix A of this document.

In Section 3, I outline the project and creation of the policy paper, as well as the goals of the project. I also provide a rationale for the project, supported by a literature review. Finally, I outline the implementation and implications of the study and the policy paper.

Description and Goals

Identifying the goals for this project was paramount to understanding the policy paper's scope and delineation. Three goals were set for this project:

- Educate stakeholders about concept-based learning and why a university should adopt this learning method for their nursing programs

- Develop a policy paper that addresses an action plan for nursing program conversion to a concept-based learning curriculum at a university nursing program in Central Florida
- Share the study results on concept-based learning with university stakeholders.

These goals guided the creation of the policy paper in its entirety and proposed next steps for achieving the goals' fulfillment.

In order to create the policy paper, I first identified major stakeholders involved in the nursing curriculum development problem, including campus administrators, nursing directors, faculty, and corporate officers. These identified stakeholders' had the ability and authority to make decisions within the university. The project requires all stakeholders to maintain an open mind through the change process. Administrators and corporate officers have been included as stakeholders because their support with financial backing was crucial in affecting institutional change (Patria, 2012). Approval and adoption of a policy change can occur by the identified stakeholders. This step was necessary to ensure that the policy paper reached those who would have the most influence in enacting evidence based change.

Once I identified stakeholders, I analyzed the situation to best present the evidence to this audience. The identified problem was clearly defined to the nursing directors and faculty allowing them to accept the change (DuFour, 2011), when presented with evidence-based information. I constructed the paper to be comprehensive and educational in order to best present the information to administrators and corporate officers. Study results were included in the policy paper so that the stakeholders gained

additional scholarly information concerning the improvement of nursing students' overall academic achievement.

The results supported the implementation of a concept-based curriculum at the university under study. One of the major concerns for nursing faculty and administrators in converting to concept-based learning was, the fear that the NCLEX-RN exam pass rate would decrease. The study results on whether nursing students' had improved their NCLEX-RN scores, provided evidence to the contrary. In addition, the overall academic achievement data for student performance on additional standardized exams, the Diagnostic and Readiness exams, showed that the curriculum structure was solid and that implementation would not require a complete overhaul. The concept-based curriculum policy paper will provide stakeholders with a convincing tool for the university's adoption of this curriculum. The implementation portion of this section will provide additional details of this presentation.

In line with the NLN's (2005) and the IOM's (2003) call for nursing education reform, the study results showed that the concept-based curriculum improved nursing student academic achievement. The use of the study results was a starting point in establishing a university policy that would require the nursing programs to adopt a concept-based learning curricula model over a traditional content-based model. The following section will provide the rationale for the project and a specific discussion of its findings.

Rationale

Nurse educators and stakeholders in nursing education are acutely aware of the call for nursing education reform (NLN, 2005). Therefore, I planned this project to

convey the study's findings and advocate evidence based change in university policy and instructional practice to reflect a concept-based curriculum's implementation. The data analysis, based on exam results from nursing graduates between the years of 2009-2014, combined with an extensive literature review on concept-based curriculum, helped characterize the project for this research study. The findings supported the premise that a concept-based learning curriculum would improve student academic achievement. I constructed a policy paper in order to explain this change, according to an extensive review of literature related to this genre.

Review of the Literature

Based on the data collected related to concept-based curricula in a nursing program, the purpose of this literature review was to establish the effectiveness of using a policy paper in communicating a policy change plan and examining change management principles as it relates to organizational change. I applied these findings to the recommended implementation of the curricular change within a nursing program.

Using Walden University Library resources, including ERIC, CINAHL, ProQuest, EBSCO, and Google Scholar, a complete data base search occurred. During this literature review, I used over 20 combinations of terms using Boolean operators; strategic words used were *policy paper, policy paper purpose, policy paper components, how to write a policy paper, policy paper in organizational change, change, change management,* and *curriculum change in higher education.* Sources concerning policy paper development were minimal when compared to the topic of change management. My recommendations from the literature review is organized to highlight the purpose of a

policy paper, best practices for constructing a policy paper and theoretical and research support.

Purpose of a Policy Paper

The purpose of a policy paper is to present a comprehensive and convincing case supporting the policy recommendations proposed in the paper, and therefore represent itself as a policy-making tool and a call to action for the identified stakeholders (Foster, 2007; Young & Quinn, 2012). As a policy-making tool, the policy paper's initial purpose is to define an urgent policy issue within the current policy framework. A policy paper can identify and address outlined issues making them understandable. The process found when developing a policy paper are to recommend and define key options, provide an analysis of possible outcomes of these options, make policy recommendations, and provide a strong argument for why this policy option is the best course of action (National Collaborating Centre for Methods and Tools, 2011). Through these aspects, the policy paper comprises a workable plan of action for stakeholders (Foster, 2007).

Young and Quinn (2012) stated that the policy paper is problem and solution focused, thus creating the impetus for a particular policy change. Policy papers publish a viewpoint, address an issue through the decision making process, or have a positive influence on a particular community when based on evidence (Strauss, 2013; Vardiman, Shepard, & Jinkerman, 2014). The focus on present situations precludes the inclusion of historical analysis, case studies, opinion, description, or an analysis of how something might work (Scotten, 2011). In essence, the policy paper's purpose is as a convincing tool to shift stakeholders' opinions toward the desired change (Scotten, 2011; Strauss, 2013).

Wallis (2010) noted that the internal and external stakeholders define the policy paper's process (representation, implementation, and measurement). The writer of a policy paper must develop a clear understanding of the purpose of and audience for a policy paper to be effective in conveying a message successfully, so that the stakeholders will endorse the intended recommendations (Strauss, 2013; Wallis, 2010). Mundt, Clark, and Klemczak (2013) described in their study how using the policy paper model was able to bring about a policy change in nursing education throughout the state of Michigan.

Overall, all of the authors and websites explaining the purpose of this genre agreed that an effective policy paper succinctly identifies and summarizes a problem and clearly defines a solution through the development of a policy (Foster, 2007; Scotten, 2011; Young & Quinn, 2012). Additionally, understanding the targeted stakeholders and considering their perspectives provides an effective convincing tool (Strauss, 2013; Wallis, 2010). Therefore, the policy paper included in Appendix A provides a medium to communicate and direct stakeholders to advocate for the proposed policy change of implementing a concept-based curriculum at all nursing programs at a given university.

Theoretical Beginnings

Taylor and Machado-Taylor (2010) wrote that the use of planning when considering a policy change within an organization might refute the resistance to the transformation. Thus, considering all aspects of the policy paper prior to its creation was a key component of the construction of the policy paper. Many researchers suggested that constructing a policy paper begins with a solid theoretical underpinning (Breton & Leeuw, 2010; Vanderlinde, Braak, & Dexter, 2011). Breton and Leeuw (2011) stated that having a thorough theoretical inventory could help orient stakeholders in the

direction of analytical policy analysis. Theoretical underpinnings in a policy paper set the stage for how, why, and who should be involved in the change (Vanderlinde et al., 2011).

For my policy paper, the theory of change management shaped the development of each individual section of the policy paper (Barkenbus, 1998). Specifically, Baumgartner, Jones, and Veible (2007) described how a single theory called punctuated equilibrium theory (PET) provides change, stability and policy development into one source. This theory prevents having to use multiple theories when developing a policy statement (Baumgartner et al., 2007). Nowlin (2011) collaborated that PET is evolving into an all-encompassing theory based on acknowledging long periods of change and stasis within the policymaking process.

PET involves several key concepts that I utilized in the creation of the policy paper, including bounded rationality, framing, and policy monopolies (Cairney, 2013). Bounded rationality involved the limited attention that stakeholders can afford to addressing issues; framing described the way that a problem is articulated and subsequently solved; and policy monopolies are the preferred methods of framing an issue that may be taken for granted because of their ubiquity (Cairney, 2013). For the purposes of understanding nursing education reform, a policy monopoly existed regarding evaluating reforms in terms of evaluating first-time pass rates on the NCLEX-RN and meeting the call of the IOM (2003) and the NLN (2005) for nursing education reform. I worked within this framework to structure the curriculum reform, as an ongoing and significant issue of how using concept-based curricula is addressed, based on the results of my study. To assist with bounded rationality, I attempted to create a full

and easily implemented plan for change to suggest that implementation was a workable solution for stakeholders. After working through these theoretical underpinnings, I began constructing the policy paper.

Constructing a Policy Paper

When researching the literature regarding the form of a policy paper, I noted that no accrediting body or organization has taken ownership for creating the standards for writing a policy paper. However, published descriptions and guidelines that established a form for policy papers existed on university websites, in journal articles, and in course books (Barkenbus, 1998; Foster, 2007; Scotten, 2011; Young & Quinn, 2012). These resources provided several guidelines for constructing an effective policy paper.

Several models showed different ways to construct a policy paper, but when reviewed, I determined that the differences were only superficial. Tonn and Peretz (1998) identified three stages in the policy making cycle that included 1) identify alternatives, 2) gather and analyze alternatives, and 3) apply a decision tool. Barkenbus (1998) described the process having four stages 1) agenda setting, 2) policy foundation, 3) policy implementation, and 4) policy evaluation. While different methods to the policy creation process exist, depending on the context and purpose, the course book model (Figure 2; Young & Quinn, 2002) recognized the policy science model is what grounds this policy paper.

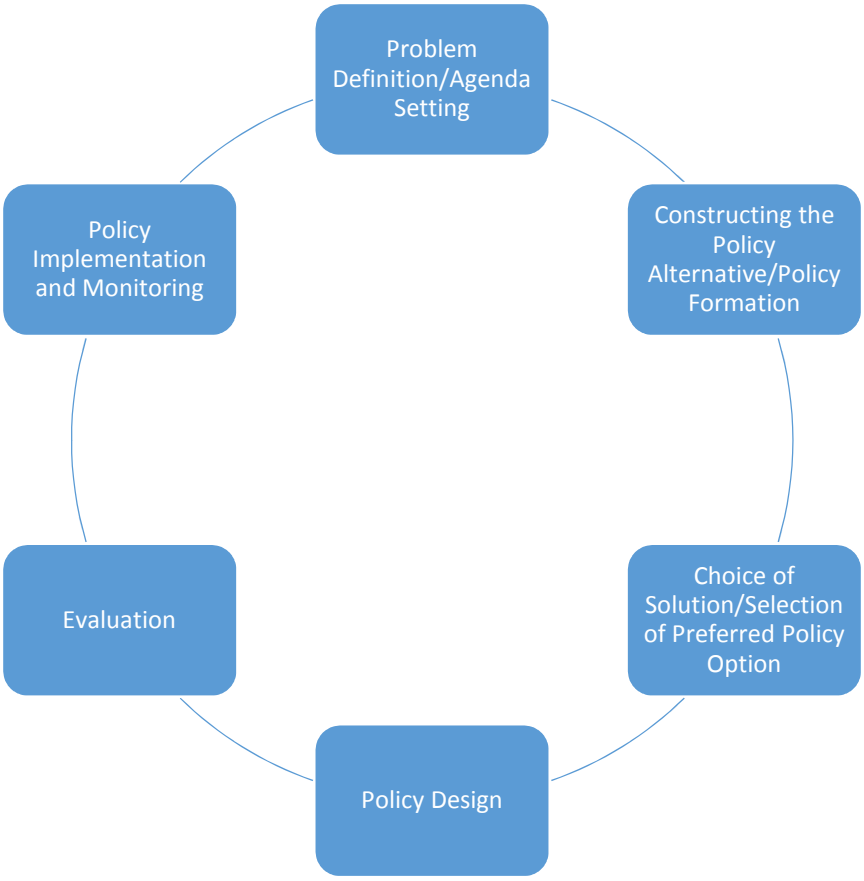

Figure 2. Policy cycle. Adapted from *Writing Effective Public Policy Papers: A Guide to Policy Advisers in Central and Eastern Europe*, by E.Young & L. Quinn (2002). Budapest, Hungary: Local Government and Public Reform Initiative.

The policy cycle follows a recursive process of evidence-based decision-making. The culminations of policy paper research and design recommendations fundamentally underpinned the creation of this policy paper. Opportunities during the policy cycle process for reflection and evaluation could occur.

Pennock (2011) stated that policy papers vary in length from 1 to 100 page documents. Policy papers commonly incorporate common components: an executive summary; statement of the problem/issue; background information; identified stakeholders; alternative options; and recommendations for action (Pennock, 2011).

Additional components found to be included in a policy paper are how to implement the policy, cost-benefit analysis, and an evaluation plan (Teirlinck, Delandhe, Padilla, & Verbeek, 2012). Utilization of the seven-section policy model for this paper, which begins with an introduction and background of the issue, followed by a statement of the problem and subsequently, current policies and alternative solutions. Following the explanation of the current state of the problem, the writer of the policy paper recommends a new strategy and demonstrates how implementation can occur and why the solution is feasible. The policy paper ends with a conclusion and references (Young & Quinn, 2012).

Introduction and background of issue. This section addresses the identified social issue along with additional background information concerning the problem identified (Hall, 2011). It includes such content as how the issue originated, the importance of the issue, what ethical or scholarly issues accentuate the importance of the concern, and why should society be concerned with the issue (Hall, 2011). DeMarco and Tufts (2014) stated that this section should advance from the general to the exact and not be excessively technical to where the reader would have a hard time understanding the purpose. Boston University (2015) and Hall (2011) wrote that the paper should address the historical aspects of the issue as well as the efficacy. Key stakeholders in previous policy implementations should also be addressed (Boston University, 2015). Overall, this section reviews the issue and current solutions, which may be effective or ineffective.

Statement of the problem. The statement of the problem section's purpose is to examine the identified issues found in the background and determine if they are related. (York University, 2015). Areas addressed in this section include, how the evidence

reflects a need for a policy change; which critical populations are affected by the problem; a detailed and defined statement of the problem; and what chief causes effect the problem (Hall, 2011; Lavis et al., 2012; York University, 2015). The description of the problem sets the focus of the policy to be proposed (Nannini & Houde, 2010). The overall focus of this section defines the key questions, ethical reasoning, and arguments that are associated with the identified problem (Felce & Purnell, 2012).

Current policies. This area of the policy paper focuses on identifying existing policies or programs that influence the problem. This section addresses the problem, and whether existing policies correct, exacerbate, or have no effect on it (York University, 2015). Stakeholders and their support for current policies should be determined in the current policies section (York University, 2015). A vigorous discussion of the weaknesses or limitations of the current policy will set the stage for the new policy.

Alternative solutions. This section analyzes two or three alternate solutions for the problem (Nannini & Houde, 2010). These solutions should be complete and considered viable options for the problem without bias being interjected (Freeman & Maybin, 2011). Current policy or a modified version is always a possible alternative and should be included within the presentation of options (Boston University, 2015). Each alternative solution or option should include its strengths and weaknesses, which stakeholders endorse or object, and if it is a new solution, why it has not been implemented (York University, 2015).

Policy recommendations, feasibility, and implementation strategies. The focal point of the recommendations section involves originating an operative policy proposal for the problem, validating that the proposal is realistic and possible, and

demonstrating that the proposed solution will work (Barkenbus, 1998; Harris & Burns, 2011; Vardiman et al., 2014). DeMarco and Tufts (2014) suggested that the writer use active voice, familiar language, and action-based statements to facilitate change. The recommended policy should provide a clear argument of why the chosen policy is the best choice (Nannini & Houde, 2010). A detailed recommendation plan on when and how to implement the primary policy option should be included (York University, 2015). Additional areas that can be found in this section are cost-benefit analysis, evaluation criteria, and predictions on what will likely happen if this option is adopted (Boston University, 2015; Teirlinck et al., 2012). In all, the recommendations section works to frame the solution and provide a clear, feasible argument for the solution to stakeholders.

Conclusion. The conclusion is considered the capstone of the policy paper (Flanagan, Ulyarra, & Laranja, 2011; Freeman & Maybin, 2011). It should summarize the argument with a final plea to the stakeholders to adopt the main policy option. The conclusion should present the argument in miniature and demonstrate a final, impassioned plea for the solution to be adopted (Flanagan et al., 2011).

References. The reference section should include all citations and any other background resources used within the paper. The reader should be able to find the references easily when more information or clarification of information is needed (Boston University, 2015).

Theoretical and Research Support

The project is based on changing university policy concerning the type of curriculum nursing programs will use, based on the results of the quantitative comparative analysis discussed in Sections 1 and 2. I conducted this study utilizing

archival data from a nursing school that had provisionally implemented a concept-based curriculum in the 2011-2012 semester. The IRB approval number for this study was 01-23-15-0015606.

The policy paper proposes that the school change entirely to a concept-based curriculum based on the review of literature and the study findings. In order to construct a solid recommendation, I used support from change management theory and the research related to the problem of nursing curriculum and changes, discussed in previous sections of the research project. The theoretical undertones of change management guided the construction of the policy paper. Scholars have considered Lewin (1930) the founding father of the change process. Lewin (1951) developed a three-stage model of change, known as the *unfreezing-change-refreeze model,* which requires exclusion of previous learning and exchanged with new knowledge or ideas. Specifically, I utilized PET (Baumgartner et al., 2007), an elaboration of change management theory, to guide recommendations and understand the dynamics of the change process. This understanding highlighted the importance of understanding previous contributions, power dynamics, and stakeholder beliefs to propose change and promote its acceptance.

The problem addressed in this project was nursing curricular reform within the parameters of performance on standardized accreditation exams, the current frame of understanding success in nursing curricular reform. The NLN (2005) and the IOM (2003) called for nursing education reform to meet the changing nursing environment, and since then, nursing accrediting bodies have endorsed this movement. One promising reform was concept-based curricula, which represents a significant departure from the traditional, content-saturated medical model nursing curricula (Lewis, 2014).

The change from a traditional content-based medical model to a concept-based curriculum requires multiple significant adjustments and a collaborative environment; thus, change management and PET were an appropriate choice to guide the construction of policy related to these findings (Patria, 2012). Stakeholder's flexibility during the change process is necessary when proposing and implementing new ideas (Odagiu, 2012). A shared vision, flexibility, and self-reflection among all parties involved will enable and sustain the change proposed (Odagiu, 2012). In order to set the groundwork for faculty buy-in in the curricular reform, I sought out potential barriers to successful curricular change. A main reason why faculty would not implement a concept-based curriculum was the lack of research concerning NCLEX-RN pass rates with first-time test takers taught under the concept-based model (Hickey et al., 2010; Lewis, 2014; Schreier et al., 2009). Davis (2011) stated that to have a satisfactory curriculum, the majority of students must pass the NCLEX-RN on the first try. Tanner (2010) further claimed that faculty who endorsed curriculum reform were doubtful about whether NCLEX-RN first-time pass rate would remain acceptable with the change.

To address these faculty concerns, I conducted a quantitative comparative study that compared a traditional content-based to a concept-based curriculum at a nursing program in Orlando, Florida. I demonstrated that NCLEX-RN pass rates increased significantly along with student academic achievement based on the Diagnostic and Readiness exam scores when using a concept-based learning approach These results, in turn, have allowed me to pursue the conversion of the nursing program's curriculum at the university under study to a concept-based curriculum. Below are the findings:

Research Question 1. The first research question I posed was the following: What significant differences exist between traditional content-based curriculum and concept-based curriculum on student achievement, as measured by NCLEX-RN? Quantitative chi-square analysis of exam data demonstrated a significant relationship between NCLEX-RN pass/fail rates and curriculum type ($\chi^2(1) = 5.59, p = .018$). These results demonstrated that students enrolled in concept-based curriculum courses performed considerably better than those enrolled in traditional type course did. Eighty-five percent (117/137) of students using the concept-based curriculum passed the NCLEX-RN as opposed to 73% (73/100) of students using the traditional content-based curriculum.

These results provided an alternative result to previous evaluations of concept-based curricula. Though NLN (2005) and IOM (2003) had lauded curricular reform, even particularly advocating concept-based curriculum, the literature regarding the transition presented conflicting results regarding the curricular efficacy of the concept-based transition. Many programs were too new to evaluate appropriately, and thus the research provided best practices for transitioning or an evaluation of teachers or students' initial perceptions of the transition (Herinckx et al., 2014; Rideout et al., 2002; Tse et al., 2014). Qualitative examinations of concept-based curricula presented student satisfaction and teachers' growing appreciation of students' skill development (Giddens, 2007; Giddens & Brady, 2007; Hardin & Richardson, 2012; Kantor, 2010; Nielsen, 2009; Rideout et al., 2002). However, previous evaluations of concept-based curricula had shown negative results on licensure exams, such as the NCLEX-RN (Giddens & Morton,

2010). Thus, the findings supported qualitative results, but not prior quantitative findings.

Research Question 2. The second research question I examined was the following: What significant differences exist between traditional content-based curriculum and concept-based curriculum on student achievement, as measured by Diagnostic exam and Readiness exam scores? I conducted a MANOVA to determine if significant differences existed between curriculum type (traditional content-based vs. concept-based) and exam scores (diagnostic and readiness). The dependent variables in the analysis were the exam types (diagnostic and readiness). The independent variable in the analysis was the curriculum type (traditional content-based vs. concept-based). Statistical significance was determined at $\alpha = .05$.

Results of the MANOVA indicated significant differences between the exams and curriculum types ($F(2, 234) = 10.48$, $p < .001$, Partial $\eta^2 = .08$). Analysis of the individual ANOVAs then occurred because of noted significance. Analyzing the ANOVAs determined whether significant mean differences existed between each exam based on curriculum type. Results of the first ANOVA demonstrated significant differences for Diagnostic exam scores between traditional content-based and concept-based curriculum ($F(1, 235) = 17.54$, $p < .001$, Partial $\eta^2 = .07$). The mean for Diagnostic exam scores was significantly higher for concept-based curriculum (64.77) compared to traditional content-based curriculum (61.19). Results of the second ANOVA also indicated significant differences for Readiness exam scores between traditional content-based and concept-based curriculum scores ($F(1, 235) = 11.24$, $p = .001$, Partial $\eta^2 = .05$). The mean for Readiness exam scores was significantly higher for

concept-based curriculum (70.99) compared to traditional content-based curriculum (67.25).

Prior to this project, no quantitative research had verified the qualitative student and teacher satisfaction with curricular reform through performance on essential accreditation measures, such as NCLEX-RN scores. Findings related to the first research question demonstrated that students enrolled in concept-based coursework performed significantly better on NCLEX RN than did those enrolled in the traditional content-based courses. The data analysis suggested that the Readiness and Diagnostic exams showed similar improvement in support of the concept-based curriculum. A policy paper, using the results of the transitioning data, was then developed and presented in the following section.

The next step in the change process will be developing a policy paper, thoroughly defining the steps and process. For this project, I have developed a policy paper, according to research reviewed above, which addressed the justifications and call-to-action for the university nursing programs to change from a traditional content-based to a concept-based curricula model. The next section will provide information about the proposed implementation, guided by the review of the literature.

Implementation

Needed Resources and Existing Supports

To begin the implementation of the policy change, I required support from stakeholders, which lead to allocation of resources. I have received verbal support for the policy change from eight out of 10 nursing directors. Nursing accrediting bodies are

promoting this change in classroom and clinical area instruction. Thus, I will continue the pursuit of approval from all stakeholders.

I will present my study results during the university's Virtual Faculty Symposium in 2016. This presentation will focus on be introduced to concept-based learning in a nonthreatening way. During the symposium, the policy paper will also be available for attendees to read and comment on. I anticipate that including stakeholders in the process will increase buy-in to the program and ease the policy changes.

The resources required for implementation of concept-based curricula are not extensive. Some additional resources needed through this process are allocation of time to implement the project and secretarial support. Moreover, programmatic determination of curricular concepts, as well as teacher training time, will require an investment from the school. However, the anticipated success from implementing this program should offset any initial resource investments in the change.

Potential Barriers

Potential barriers to the success of this policy change will include some of the stakeholders previously identified. Three nursing directors have expressed concerns about changing their curriculum at this time due to program instability or accreditation visits. The timeline is the biggest optical for these three directors not the change. Corporate officers and campus administrators have proposed that curricular change can cause the instability of some of the nursing programs and require professional development for faculty to become proficient in the classroom. Thus, these stakeholders are questioning if it is the right time to make this change.

Alternative Policy Options

The policy has three alternative options to the problem and are serious contenders in the development of this policy statement. Each alternative option will be defined, pros and cons discussed, economic impact specified, and which stakeholders support or reject the alternative solutions and why.

Alternative Option 1. This option maintains the curricular status quo within the university system. The university nursing programs, except one, maintain a traditional content-based curriculum and refer to this as the common university curriculum. This type of model has been refuted by the IOM, NLN, and nursing accrediting bodies due to saturation of content and lack of critical thinking skill development within the student (IOM, 2003: NLN, 2005). Continual overhauling of the university's traditional content-based curriculum has occurred over an eight-year span, with no noticeable improvement in program NCLEX-RN pass rates. The school's pass rates lag behind the national average for first-time pass rates.

The economic impact with this option is the amount of time that faculty and administration dedicate to the continual revision of the curriculum, potential new student loss due to low program NCLEX-RN pass rates, and accrediting body scrutiny requiring substantive change reports or site visitations. Corporate officers uphold support for continuation of this type of curricular model. It is felt that continuation of this curriculum would cause less turmoil on already struggling nursing programs. These stakeholders claim that changing to a concept-based learning model would impart additional stress on an unstable faculty and that the concept-based curriculum's effect on NCLEX-RN rates was unproven.

Alternative Option 2. The second option identified was changing the university nursing curriculum to a competency-based model. The stakeholder found to be supportive of this model was the System Dean of Nursing. This option focuses on defining skills and determining competency levels of the identified skill. The curriculum focuses on confirming skill sequence and outcome with little critical thinking skill development. This option would require the development of a completely new nursing curricular model, consuming additional time from faculty and fiscal resources. Accrediting bodies do not endorse this model thus is not a promising option for curricular reform. However, this option does follow current trends in higher education of defining student competencies that can lead to badges or certificates above the degree awarded.

Alternative Option 3. The third option is to change the university nursing programs to the concept-based learning curriculum model. The nursing accrediting bodies (ACEN, CCNE), state boards of nursing, and nursing governance organizations such as the NLN and AACN have endorsed this type of curricular design. Endorsement of this type of curriculum was made by seven out of ten university nursing directors (stakeholders) ranging from associate to graduate level education and campus administrators during the 2014 University Nursing Summit. The three nursing directors and campus administrators who voted against it identified program instability or accrediting body initial visit as being the reason.

The results of my research determined that NCLEX-RN pass rates improved significantly when comparing a traditional content-based to concept-based curriculum model, thus supporting this solution to the problem. The concept-based curriculum at a university nursing program in Central Florida was previously developed, and my study

demonstrated positive outcomes because of implementation. First-time pass rates for the concept-based curriculum courses reached 85%, which is above the national average for associates programs at 82.73% (NCSBN, 2015). Training of faculty on how to instruct properly in a concept-based learning environment would have the largest economic impact. Professional development would have to be extensive and ongoing as training for new faculty and existing faculty happens.

Timetable

I will be sharing the results of this study and policy paper recommendations at the university's Virtual Faculty Symposium in May 2016. The identified stakeholders will receive the policy change paper with cover letter via email or certified mail. I anticipate that the conversion process will take approximately two years, beginning with university approval through original proposal suggested changes. In Table 6, I outlined the proposed implementation timeline/schedule.

Table 6

Study Project: Proposed Implementation Timeline

Task	Completed Date	Venue	Participants
Presentation of study and policy paper	May 2016	Virtual Faculty Symposium	Nursing faculty and directors
Analyze feedback and make changes to policy paper	August 2016		Project Coordinator
Disseminate Policy Paper to Stakeholders	September 2016	Email, Hard Copy	Project Coordinator
Receive Feedback	November 2016	Email, Hard Copy	Project Coordinator, Stakeholders
Disseminate Revised Policy Paper To Stakeholders	December 2016	Email, Hard Copy	Project Coordinator
Approval of Policy Change	March 2017	Nursing Summit Report	Stakeholders Nursing Directors, University Compliance
Substantive Change to Accrediting Bodies	April 2017		
Advisory Board Presentations	April 2017	Meeting	Nursing Directors, Faculty
Professional Development for Faculty and Directors	April 2017–April 2018	Webinars, Conferences, Nursing Summit	Nursing Faculty, Directors, Program Coordinator

Student Presentations	May 2018	Classroom Presentation, Emails, Hard Copy, Webinars	Faculty, Nursing Directors Program Coordinator
Non-Nursing faculty and Staff Presentations	May 2018	Webinar	Nursing Faculty
Implementation of Concept-based Curriculum- Live	September 2018	Classroom	
Follow-up	December 2018	Survey, Verbal Feedback	Program Coordinator
Follow-up	June 2019	Survey	Program Coordinator

Roles and Responsibilities

It will be my responsibility to create and present the study results and the policy paper (Appendix A). I will present the results of the study and policy paper at the University's Virtual Faculty Symposium in May 2016. I will then email all identified stakeholders the policy paper with cover letter. It will subsequently fall to the stakeholders to provide feedback and evaluation of the policy. I will provide and attend the meetings, or make appropriate revisions to the documents as required. The responsibility for acquiring approval for this policy change will also be my responsibility.

Project Evaluation

The overall evaluation of this project will occur when the identified stakeholders make full approval of the policy paper. The approval process will solicit additional feedback and suggestions by written and oral communication methods (Creswell, 2012).

The process of policy approval will continue until goal attainment occurs. I fully understand the magnitude of such a policy change for the university having implemented a concept-based curriculum in May 2011. The completion date for conversion of all nursing programs to a concept-based curriculum is approximately three years from initiation.

Implications Including Social Change

This study investigated whether changing to a concept-based from a traditional content-based curriculum improved nursing student academic achievement as evidenced by the NCLEX-RN first-time pass rates. Stakeholders identified in the study included nursing faculty and administrators. The purpose of the policy paper was to propose a plan of action that would change all university nursing programs to a concept-based curriculum. The research study results show that academic achievement improves as students learn in this type of environment. The project has implications for local and external stakeholders, as well as the opportunity to enact social change.

Local Implications

The local implications may lead to social change at this level. If the university endorses the policy paper, this change should improve the graduate's employability and transfer success to a baccalaureate bridge program for registered nurses, decreasing degree acquisition time. Students will receive training that allows them to be on the cutting edge of nursing practice, including making evidence based decisions and employing critical thinking. Teachers will also reap the benefits of teaching a more transferable concept-based curriculum. University stakeholders will also benefit from

increased success on the NCLEX-RN through continued accreditation. Furthermore, the results of the study may be far reaching.

Far Reaching Implications

This study addressed a problem identified in the literature regarding nursing programs' hesitancy to transition from a traditional content-based curriculum to a concept-based one. Researchers noted that the change in nursing education must address the issues of content saturation and critical thinking development in the student (Herinckx et al., 2014; IOM, 2003; Kantor, 2010; NLN, 2005). The study took place in a local arena but might have outreaching ramifications; the development of the policy paper may be useful to other similar colleges and universities. The policy paper could easily be adapted to other institutions wanting to convert their nursing programs curriculum to a concept-based approach based on the solid literature review and results of this study. The increase in graduates passing the NCLEX-RN exam on the first try will also make a remarkable impact on the nursing shortage that has been in existence since 2000 (Juraschek, Zhang, Ranganathan, & Lin, 2011), thus influencing social change in a positive way. It may also lead to better prepared nursing staff, essential to the developing medical practice stemming from national healthcare reforms.

Conclusion

I examined whether concept-based learning improves nursing student academic achievement. I used empirical data examining standardized testing outcomes from 237 nursing students during the university's partial transition from 2009-2014. The study was a quantitative comparative design using archival data to provide more information regarding the measurable outcomes of a concept-based curriculum. Diagnostic,

Readiness, and NCLEX-RN student scores showed improvement for students enrolled in classes utilizing the new concept-based curriculum when compared with students enrolled in traditional content-based curriculum courses. Study results will enlighten stakeholders about concept-based learning potential to improve academic achievement by nursing students and will provide a framework for future research and policy change.

The sharing of the policy paper will educate the stakeholders, identified as campus administrators, nursing directors, faculty, and corporate officers. My goal was to direct pedagogical innovation in the nursing programs at a university by fostering a policy change. The policy paper (Appendix A) concisely outlined the problem and action plan needed to make this change. In Section 4, a discussion occurred identifying the strengths and limitations of the study, my scholarly reflections, and opportunities for future researchers.

Section 4: Reflections and Conclusions

Introduction

Section 4, the final section of the research project, includes a discussion of the project strengths, limitations, and recommendations of the research findings. I conducted an examination of my individual scholarship, project development, and leadership qualities over the course of the project. The chapter also outlines implications, applications, and directions for future research. A conclusion of the final section was included to bring cohesion to this section and the project as a whole.

Project Strengths

The literature and educational practice (Nursing Faculty Minutes, personal communication, February 24 & May 26, 2011) proved that nursing educational programs were hesitant to convert to a concept-based curriculum, in part because instructors were unsure of student success on the NCLEX-RN exam. In the project study, I examined whether student academic achievement improved with the implementation of a concept-based curriculum model. The scores obtained on the Diagnostic exam, Readiness exam, and NCLEX-RN measured student academic achievement. The results showed that students taught in a concept-based curriculum scored significantly higher than those from a traditional content-based curriculum did.

Recommendations for Remediation of Limitations

The constraints of the present situation led to a couple of unavoidable limitations, including a limited sample population and the use of archival data (Creswell, 2012). The curriculum evaluation took place at a single 4-year university in central Florida. The nursing program had been functioning for 8 years as a 2-year ADN program. The sample

population included all students who had graduated from the traditional content-based or concept-based nursing curriculum during the years of 2008-2014 ($N = 237$). Using a larger sample size and including multiple nursing programs for data would have contributed to the generalizability of the study results. Future researchers may consider replicating the project utilizing data from multiple sites with larger sample sizes.

Another recommendation for strengthening this study would be to use primary versus secondary archival data. Primary data would have prevented potential bias, provided a more reliable source, and garnered a potentially larger sample population. Primary data would have strengthened the internal validity of the study. Testing whether the positive results of implementing a concept-based nursing curriculum via primary data, is a potential avenue for researchers pursuing this research topic further?

Scholarship

The definition of scholarship is those actions that systematically improve the teaching, research, and practice of nursing or education through laborious investigation (Boyer, 1990). The advancement from student to researcher occurs over time with emphasis on reading purposefully, critically, and consideration of research that supports or negates the purpose. Critical writing is an additional major component of scholarship, and develops over time with practice. Through the completion of the project, I transitioned from student to researcher by embodying these practices.

In reflection, I identified three areas of significant personal improvement that occurred through the research process: acquiring research skills, improving time management, and increasing my level of confidence with the research process.

Acquiring Research Skills

I have acquired valuable research skills during the course of this study, ranging from establishing a problem statement to data analysis. Engagement in data gathering and analysis has been the biggest contribution to my scholarly development as a researcher. As my doctoral journey is nearing the end, it is now evident that the pursuit of my scholarly endeavors began the first day that I had to read a journal article through a critical lens rather than just accepting what it declared. While completing the project, I was able to assess the current state of the literature and practice, and to address a significant gap in nursing curriculum literature through the project. My chairperson, who offered valuable and practical advice to me throughout the process, played an integral role in this development. Acquiring research skills and knowledge has allowed me to improve course content within the nursing research course at my university.

Improving Time Management

On a personal and professional level, I have greatly benefited from the research experience through the improvement of my time-management skills. Specifically, the research process required extensive preparation, organization, and planning for each section of the study. Initially, I faced challenges in terms of ensuring the progress of the study according to my initial timeline and completion dates. These challenges mainly arose at Section 1 and 2 of the project where I underestimated the time required for quality revisions. I have learned from this experience that all factors and processes can be developed and initiated over time.

Increasing Level of Confidence

My self-confidence has significantly improved with the designing and scholarly writing of this research project. The confidence that I acquired was from experts (statistician and editor) who could guide and analyze my work to transform it into a scholarly document. I will definitively benefit from this increased level of self-confidence as an individual, a researcher, and a nursing education leader. Educational leaders have to possess a high level of self-confidence and written communications skills in order to project their vision to team members and program stakeholders. Being engaged in this research study has indirectly contributed to the improvement of my leadership skills.

In all, these three areas of development highlight my transformation from a student to a researcher. By acquiring the personal and professional tools required to complete the project, I am now able to transition to professional life with the confidence of being an expert in my field.

Project Development and Evaluation

Project development and evaluation is a recursive process. The project for this study was a policy paper on how a large university would convert its six remaining nursing programs from a traditional content-based to a concept-based learning curriculum. Taken into consideration during the policy development were alignment of the organizational goals, mission statement, and educational philosophy, along with nursing program individuality and market differences. Lewin's (1997) theory of change-guided interpretation of how and when certain expectations would occur based on the adaptation process.

Because of this project, I have learned that developing a policy paper is very time consuming and labor intensive. Translating the culmination of the research into practice was nonetheless an extremely valuable professional skill that I gained in the process of drafting this document. I developed a 2-year implementation plan, along with benchmarks for determination of successive implementation. This plan, which took into consideration all aspects of development such as background issues, statement of problem, current policies, alternative solutions, action plan, and conclusion, took almost 5 weeks to complete. Collaborating with stakeholders became difficult at times due to politics and resistance to change. The overall experience for me was rewarding and educational, lending itself to future development of policy papers.

Leadership and Change

Exhibiting effective leadership skills can invoke positive social change. Developing the policy paper on changing all university nursing programs from a traditional content-based to a concept-based learning curriculum, I had the opportunity to develop my leadership and change agent skills as well as develop professionally. I have learned a tremendous amount about traditional content-based and concept-based curricular models through a literature review and hands-on experience with conversion from the traditional content-based to concept-based learning. Evidence-based curricular reform is an essential component of the modern university, and the project provided me with an opportunity to develop valuable abilities to be a more effective nursing leader. I found that the most significant moment in this process was when the findings reflected that student academic outcomes had improved by changing to a concept-based

curriculum. That is when I knew that I had made a difference in nursing education and student achievement.

Analysis of Self as Scholar

Scholarship is a never-ending process. I have learned that being a scholar takes patience and an open mind about all information or subject matters. Patience is probably the area that I have struggled with the most during the research process. As a Dean of Nursing, I am used to being able to set the pace of projects, not waiting on the timelines of others. This project taught me to appreciate the value of taking the time to conduct thorough scholarship, as well as to estimate how long the entire process will take in order to be comprehensive.

Self-reflection is also crucial when embarking on such a large endeavor as a research project. It has helped me grow and develop professionally. The critiquing process of this project has certainly made me humble. As a nursing leader and future change agent for the university and the profession as a whole, I will strive to move forward in developing and implementing quality-nursing education through advocacy of proven teaching and learning principles within nursing education. I will also be able to utilize self-reflection and critical thinking in applying to my own process, to maintain my position as an innovative nurse leader.

Analysis of Self as Practitioner

As a Dean of Nursing, I am definitely more aware of how important evidence-based decisions can affect the nursing program, students, and faculty members. No longer do I make decisions based on what I think should happen but rather on what analysis of data suggests is appropriate. Evidence provides a more definitive accurate

direction and an action plan. The hardest area for me to rectify is making that instant decision without fully knowing all variables and data points. Through this process, I have become a better leader and more engaged in implementing practices based on best practices and evidence determined through the research process, either my own or those of other experts in the field.

Analysis of Self as Project Developer

This process has allowed me to hone my project development skills. This project was the largest undertaking that I have developed thus far in my career and during my doctoral pursuit. Developing a plan to convert the entire university nursing department to a concept-based learning curriculum was monumental. It took many hours of reviewing literature, conversing with fellow nursing directors, and understanding administrative policies. I feel that I have grown as a scholarly writer and change agent for the education of nurses.

Reflection on Work and Learning

The evaluation of traditional content-based and concept-based curriculum learning on student academic achievement was essential for nurse educators. Nursing organizations have called for radical change in nursing education for years. According to Creswell (2012) "through research we develop results that help to answer questions, and as we accumulate these results, we gain a deeper understanding of the problems" (p. 4). The study process has augmented my previous subject matter knowledge on this topic. While managing this project study, I have learned the importance of peer engagement, identifying the needs of all parties involved, and compromising when necessary on

crucial elements. I also was able to identify my strengths and weaknesses though the research process.

Implications, Applications, and Directions for Future Research

The results of this study have implications for social change consisting of improved nursing student academic outcomes, student retention and graduation rates, patient care outcomes in the acute, long-term care and community settings, and accreditation measures. These implications promote the making of future nurses, who practice at a higher level of critical reasoning when providing patient care. The positive results of the curriculum on NCLEX-RN scores also implicate that instructors need not focus single-mindedly on nursing education as static knowledge, opening the door for alternative teaching modalities in line with the theories of andragogy (Knowles, 1980; Knowles et al., 2011).

The determination that concept-based learning improves nursing student academic achievement can reach into health care settings and other nursing programs whether local or national. Changing from a medical to a concept-based learning model allows the nurse to focus care on the patient assessment versus a medical diagnosis. Although some nurse educators feared that transitioning to concept-based curricula would inhibit student performance on standardized examinations (Spurlock, 2013), the results suggested that programs could implement the required curricular change for improving nursing practice without effecting accreditation standards.

Future research is needed to determine that the findings are generalizable and if using primary data that the results would continue to show statistical improvement. A similar quantitative study conducted utilizing a single concept-based nursing curriculum

at multiple sites, rather than at a single school, would be valuable for determining generalizability. Other studies could also focus on the use of other testing measures to determine student academic improvement such as other standardized testing and clinical modalities.

Conclusion

Section 4 documented the reflections of my doctoral journey along with project strengths, limitations, and recommendations. I demonstrated that nursing student academic achievement improved significantly when being taught in a concept-based learning environment. The results may not be applicable to other settings due to the use of archival data and sample size. Recommendation for future research is to strengthen the study through generalizability.

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Appendix A: Policy Paper

University Nursing Curriculum: Proposing a Policy Change and outlining the Concept-Based Curriculum

Policy Paper

Introduction and Background of Issue

The Institute of Medicine (2003) and the National League of Nursing (2005) called for nursing education reform to meet the changing nursing and healthcare environments. Included in these reforms were research-based interventions, trained nursing faculty, and active learning strategies (IOM, 2003; NLN, 2005). Nursing accrediting bodies, such as the American Association of Colleges of Nursing (AACN, 2008) also incorporated research-based, active learning curriculum reform into the *Essentials of Baccalaureate Education*, which provides accrediting standards for nursing programs.

With this call for educational reform, scholars began to refer to nursing curricula as saturated with content due to changing technology, changes in health care delivery, teacher-centered pedagogy, repetition of content, and the gap between academic preparation and actual nursing practice (Forbes & Hickey, 2009; Giddens & Brady, 2007; Stanley & Dougherty, 2010). Noting that traditional content-based curricula have become so oversaturated with content comprised of memorizing potential conditions and corequisite treatment, the AACN and state licensure boards suggested oversaturation led to lack of applicable nursing skills (AACN, 2008). Moreover, the AACN and state licensure boards emphasized developing student outcomes and competencies to meet the evolving demands of nursing practice (Hardin & Richardson, 2012).

Meeting the critical thinking and practical competencies of the nursing workforce necessitates addressing the saturation of content within nursing curricula (Stanley & Dougherty, 2010). Saturation of content has led to less allotted instructional time for students' understanding of complex nursing simulations and the development of critical thinking skills to enhance nursing practice (Nielsen, Noone, Voss, & Mathews, 2013). Therefore, the IOM (2010) proposed, "new approaches and educational models must be developed to respond to the burgeoning information in the field" (p. 2). Essentially, this radical educational shift requires that nurse educators eliminate or greatly modify the traditional content-based model currently used in nursing programs.

One of the biggest fears that nursing faculty have when anticipating curriculum change is the reform's impact on NCLEX-RN first-time pass rates and overall student academic achievement. Using data results from this university's partial conversion to a concept-based curriculum in 2011, my research (2015) showed that students using the concept-based curriculum performed considerably better than those using the traditional content-based curriculum did. I conducted a quantitative comparative study wherein I compared a traditional content-based curriculum to a concept-based curriculum at our university's nursing program. I demonstrated that NCLEX-RN pass rates increased significantly with concept-based learning and that student academic achievement improved by using two standardized exams intended to demonstrate nursing competency: Diagnostic and Readiness Exams. Data analysis found the following findings.

Research Question 1

The first research question I posed was the following: Do significant differences exist between traditional content-based curriculum and concept-based curriculum on

student achievement, as measured by NCLEX-RN? Quantitative chi-square analysis of exam data demonstrated a significant relationship between NCLEX-RN pass/fail rates and curriculum type ($\chi^2(1) = 5.59$, $p = .018$). These results demonstrated that students enrolled in concept-based curriculum courses performed considerably better than those enrolled in traditional content-based courses did. A total of 85% (117/137) of the students using the concept-based curriculum passed the NCLEX-RN as opposed to 73% (73/100) of students using the traditional content-based curriculum.

Research Question 2

The second research question I examined was the following: Do significant differences exist between traditional content-based curriculum and concept-based curriculum on student achievement, as measured by Diagnostic Exam scores and Readiness Exam scores? I conducted a multivariate analysis of variance (MANOVA) to determine if significant differences exist between curriculum type (traditional content-based vs. concept-based) and exam scores (diagnostic and readiness). The dependent variables in the analysis were the exam types (diagnostic and readiness). The independent variable in the analysis was the curriculum type (traditional content-based vs. concept-based). Statistical significance was determined at $\alpha = .05$.

Results of the MANOVA indicated significant differences between the exams and curriculum types ($F(2, 234) = 10.48$, $p < .001$, Partial $\eta^2 = .08$). The individual ANOVAs were further analyzed. Analyzing the ANOVAs determined whether significant mean differences existed between each exam based on curriculum type. Results of the first ANOVA demonstrated significant differences for Diagnostic Exam scores between traditional content-based and concept-based curriculum ($F(1, 235) =$

17.54, $p < .001$, Partial $\eta^2 = .07$). The mean for Diagnostic Exam scores was significantly higher for concept-based curriculum (64.77) compared to traditional content-based curriculum (61.19). Results of the second ANOVA also indicated significant differences for Readiness Exam scores between traditional content-based and concept-based curriculum scores ($F(1, 235) = 11.24$, $p = .001$, Partial $\eta^2 = .05$). The mean for Readiness Exam scores was significantly higher for concept-based curriculum (70.99) compared to traditional content-based curriculum (67.25).

Prior to this project, no quantitative research had verified the qualitative student and teacher satisfaction with curricular reform through performance on essential accreditation measures, like NCLEX-RN scores. Findings related to RQ1 demonstrated that students enrolled in concept-based coursework performed significantly better on NCLEX RN® than did those enrolled in the traditional content-based courses. A total of 85% (117/137) of students using the concept-based curriculum passed the NCLEX-RN, as opposed to 73% (73/100) of students using the traditional content-based curriculum. Additionally, the exam results of the Diagnostic and Readiness exams indicated that students who utilized the concept-based curriculum scored significantly higher than those who used the traditional content-based curriculum. The data analysis suggested that the Readiness and Diagnostic exams showed similar improvement in support of the concept-based curriculum. These scores provide validation of provisional success at this university in making required curricular change to meet the Institute of Medicine's (2003), National League of Nursing's (2005), and the AACN's (2008) calls for nursing education reform.

Below are the definitions of key terms used throughout this policy paper. It is imperative that all the stakeholders understand these terms, thus helping to maintain consistency in understanding during the policy decision process.

Concept-based curriculum. Concept-based curriculum is a three-dimensional instruction model that frames factual content and skills with disciplinary concepts, generalizations and principles (Erickson, 2012). Concept-based curriculum provides a foundation and structure for delivery of nursing content using a wide variety of concepts in various applications (Giddens et al., 2008). It deemphasizes content, instead fostering critical thinking, and emphasizing the skills needed for nursing practice (Giddens et al., 2008).

Critical thinking/analysis. Critical thinking is the ability to ascertain and analyze a situation based on applicable knowledge (Colucciello, 1997). Halpern (1993) defined critical thinking as purposeful, goal-directed thinking.

Traditional content-based curriculum. Teachers of the traditional content-based curriculum model focus on topics, emphasizing factual content rather than conceptual understanding and the transfer of knowledge (Erickson, 2012). The traditional content-based model emphasizes a medical diagnosis approach, and often segregated by the specialty model (i.e. adult health, maternal-child health; Giddens et al., 2008).

Diagnostic exam. A standardized exam given through Kaplan Integrated Testing that provides a probability score of the student passing the NCLEX-RN® exam (https://Kaplanlwwtesting.Kaplan.com).

NCLEX-RN exam. A licensure exam for registered nurses that measures the competencies needed to perform safely and effectively as a newly licensed, entry-level Registered Nurse (https://www.ncsbn.org/2010_NCLEX_RN_TestPlan.pdf, 2010).

NCLEX-RN program pass rate. A nursing program's NCLEX-RN pass rate is reported quarterly and yearly in percentages. (http://www.doh.state.fl.us/mqa/nursing/nur_edu_info.html, 2012).

Readiness exam. A standardized exam given during the Kaplan NCLEX-RN Review Course that provides a probability score of the student passing the NCLEX-RN exam (https://Kaplanlwwtesting.Kaplan.com, 2011).

Student academic performance. Performance defined by the scores on the Diagnostic, Readiness, and NCLEX-RN® exams.

Statement of the Problem

The university's sites that are using a traditional content-based system wide curricular model have not met NCLEX-RN national yearly pass rates since inception of the individual programs or have had unstable yearly reports. In 2008, the programs' overall NCLEX-RN pass rate was 81.48%, 5.25% below the national average, and in 2009, the NCLEX-RN pass rate was 83.33%, 5.09% below the national average (Florida Board of Nursing, 2014). Prompted by concerns that the university's traditional content-based curriculum nursing program failed to meet key student academic performance measures, faculty and leadership made the strategic decision to transition to concept-based curricula. Since the May 2011 implementation of the concept-based curriculum, nursing faculty have expressed concerns that students are not performing as well academically and fear that the NCLEX-RN pass rate will decrease. The 2011 NCLEX-

RN pass rate for the nursing program was 93%, which was above the national NCLEX-RN pass rate average (Nursing Faculty Minutes, personal communication, February 24, 2011) yet still well below the target pass rate of 95%. Nursing students are continuing to complete the programs without the knowledge, critical analysis, and competency levels that are required to pass the NCLEX-RN on the first try, and this university has made reforms in an attempt to increase student competency and success.

Current Policy

The current university nursing curricular policy supports a traditional content-based curriculum, based on the medical model. This model focuses on teaching nursing information and skills based on medical diagnoses, through memorization (Reed & Watson, 1994 and repetition of material (Giddens & Brady, 2007). For example, nursing students will take anatomy, physiology, and pathophysiology as general education courses before beginning nursing courses. However, once students enter nursing courses, faculty teaching in a physical assessment course will reteach anatomy, physiology, and pathophysiology of the respiratory system, feeling it is necessary before students can understand how to perform an assessment of the lungs and interpret the findings (Giddens & Brady, 2007). In another course involving Chronic Obstructive Pulmonary Disease (COPD) among adults, faculty members will again reteach anatomy, physiology, pathophysiology, and assessment of the respiratory system before discussing nursing care (Giddens & Brady, 2007). This type of model also promotes teacher-centered learning, where the instructor believes "it is possible to learn all nursing content through a particular curriculum and…it is the teacher's responsibility to ensure that all content is

'covered'" and learned (NLN, 2003, p. 4). Time constraints prevents active learning techniques and real world case studies from being initiated (Schill & Howard, 2011).

University nursing programs (Practical Nursing to the Doctorate in Nursing Practice) are traditional content-based. The exception, the Orlando campus, has implemented a concept-based curriculum. As previously noted, the university's lagging NCLEX-RN pass rates may be a result of the oversaturation of content in the traditional content-based model (Florida Board of Nursing, 2014; Giddens & Brady, 2007; Nielsen et al., 2013). University administrators and stakeholders have several options to consider when policy adjustments to improve NCLEX-RN pass rates can also meet the call for nursing education reform (AACN, 2008; Institute of Medicine, 2003; National League of Nursing, 2005).

Options for Consideration

Extensive research (Erickson, 2012; Forbes & Hickey, 2009; Giddens & Brady, 2007; National League of Nursing, 2005; Nielsen et al., 2013; Stanley & Dougherty, 2010) revealed three viable curricular options. In the following section, I note pros and cons, financial burden, and plausibility of the option working within the university system for each potential solution. Each of the options has identified stakeholder support with an explanation of why they fully endorse the given option.

Alternative Option 1

This option maintains the curricular status quo within the university system. The university nursing programs, except one, provide a traditional content-based curriculum and refer to this as the common university curriculum. The IOM (2003) has refuted this model (2003), NLN (2005), and the AACN (2008) due to repetition of content and lack

of students' critical thinking skill development. Continual overhauling of the university's traditional content-based curriculum has occurred over an eight-year span, with no noticeable improvement in program NCLEX-RN pass rates, which lag below the national average (Florida Board of Nursing, 2014). The economic impact with this option is the amount of time that faculty and administration dedicate to the continual revision of the curriculum, potential new student loss due to low program NCLEX-RN pass rates, and accrediting body scrutiny requiring substantive change reports or site visitations. Corporate officers upheld support for continuation of this type of curricular model (B. Faulkner, personal communication, July 14, 2014). It is felt that continuation of this curriculum would cause less turmoil on already struggling nursing programs. Changing to a concept-based learning model would impart additional stress on an unstable faculty and determination that the concept-based curriculum would improve NCLEX-RN rates was unproven.

Alternative Option 2

The second option identified was changing the university nursing curriculum to a competency-based model. The stakeholder found to be supportive of this model was the System Dean of Nursing. This option focuses on defining skills and determining competency levels of the identified skills. The lack of critical thinking strategies is evident; courses confirm skill sequences and outcomes. This option would require the development of a completely new nursing curricular model, consuming additional time from faculty and fiscal resources. The competency-based model was unproven. Therefore, using this model would not have any proven success in producing better pass rates than does the common curriculum. However, this option does follow current trends

in higher education of defining student competencies that can lead to badges or certificates above the degree awarded (NLN, 2009).

Alternative Option 3

The third option is to change the university nursing programs to the concept-based learning curriculum model. Endorsement of the curriculum by nursing accrediting bodies (ACEN, CCNE), state boards of nursing, and nursing governance organizations such as the NLN and AACN occurred. Seven out of ten university nursing directors (stakeholders) endorsed this type of curriculum, ranging from associate to graduate level education, and campus administrators during the 2014 University Nursing Summit (K. Smith, J. Kowalkowski, C. Kotecki, S. Austin, C. Hall, P. Halter, & C. Starling, personal communication, June 3-5, 2014).

The three nursing directors who voted against the concept-based curriculum identified program instability or accrediting body initial visit as being the reason. The results of my research established that NCLEX-RN pass rates improved significantly when comparing a traditional content-based to concept-based curriculum model. The concept-based curriculum at one of the university's nursing programs is developed and outcome proven. Training faculty how to instruct properly in a concept-based learning environment would have the largest economic impact. Professional development would have to be extensive and ongoing as new faculty members are hired or existing faculty have to be retrained in concept-based teaching techniques. The concept-based curriculum would be instrumental in improving NCLEX-RN pass rates in all the other university nursing programs, since none of them is meeting accrediting bodies' required national rates.

Policy Recommendation, Feasibility and Implementation Strategies

After careful examination of the three alternative options and my supporting research data, changing to a concept-based curriculum is in the best interest of all the university's nursing programs. These programs must obtain the national average for first-time passers on the NCLEX-RN exam. Moreover, through moving to a concept-based curriculum, the university can develop workforce-ready graduates with strong critical thinking skills.

The concept-based curriculum has been in effect since 2011 in one of the university's Associate of Science in Nursing (ASN) programs, and has proven to be successful determined by academic success of graduates and my research into NCLEX-RN preparedness and performance. The Concept-Based Curriculum for the Bachelor of Science in Nursing (BSN) was developed and implemented in January 2012, incorporating the ASN courses and Nursing I-VI, as well as adding additional courses that meet educational standards for baccalaureate programs. In 2014, the BSN program's pass rate for the NCLEX-RN was 100%, continuing to reinforce the significance for change. The following program description, course descriptions, and program outcomes are an example of the concept-based curriculum already in existence.

Program Description

The Bachelor of Science in Nursing (BSN) professional program builds on a foundation of knowledge in science, humanities, and multidisciplinary studies. The BSN degree program in Orlando has three options: The traditional pre-licensure option; the RN-BSN completion (or Bridge) option for students who have earned an associate or diploma in nursing and are licensed as a registered nurse; and the Accelerated Degree

option for students who have already earned a bachelor of arts or science degree in another field. Graduates apply for entry-level positions as a baccalaureate-prepared registered nurse. Students graduating from this program are eligible to sit for the National Council Licensure Examination for Registered Nurses (NCLEX-RN) in order to obtain Florida RN licensure.

The curriculum is concept-based and moves from simple to complex learning and application to analysis utilizing critical thinking, the nursing process, and evidence-based practice. The curriculum facilitates complex thinking and deeper understanding of nursing concepts. The curriculum actively engages students and faculty, leading to discovery, reflection, and thoughtful application of nursing knowledge across the life span and in culturally diverse populations. Ida Jean Orlando's Nursing Process Theory is the theoretical underpinning for the nursing program, which is based on, and incorporates QSEN guidelines.

The BSNF curriculum framework encompasses The Essentials of Baccalaureate Education for Professional Nursing Practice, the American Nurses Association (ANA) Standards of Nursing and the National League of Nursing's (NLN) Core Values and Educational Competencies and incorporates the adult learning theory. Graduates will be primary providers of direct and indirect care in many different settings, including acute care, long-term, and community health. In providing care, nurses will also serve as patient advocates and educators. The focus of care may be an individual, a group, or a specific population. Graduates will also be prepared to assume first-line management positions. Curriculum emphasis is on the importance of nursing research and evidence-based practice. The program provides an excellent foundation for graduate study in

nursing. Utilizing The Essentials of Baccalaureate Education for Professional Nursing Practice as a framework, graduates will be primary providers of direct and indirect care in many different settings, including acute care, long-term, and community health. In providing care, nurses will also serve as patient advocates and educators. The focus of care may be an individual, a group, or a specific population. Graduates will also be prepared to assume first-line management positions.

Program Outcomes

Upon completion of this program, the student should be able to:

1. Manage quality, safe, evidence-based, skilled, and patient-centered care utilizing the nursing process.
2. Apply research methods to evaluate current knowledge from nursing theory, nursing science, and related disciplines to inform and/or initiate change in educational, clinical, and organizational decision-making.
3. Engage in critical thinking necessary for leadership and management, quality improvement, and patient safety, as required, to provide high-quality healthcare.
4. Integrate teaching and learning principles in both formal and incidental teaching situations for health promotion in areas of advanced leadership, community/public health, and global health.
5. Participate in collaborative relationships with individuals, families, groups, communities, populations, and members of the interdisciplinary team to provide and improve care.
6. Review existing or proposed local, state, national, and global policy and legislation, including financial and regulatory, that affect healthcare.

7. Demonstrate leadership roles appropriate for the baccalaureate nurse in designing, managing, and coordination of patient care within the context of competent, ethical, and patient-focused care in a variety of healthcare settings for diverse patient populations.

8. Integrate knowledge, communication skills, and scientific finding from nursing science, computer science, information science, and cognitive science in the professional practice of nursing informatics.

9. Incorporate scholarship, professional behaviors, ethical, and legal principles into baccalaureate nursing performance.

10. Think critically at a conceptual level and by using mathematical analysis as well as the scientific method, write and speak effectively, use basic computer applications, and understand human behavior in the context of the greater society in a culturally diverse world (XXXXXX University, 2011).

Course Descriptions

In the following section, I describe the courses and concepts that comprise the current concept-based sequence in the university program. Each designed course highlights specific concepts and emphasize overlaps in information about healthcare practice. Appendix B contains a full list of nursing concepts and exemplars targeted by the concept-based curriculum implemented at the Orlando campus. Seminal researchers developed the original work that the current nursing concepts are based (Giddens & Brady, 2007; Giddens et al., 2008) and recommendations from the IOM (2003), and NLN (2005). The programmatic goals are state that concept-based learning can facilitate

nursing students' transition to practice via critical thinking skills and applied training (Forbes & Hickey, 2009).

In Table 1, I provide an example of one concept, health promotion, as it moves throughout the curriculum. In each course, instructors focus on a unique exemplar, which prevents instructors from repeating information from prior courses. Exemplars emphasize the course's designated outcomes while still emphasizing a core concept of nursing practice. Using concepts and exemplars in the concept-based curriculum prevents saturation of content.

Table A1: Health Promotion (Concept) and Course Exemplars

Course Number	**Course Name and Subject**	**Concept**	**Exemplar**
NF 111	Nursing I (Health Assessment)	Health Promotion	Health Promotion (introduction) Prevention Screening
NF 112	Nursing II (Fundamentals of Nursing)	Health Promotion	Complementary Alternative Therapies Pharmacodynamics Pharmacokinetics
NF 113	Nursing III (Medical/Surgical 1)	Health Promotion	Mental Health

NF 214	Nursing IV (Medical/Surgical II)	Health Promotion	Cancer Prevention
NF 215	Nursing V (Obstetrics/Leadership)	Health Promotion	Labor & Birth Newborn Postpartum Woman Pregnancy
NF 216	Nursing VI (Pediatrics/Medical/Surgical III)	Health Promotion	Anticipatory Guidance
NF 317	Nursing VII (Advanced Leadership)	Health Promotion	Nurse as Health Promoter • Healthy People 2020 • Health-Promotion Models • Nurse's Role
NF 320	Nursing VIII (Global Policy)	Health Promotion	Global Health
NF 310	Pathophysiology	[redacted]	
NF 319	Nursing IX (Community Nursing)	Health Promotion	Poor and Homeless
NF 420	Nursing X (Informatics)	Health Promotion	Documentation
NF 421	Nursing XI (research)	Health Promotion	Journals/Books
NF 422	Clinical Practicum	[redacted]	

NF 423	Integration of Nursing Concepts (Review Course)	Health Promotion	Testing of Concept and Exemplars for NCLEX

Within this program, the course progression is through achieving essential concepts. I outline the progression of the concept-based model in Table 2. Appendix C contains the full course descriptions of all nursing courses offered in this model.

Table A2: Bachelor of Science in Nursing (Concept-Based Curriculum)

Semester	Term	Course Number	Course Name	Credits
I	A	EN 104	English Comp I	3.00
		MA 107	College Algebra	4.00
		PS 101	General Psychology	3.00
	B	IS 102	Computer Applications	4.00
		SC 370	Environmental Science	3.00
		SC 370L	Environmental Science Lab	1.00
		PD 121	Professional Development I	1.00
Total				**19.00**
II	A	EN 250	English Composition II	3.00
		MO 144	Medical Terminology	1.00
		MA 320	Statistics	3.00
	B	SC 145	Anatomy and Physiology I	3.00
		SC 145L	Anatomy and Physiology I Lab	1.00

		SS 310	Cultural Diversity	3.00
Total				**15.00**
III	A	SC 245	Anatomy and Physiology II	3.00
		SC 245L	Anatomy and Physiology II Lab	1.00
		EN 116	Speech	3.00
		EN 106	Information Literacy and Research Writing	1.00
	B	SC 165	Microbiology	2.00
		SC 165L	Microbiology Lab	1.00
		SS 310	Cultural Diversity	3.00
Total				**14.00**
IV	A	NF 111	Nursing I (Health Assessment)	7.00
	B	NF 112	Nursing II (Fundamentals of Nursing)	6.00
Total				**13.00**
V	A	NF 113	Nursing III (Medical/Surgical 1)	6.00
	B	NF 214	Nursing IV (Medical/Surgical II)	6.00
Total				**12.00**
VI	A	NF 215	Nursing V (Obstetrics/Leadership)	6.00
	B	NF 216	Nursing VI (Pediatrics/Medical/Surgical III)	6.00
Total				**12.00**
VII	A	NF 317	Nursing VII (Advanced Leadership)	6.00

	B	NF 320	Nursing VIII (Global Policy)	3.00
		NF 310	Pathophysiology	3.00
Total				**12.00**
VIII	A	NF 319	Nursing IX (Community Nursing)	6.00
	B	NF 420	Nursing X (Informatics)	5.00
		PD 202	Professional Development II	1.00
Total				**12.00**
IX	A	NF 421	Nursing XI (research)	6.00
	B	NF 422	Clinical Practicum	4.00
		NF 423	Integration of Nursing Concepts (Review Course)	2.00
Total				**12.00**
		Program Total		**120.00**

Implementation: Required Resources and Timetable

Required resources. Using the existing, successful curriculum will allow university nursing faculty to focus solely on developing the understanding and skills necessary to teach in a concept-based learning model. However, some resources would be required to implement the university-wide change to a concept-based nursing curriculum. The most significant financial resource required is an investment in the professional development of the faculty. Training for instructors will occur by the current Florida faculty, which has been using concept-based learning since 2011. A well-known speaker will provide information on concept-based learning for all faculty

members to attend. Newly hired faculty or any who were unable to attend the original seminar can view it from the professional development site..

Timetable. A detailed timetable of the implementation schedule is located in the table below. The proposed conversion to a university concept-based curriculum will take place over a three-year span with established designated assessment times.

Table A3: Timetable for Implementation

Task	**Completed Date**	**Venue**	**Participants**
Presentation of study and policy paper	*May 2016*	Virtual Faculty Symposium	Nursing faculty and directors
Analyze feedback and make changes to policy paper	August 2016		Project Coordinator
Disseminate Policy Paper to Stakeholders	September 2016	Email, Hard Copy	Project Coordinator
Receive Feedback	November 2016	Email, Hard Copy	Project Coordinator, Stakeholders
Disseminate Revised Policy Paper To Stakeholders	*December 2016*	Email, Hard Copy	Project Coordinator
Approval of Policy Change	March 2017	Nursing Summit	Stakeholders
Substantive Change to Accrediting Bodies	April 2017	Report	Nursing Directors, University Compliance
Advisory Board Presentations			
Professional Development for Faculty and Directors		Meeting	
Student Presentations	April 2017		Nursing Directors, Faculty

Non-Nursing faculty and Staff Presentations Implementation of Concept-based Curriculum- Live Follow-up	April 2017-April 2018	Webinars, Seminar, Nursing Summit	Nursing Faculty, Directors, Program Coordinator
	May 2018	Classroom Presentation, Emails, Hard Copy, Webinars	Faculty, Nursing Directors
	May 2018	Webinar	Program Coordinator
	September 2018	Classroom	Nursing Faculty
	December 2018	Survey, Verbal Feedback	Program Coordinator
Follow-up	**June 2019**	**Survey**	**Program Coordinator**

Conclusion

The endorsement of concept-based learning by nursing accrediting bodies (AACN, ACEN) and educational regulation organizations (AACN, NLN, IOM) increases the development of critical thinking/analysis skills and focused knowledge in the student.

Decreasing content saturation and repetition of information in the curriculum promotes improved academic achievement, as noted in the literature and in the original research presented in this policy paper. The Alternative Option # 3, changing the university nursing curriculum to a concept-based curricular model, is justified by my research findings and the literature. A timetable and an example of a BSN concept-based curriculum. The major investment for the university would be the professional development that will be required for each nursing faculty member. The university investment is inconsequential when compared to the loss of student employment opportunities.

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Appendix B: Nursing Concepts and Exemplars

Concepts & Exemplars Matrix (ASN/BSN)							
CONCEPT	**Nursing I – NF 111 EXEMPLARS**	**Nursing II – NF 112 EXEMPLARS**	**Nursing III NF 113 EXEMPLARS**	**Transitions – NF 171 EXEMPLARS**	**Nursing IV – NF 214 EXEMPLARS**	**Nursing V – NF 215 EXEMPLARS**	**Nursing VI – NF 216 EXEMPLARS**
Acid-base Balance		ABG's	Respiratory & metabolic alkalosis & acidosis	ABG's Respiratory & metabolic alkalosis & acidosis			
Addiction					Substance abuse	Prenatal substance exposure	
Cellular Regulation			Anemia	Anemia	Cancer		Childhood cancer Hemophilia Oncologic emergencies Sickle cell disease

Concepts & Exemplars Matrix (ASN/BSN)							
CONCEPT	**Nursing I – NF 111 EXEMPLARS**	**Nursing II – NF 112 EXEMPLARS**	**Nursing III NF 113 EXEMPLARS**	**Transitions – NF 171 EXEMPLARS**	**Nursing IV – NF 214 EXEMPLARS**	**Nursing V – NF 215 EXEMPLARS**	**Nursing VI – NF 216 EXEMPLARS**
Cognition			Alzheimer's Confusion Delirium Psychosis	Alzheimer's Confusion Delirium Psychosis			Intellectual disability
Comfort	Pain assessment	Pain management Pain transmission Rest		Pain assessment Pain management Pain transmission Rest	Palliative care	Epidural analgesia	Atraumatic care
Communication	Advocacy Clinical interview Therapeutic communication	Interdisciplinary communication SBAR		Advocacy Interdisciplinary communication SBAR Therapeutic communication		Advocacy (vulnerable populations) Conflict resolution With the family	

Concepts & Exemplars Matrix (ASN/BSN)							
CONCEPT	**Nursing I – NF 111 EXEMPLARS**	**Nursing II – NF 112 EXEMPLARS**	**Nursing III NF 113 EXEMPLARS**	**Transitions – NF 171 EXEMPLARS**	**Nursing IV – NF 214 EXEMPLARS**	**Nursing V – NF 215 EXEMPLARS**	**Nursing VI – NF 216 EXEMPLARS**
Culture	Cultural competence Diverse populations Multiculturalism			Cultural competence Diverse populations Multiculturalism			
Elimination	Bowel elimination*	Urinary elimination*	BPH	Bowel elimination BPH Urinary elimination			Constipation/ Encopresis Enuresis
Emergency Preparedness							Biological warfare Natural disasters Triage
Ethics	ANA code Ethical principles Patient rights			ANA code Ethical principles Patient rights		Ethics committee Ethical dilemmas Ethical research	

Concepts & Exemplars Matrix (ASN/BSN)							
CONCEPT	**Nursing I – NF 111 EXEMPLARS**	**Nursing II – NF 112 EXEMPLARS**	**Nursing III NF 113 EXEMPLARS**	**Transitions – NF 171 EXEMPLARS**	**Nursing IV – NF 214 EXEMPLARS**	**Nursing V – NF 215 EXEMPLARS**	**Nursing VI – NF 216 EXEMPLARS**
Evidence-based Practice		PICO		PICO		CQI Peer review Root cause analysis Sentinel events Utilization review	
Family						Family-centered care	
Fluid-electrolyte balance		IV therapy	Acute & chronic renal failure Dialysis	Acute & chronic renal failure Dialysis IV therapy			APSGN Dehydration (kids) HUS Nephrotic Syndrome

Concepts & Exemplars Matrix (ASN/BSN)							
CONCEPT	**Nursing I – NF 111 EXEMPLARS**	**Nursing II – NF 112 EXEMPLARS**	**Nursing III NF 113 EXEMPLARS**	**Transitions – NF 171 EXEMPLARS**	**Nursing IV – NF 214 EXEMPLARS**	**Nursing V – NF 215 EXEMPLARS**	**Nursing VI – NF 216 EXEMPLARS**
Gas Exchange		Airway clearance Oxygen therapy Oxygenation		Airway clearance Oxygen therapy Oxygenation	COPD Pneumonia	Newborn transition	Acute respiratory failure ARDS Asthma Bronchiolitis Chest trauma Cystic fibrosis Mechanical ventilation Near drowning Pneumothorax
Genetics						Genetic counseling	Inheritance patterns Down syndrome
Grief		Death and dying		Death and dying	End of life	Perinatal loss	Dying child

Concepts & Exemplars Matrix (ASN/BSN)							
CONCEPT	**Nursing I – NF 111 EXEMPLARS**	**Nursing II – NF 112 EXEMPLARS**	**Nursing III NF 113 EXEMPLARS**	**Transitions – NF 171 EXEMPLARS**	**Nursing IV – NF 214 EXEMPLARS**	**Nursing V – NF 215 EXEMPLARS**	**Nursing VI – NF 216 EXEMPLARS**
Health Assessment	Health history Physical exam			Health history Physical exam		Newborn Postpartum woman Pregnant woman	Child
Health Promotion	Health promotion Prevention Screening	Complementary & alternative therapies Pharmaco-dynamics Pharmaco-kinetics	Mental Health	Complementary & alternative therapies Health promotion Pharmaco-dynamics Pharmaco-kinetics Prevention Screening	Cancer prevention	Labor & birth Newborn Postpartum woman Pregnancy	Anticipatory guidance

Concepts & Exemplars Matrix (ASN/BSN)							
CONCEPT	**Nursing I – NF 111 EXEMPLARS**	**Nursing II – NF 112 EXEMPLARS**	**Nursing III NF 113 EXEMPLARS**	**Transitions – NF 171 EXEMPLARS**	**Nursing IV – NF 214 EXEMPLARS**	**Nursing V – NF 215 EXEMPLARS**	**Nursing VI – NF 216 EXEMPLARS**
Immunity					Guillain-Barré HIV/AIDS Hypersensitivity Immune response MS Myasthenia gravis RA SLE		Immunizations Organ transplant and rejection

Concepts & Exemplars Matrix (ASN/BSN)							
CONCEPT	**Nursing I – NF 111 EXEMPLARS**	**Nursing II – NF 112 EXEMPLARS**	**Nursing III NF 113 EXEMPLARS**	**Transitions – NF 171 EXEMPLARS**	**Nursing IV – NF 214 EXEMPLARS**	**Nursing V – NF 215 EXEMPLARS**	**Nursing VI – NF 216 EXEMPLARS**
Infection	Hand hygiene Hygiene practices* Medical asepsis Nosocomial infection Precautions	Surgical asepsis		Hand hygiene Hygiene practices* Medical asepsis Nosocomial infection Precautions Surgical asepsis	Tuberculosis	STIs	Otitis media Childhood diseases
Inflammation			Appendicitis Gallbladder disease GERD IBS PUD	Appendicitis Gallbladder disease GERD IBS PUD	Crohn's disease Pancreatitis Ulcerative colitis		
Informatics	EHR	Medication documentation		EHR Medication documentation		Telehealth	Web-based client/family education

Concepts & Exemplars Matrix (ASN/BSN)							
CONCEPT	**Nursing I – NF 111 EXEMPLARS**	**Nursing II – NF 112 EXEMPLARS**	**Nursing III NF 113 EXEMPLARS**	**Transitions – NF 171 EXEMPLARS**	**Nursing IV – NF 214 EXEMPLARS**	**Nursing V – NF 215 EXEMPLARS**	**Nursing VI – NF 216 EXEMPLARS**
Intracranial Regulation					Epilepsy Seizures Parkinson's disease		Hydrocephalus ICP monitoring Meningitis Traumatic brain injury
Legal Implications	Advance directives HIPAA Informed consent Scope of practice			Advance directives HIPAA Informed consent Scope of practice		Certification IPN Licensure Malpractice Negligence Parental consent Policy	Child assent
Lifespan Development		Adult stages Changes with aging		Adult stages Changes with aging			ADHD Autism Child stages

Concepts & Exemplars Matrix (ASN/BSN)							
CONCEPT	**Nursing I – NF 111 EXEMPLARS**	**Nursing II – NF 112 EXEMPLARS**	**Nursing III NF 113 EXEMPLARS**	**Transitions – NF 171 EXEMPLARS**	**Nursing IV – NF 214 EXEMPLARS**	**Nursing V – NF 215 EXEMPLARS**	**Nursing VI – NF 216 EXEMPLARS**
Managing Care		Pre & post-op care	Prioritizing Time management	Pre & Post-op care Prioritizing Time management	Clinical decision making	Assignments Care coordination Case management Delegation	
Metabolism			Diabetes type 1 & 2 DKA	Diabetes type 1 & 2 DKA	Addison's Cirrhosis Cushing's Hepatitis Obesity Thyroid disease	Gestational diabetes Hyper-bilirubinemia Infant of the diabetic mother	
Mobility	Exercise SPHM		Cast care Fractures Traction	Cast care Fractures Traction	Osteoarthritis		Cerebral palsy Myelo-meningocele Spinal cord injury

Concepts & Exemplars Matrix (ASN/BSN)							
CONCEPT	**Nursing I – NF 111 EXEMPLARS**	**Nursing II – NF 112 EXEMPLARS**	**Nursing III NF 113 EXEMPLARS**	**Transitions – NF 171 EXEMPLARS**	**Nursing IV – NF 214 EXEMPLARS**	**Nursing V – NF 215 EXEMPLARS**	**Nursing VI – NF 216 EXEMPLARS**
Mood/Affect			Depression Bi-polar disorder	Depression Bi-polar disorder		Postpartum depression	
Nutrition	Body mass index Dietary requirements Energy balance Special diets	Enteral feeding TPN		Body mass index Dietary requirements Energy balance Enteral feeding Special diets TPN		Newborn Pregnant woman	Child Infant

Concepts & Exemplars Matrix (ASN/BSN)							
CONCEPT	**Nursing I – NF 111 EXEMPLARS**	**Nursing II – NF 112 EXEMPLARS**	**Nursing III NF 113 EXEMPLARS**	**Transitions – NF 171 EXEMPLARS**	**Nursing IV – NF 214 EXEMPLARS**	**Nursing V – NF 215 EXEMPLARS**	**Nursing VI – NF 216 EXEMPLARS**
Perfusion			DVT PVD	DVT PVD	Arteriosclerosis Chronic heart failure ED Hypertension MI/ACS Stroke	Abruptio placentae Gestational hypertension Placenta previa Postpartum hemorrhage	Aneurysms CABG Cardiomyopathy Congenital heart disease DIC Hypertensive crisis MODS Pulmonary embolism Rhythm analysis Shock Valvular disease

Concepts & Exemplars Matrix (ASN/BSN)							
CONCEPT	**Nursing I – NF 111 EXEMPLARS**	**Nursing II – NF 112 EXEMPLARS**	**Nursing III NF 113 EXEMPLARS**	**Transitions – NF 171 EXEMPLARS**	**Nursing IV – NF 214 EXEMPLARS**	**Nursing V – NF 215 EXEMPLARS**	**Nursing VI – NF 216 EXEMPLARS**
Professional Behaviors	Collaboration Interdisciplinary teams Roles of the nurse			Collaboration Interdisciplinary teams Roles of the nurse		Change agent Leader Manager	
Reproduction						Conception Family planning Infertility Menopause Menstrual disorders	

Concepts & Exemplars Matrix (ASN/BSN)							
CONCEPT	**Nursing I – NF 111 EXEMPLARS**	**Nursing II – NF 112 EXEMPLARS**	**Nursing III NF 113 EXEMPLARS**	**Transitions – NF 171 EXEMPLARS**	**Nursing IV – NF 214 EXEMPLARS**	**Nursing V – NF 215 EXEMPLARS**	**Nursing VI – NF 216 EXEMPLARS**
Safety	Fall prevention NPSG Restraints	Dosage calculation Elder safety Medication administration Medication error prevention		Dosage calculation Elder safety Medication administration Medication error prevention	Radioactive thyroid Radiation safety Safe handling of chemotherapy	Car safety Fetal heart rate monitoring Infant sleep position	Child safety Invasive monitoring Pediatric dosage calculation
Sleep		Fatigue Sleep disorders		Fatigue Sleep disorders			
Sensory Perception		Sensory alterations	Cataracts Glaucoma Hearing deficit Macular degeneration	Cataracts Glaucoma Hearing deficit Macular degeneration Sensory alterations	Peripheral neuropathy		

Concepts & Exemplars Matrix (ASN/BSN)							
CONCEPT	**Nursing I – NF 111 EXEMPLARS**	**Nursing II – NF 112 EXEMPLARS**	**Nursing III NF 113 EXEMPLARS**	**Transitions – NF 171 EXEMPLARS**	**Nursing IV – NF 214 EXEMPLARS**	**Nursing V – NF 215 EXEMPLARS**	**Nursing VI – NF 216 EXEMPLARS**
Self		Self-concept Sexuality Spirituality		Self-concept Sexuality Spirituality	Personality disorders		Eating disorders
Stress		Anxiety Coping Defense mechanisms	Crisis Suicide	Anxiety Coping Crisis Defense mechanisms Suicide	GAD Panic attacks PTSD		Family of special needs child
Teaching & Learning	Client education		Home care project	Client education	Hospice project	Family-centered education Community project	
Thermoregulation						Newborn adaptation	Fever Malignant hyperthermia

Concepts & Exemplars Matrix (ASN/BSN)							
CONCEPT	**Nursing I – NF 111 EXEMPLARS**	**Nursing II – NF 112 EXEMPLARS**	**Nursing III NF 113 EXEMPLARS**	**Transitions – NF 171 EXEMPLARS**	**Nursing IV – NF 214 EXEMPLARS**	**Nursing V – NF 215 EXEMPLARS**	**Nursing VI – NF 216 EXEMPLARS**
Tissue Integrity		Pressure ulcers Wound healing	Cellulitis Contact dermatitis	Cellulitis Contact dermatitis Pressure ulcers Wound healing			Burns
Violence						Domestic violence Incivility Sexual assault	Child abuse Elder abuse

Concepts & Exemplars Matrix (BSN)					
CONCEPT	**Nursing VII – NF 317-leadership EXEMPLARS**	**Nursing VIII – NF 320-global EXEMPLARS**	**Nursing IX NF 319-community EXEMPLARS**	**Nursing X NF 420-informatics EXEMPLARS**	**Nursing XI – NF 421-research EXEMPLARS**
Acid-base balance					
Activity					
Addiction			Substance abuse in the community		
Asepsis					
Cellular regulation					
Cognition					
Comfort					
Communication	Interdisciplinary communication		Vulnerable populations	Electronic communication	Dissemination of research
Culture			Culturally competent care		
Data analysis*					Quantitative data Qualitative data
Elimination					
Emergency preparedness	Alternate staffing plans		Disaster preparedness	Alternatives for crises	

Concepts & Exemplars Matrix (BSN)					
CONCEPT	**Nursing VII – NF 317-leadership EXEMPLARS**	**Nursing VIII – NF 320-global EXEMPLARS**	**Nursing IX NF 319-community EXEMPLARS**	**Nursing X NF 420-informatics EXEMPLARS**	**Nursing XI – NF 421-research EXEMPLARS**
Ethics	Organizational ethics	End-of-life care	Public health ethics	Ethical use of electronic information	Ethical evidence generation Institutional review board
Evidence-based practice			Scholarly inquiry in the community Epidemiology	Data quality assurance Data management	Identifying research questions Sources of evidence Collecting evidence Sampling Evaluating evidence
Fluid and electrolyte balance					
Gas exchange					
Genetics					
Grief					

Concepts & Exemplars Matrix (BSN)					
CONCEPT	**Nursing VII – NF 317-leadership EXEMPLARS**	**Nursing VIII – NF 320-global EXEMPLARS**	**Nursing IX NF 319-community EXEMPLARS**	**Nursing X NF 420-informatics EXEMPLARS**	**Nursing XI – NF 421-research EXEMPLARS**
Health promotion	Nurse as Health Promoter: • Health People 2020 • Health Promotion Models • Nurse's Role	Global Health	Poor and Homeless	Documentation	Journals/Books/Databases
Health assessment			Community assessment		
Health policy*	Policy development	World Health Organization Healthy People 2020 The Mental Health Parity and Addiction Equity Act of 2008	Centers for Disease Control and Prevention Patient Protection and Affordable Care Act 2010 Social Security Act 1965	Health Information Technology for Economic and Clinical Health Act 2009	
Healthcare infrastructures*	Economics	Developed societies Developing countries	Community settings		
Hygiene					
Immunity					

Concepts & Exemplars Matrix (BSN)					
CONCEPT	**Nursing VII – NF 317-leadership EXEMPLARS**	**Nursing VIII – NF 320-global EXEMPLARS**	**Nursing IX NF 319-community EXEMPLARS**	**Nursing X NF 420-informatics EXEMPLARS**	**Nursing XI – NF 421-research EXEMPLARS**
Infection		Global perspective	Communicable disease reporting		
Inflammation					
Informatics	Quality measurement tools			Consumer health informatics Organizational informatics Computer and information literacy	
Intracranial regulation					
Legal implications	Emergency Medical Treatment and Active Labor Act			Information confidentiality	
Lifespan development		Global perspective			
Managing care			Public health functions		
Metabolism					

Concepts & Exemplars Matrix (BSN)					
CONCEPT	**Nursing VII – NF 317-leadership EXEMPLARS**	**Nursing VIII – NF 320-global EXEMPLARS**	**Nursing IX NF 319-community EXEMPLARS**	**Nursing X NF 420-informatics EXEMPLARS**	**Nursing XI – NF 421-research EXEMPLARS**
Meta-structures*	Scheduling			Healthcare information systems Electronic health record	
Methodology*					Mixed methods Quantitative design Qualitative design
Mobility					
Mood/Affect					
Nutrition					
Perfusion					
Professional Behaviors	Leadership styles Leadership theories Change Comportment Shared governance Power		Community nursing	Multidisciplinary collaboration	Evidence through collaboration Innovation
Reproduction					

Concepts & Exemplars Matrix (BSN)					
CONCEPT	**Nursing VII – NF 317-leadership EXEMPLARS**	**Nursing VIII – NF 320-global EXEMPLARS**	**Nursing IX NF 319-community EXEMPLARS**	**Nursing X NF 420-informatics EXEMPLARS**	**Nursing XI – NF 421-research EXEMPLARS**
Safety				Information security	
Self					
Sensory perception					
Stress/coping					
Teaching & learning			Community empowerment Health literacy		
Thermoregulation					
Tissue integrity					
Violence		Global perspectives	Societal violence		

Appendix C: Course Descriptions

NF 111 Nursing I. This course introduces basic concepts necessary for the provision of safe, patient-centered nursing care to diverse populations. The nursing process, communication techniques, and legal and ethical responsibilities of the nurse are introduced. Basic nursing skills and health assessment are integrated and applied in the nursing laboratory. Upon successful completion, the student will be able to provide quality nursing care, incorporating the concepts identified in this course.

NF 112 Nursing II. This course introduces additional basic concepts necessary for the provision of safe, patient-centered nursing care to diverse populations across the life span. A nursing process approach is used to emphasize evidence-based practice, quality improvement, critical thinking, communication, collaboration, technology, and skills. Nursing skills and medication administration are integrated and applied in the nursing laboratory. Upon successful completion, the student will be able to provide quality nursing care in the clinical setting.

NF 113 Nursing III. This course is designed to further develop and enhance concepts related to the nursing management of ill clients. A nursing process approach is utilized to emphasize evidence-based practice, critical thinking, teaching/learning, professional behaviors, communication, collaboration, and managing care. Upon successful completion, the student will be able to provide safe, patient-centered nursing care to developmentally and culturally diverse populations in the acute care or community settings.

NF 214 Nursing IV. This course is designed to broaden concepts related to nursing management of ill clients. The nursing process is used to expand upon previously learned concepts for the provision of safe, patient-centered nursing care to developmentally and culturally diverse populations. This course emphasizes evidence-based practice, critical

thinking, teaching/learning, professional behaviors, communication, collaboration, and managing care. Upon successful completion, the student will be able to provide safe, holistic nursing care for one or more ill clients in the acute care of community settings.

NF 215 Nursing V. This course is designed to augment previously learned concepts, introduce care of the family unit, and incorporate concepts related to leadership and professionalism. The nursing process is utilized to emphasize the concepts of family, health as a continuum, critical thinking, teaching/learning, communication, and advocacy. Upon successful completion, the student will be able to provide safe community and acute nursing care to the family unit.

NF 216 Nursing VI. This course is designed to integrate previously learned concepts, life span development, and the promotion of critical thinking skills while applying the nursing process. Nursing management focuses on complex nursing care of the child and adult. Upon successful completion, the student will be able to provide safe nursing care to complex clients in the community and acute care setting.

NF 310 Nursing Pathophysiology. This course focuses on alterations of selected physiological functions that occur in response to a disease process or compensate for common stressors like inflammation or pain. The content builds upon previous understanding of anatomy, physiology, microbiology, basic chemistry, and the usual manifestations of common diseases. Alterations in pathophysiological functions of cells and the interrelationships of body systems are explored. Physiological theory and treatment are discussed using case situations and discussion questions that exemplify the content.

NF 317 Nursing VII. This course teaches concepts underlying professional career development in nursing. The role as a nurse manager, an integral part of a healthcare institution

hierarch, is explored. Emphasis will be placed on the role of the nurse as a frontline manager, utilizing inter-professional communication skills and collaboration. The goal of these conceptual applications is to achieve excellence in the administration of healthcare organizations and in the provision of healthcare. Concentration on the acquisition of leadership behaviors, values, and the roles of planner, coordinator, provider, and evaluator of care are emphasized. The course focuses on concepts and tools required to provide safe care with evidence-based leadership. Focus of the nurse as educator, including principles and theories of teaching and learning, will be identified. Strategies for nurses to teach in staff development, as well as their role as a preceptor and in academic programs will be explored. Students are introduced to quality improvement, case management, utilization review, staff development, peer review, and competency evaluation in healthcare

NF 319 Nursing IX. This course analyzes public health concepts, trends, theories, and issues for advanced community health nursing practice. Aggregates, stakeholders, high-risk populations, public health functions, domestic and international healthcare delivery systems, and conceptual and scientific frameworks for community/public health nursing practice are incorporated. Guided practice in the development and refinement of specific assessment knowledge, techniques, and skills are explored to assist in recognizing normal and deviated health patterns and at-risk behaviors in multicultural clients and populations across the life span.

NF 320 Nursing VIII. This course analyzes the impact of educational, legal, ethical, political, and social issues on health policy and healthcare as well as rising liability insurance costs and perspectives on American healthcare delivery—past, present, and future. The emphasis is on nursing at the microsystem level. Healthcare policies at the local, regional, state, national, and global levels will be discussed, including similarities and differences. Global

differences and their relationship to American healthcare practice are explored. Issues of funding methods, resource allocation, access to care, and disparities impacting the healthcare system are addressed from a policy perspective. Emphasis will be placed on evaluation of the effects of practice and healthcare laws and policies related to practice, consumer health, and the profession of nursing associated with the cultural differences, current legislation, political and religious controversy, economic constraints, and technology. Factors will be defined that may influence a proactive response to achieve safety, prevention of errors, and quality patient outcomes.

NF 420 Nursing X. This course will focus on healthcare information systems, database management, data quality, workload, quality improvement, resource utilization, and system design. General computer office applications and healthcare-specific technology applications are presented. Technology that supports patient care and the benefits of healthcare technology are emphasized. Students will learn about emerging information sources and communication technology and their impact on healthcare. Emphasis will be placed on trends and issues in clinical technology as well as security and the use of databases. Students collaborate with a faculty mentor to create a portfolio demonstrating the progress made toward individual and program goals and outcomes. The portfolio includes evidence of ability to conduct integral health assessments and to develop and implement service-learning projects.

NF 421 Nursing XI. This course introduces the methods of clinical and scientific inquiry, with a focus on research methodologies, nursing theory, and the application of an evidence-based practice approach to patient care. Emphasis is placed on the development of the decision-making skills required to critically appraise published investigations and to utilize research findings to effect positive change in healthcare through evidence-based practice.

Students will utilize various databases and enhance their ability to analyze and synthesize research findings appropriate to clinical practice.

NF 422 Clinical Practicum. This is a clinical course that provides a practicum for the application of concepts learned throughout the program as the student engages in the full scope of professional nursing practice. The RN preceptor will provide the student with a guided clinical experience. Upon completion, the student should be able to demonstrate the knowledge, skills, and behaviors necessary to provide safe, individualized entry-level nursing care.

NF 423 Integration of Nursing Concepts. This course provides the student with the opportunity to evaluate his/her strengths and weaknesses in preparation for the NCLEX-RN® exam. Utilization of the nursing process and integration of all previous concepts will be emphasized through the use of case studies, integrated testing, and directed study.

Appendix D: Data Use Agreement

This Data Use Agreement ("Agreement"), effective as of January 9, 2015 ("Effective Date"), is entered into by and between Patricia Edwards ("Data Recipient") and XXXXXXX University ("Data Provider"). The purpose of this Agreement is to provide Data Recipient with access to a Limited Data Set ("LDS") for use in research **in accord with laws and regulations of the governing bodies associated with the Data Provider, Data Recipient, and Data Recipient's educational program.** In the case of a discrepancy among laws, the agreement shall follow whichever law is more strict.

1. Definitions. Due to the study's affiliation with Laureate, a USA-based company, unless otherwise specified in this Agreement, all capitalized terms used in this Agreement not otherwise defined have the meaning established for purposes of the USA "HIPAA Regulations" and/or "FERPA Regulations" codified in the United States Code of Federal Regulations, as amended from time to time.

2. Preparation of the LDS. Data Provider shall prepare and furnish to Data Recipient a LDS in accord with any applicable laws and regulations of the governing bodies associated with the Data Provider, Data Recipient, and Data Recipient's educational program.

3. Data Fields in the LDS. **No direct identifiers such as names may be included in the Limited Data Set (LDS).** In preparing the LDS, Data Provider shall include the **data fields specified as follows**, which are the minimum necessary to accomplish the research:

    - Kaplan Readiness Exam scores for nursing cohorts from 2008-2014
    - Kaplan Diagnostic Exam scores for nursing cohorts from 2008-2014
    - Gender, age, race for nursing cohorts from 2008-2014

4. Responsibilities of Data Recipient. Data Recipient agrees to:

    a. Use or disclose the LDS only as permitted by this Agreement or as required by law;

    b. Use appropriate safeguards to prevent use or disclosure of the LDS other than as permitted by this Agreement or required by law;

c. Report to Data Provider any use or disclosure of the LDS of which it becomes aware that is not permitted by this Agreement or required by law;

d. Require any of its subcontractors or agents that receive or have access to the LDS to agree to the same restrictions and conditions on the use and/or disclosure of the LDS that apply to Data Recipient under this Agreement; and

e. Not use the information in the LDS to identify or contact the individuals who are data subjects.

5. Permitted Uses and Disclosures of the LDS. Data Recipient may use and/or disclose the LDS **for its Research activities only.**

6. Term and Termination.

a. Term. The term of this Agreement shall commence as of the Effective Date and shall continue for so long as Data Recipient retains the LDS, unless sooner terminated as set forth in this Agreement.

b. Termination by Data Recipient. Data Recipient may terminate this agreement at any time by notifying the Data Provider and returning or destroying the LDS.

c. Termination by Data Provider. Data Provider may terminate this agreement at any time by providing thirty (30) days prior written notice to Data Recipient.

d. For Breach. Data Provider shall provide written notice to Data Recipient within ten (10) days of any determination that Data Recipient has breached a material term of this Agreement. Data Provider shall afford Data Recipient an opportunity to cure said alleged material breach upon mutually agreeable terms. Failure to agree on mutually agreeable terms for cure within thirty (30) days shall be grounds for the immediate termination of this Agreement by Data Provider.

e. Effect of Termination. Sections 1, 4, 5, 6(e) and 7 of this Agreement shall survive any termination of this Agreement under subsections c or d.

7. Miscellaneous.

a. Change in Law. The parties agree to negotiate in good faith to amend this Agreement to comport with changes in federal law that materially alter either or both parties' obligations under this Agreement. Provided however, that if the parties are unable to agree to mutually acceptable amendment(s) by the compliance date of the change in applicable law or regulations, either Party may terminate this Agreement as provided in section 6.

b. Construction of Terms. The terms of this Agreement shall be construed to give effect to applicable federal interpretative guidance regarding the HIPAA Regulations.

c. No Third Party Beneficiaries. Nothing in this Agreement shall confer upon any person other than the parties and their respective successors or assigns, any rights, remedies, obligations, or liabilities whatsoever.

d. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

e. Headings. The headings and other captions in this Agreement are for convenience and reference only and shall not be used in interpreting, construing or enforcing any of the provisions of this Agreement.

IN WITNESS WHEREOF, each of the undersigned has caused this Agreement to be duly executed in its name and on its behalf.

DATA PROVIDER	**DATA RECIPIENT**
Signed: Heather Antonacci	Signed: Patricia Edwards
Print Name: Heather Antonacci	Print Name: Patricia Edwards
Print Title: Campus President	Print Title: EdD Student