STUDENT EXPERIENCES OF HIGH-STAKES TESTING FOR PROGRESSION IN ONE UNDERGRADUATE NURSING PROGRAM

by

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A Dissertation Submitted to the Graduate Faculty

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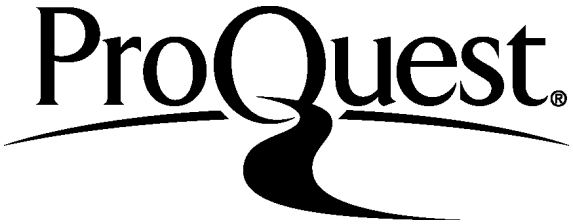

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ABSTRACT

TAMMY MCCLENNY: Student Experiences of High-Stakes Testing for Progression in One Undergraduate Nursing Program
(Under the direction of Sharon Ann Cumbie)

High-stakes testing in undergraduate nursing education are those assessments used to make critical decisions for student progression and graduation. The purpose of this study was to explore the different ways students experience multiple high-stakes tests for progression in one undergraduate BSN program. Research participants were prelicensure senior baccalaureate nursing students enrolled in their final semester of the nursing program. A descriptive qualitative design, using the framework of phenomenography, captured the various ways a group of prelicensure BSN students described their experiences with multiple high-stakes to progress throughout the nursing program towards graduation. Phenomenography is designed to examine the various ways in which a group individuals experience or perceive the same phenomenon. Analysis revealed five major categories of descriptions, including values, stress, inconsistency, high demand/expectations, and transfer of learning. Each category included various sub-categories. The findings provided a rich understanding of the student's point of view of high-stakes tests that is lacking in the nursing education literature. In addition, the results were used to develop a structure of learning model as a useful tool to guide nursing faculty in developing program-specific strategies that promote student success with high-stakes testing throughout nursing curricula.

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DEDICATION

I would like to dedicate this dissertation study to the memory of both my parents, who are with our Lord in Heaven. Your unwavering belief in me, since I was a little girl, to pursue my calling for the nursing profession has led me to this moment. Your spirits have guided me through the blood, sweat, and tears of completing this project. I love and miss you both dearly.

I also want to dedicate this dissertation work to my husband, Tim and my beautiful daughter, Taylor. Without your love, understanding, emotional support, and constant encouragement, I could not have completed this work. I love you so very much!

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CHAPTER 1.0 INTRODUCTION

To progress and graduate from an undergraduate nursing program, students must complete various forms of assessments and evaluations designed to measure learning and evaluate competency for nursing practice. Evaluation of student competency in undergraduate nursing education is necessary to ensure the safe and quality delivery of 21st- century healthcare system (Frontiero & Glynn, 2012; National Advisory Council on Nurse Education and Practice, 2010). Undergraduate nursing students need to demonstrate learning and meet specific outcomes to ensure an acceptable level of nursing practice before graduation (Billings & Halstead, 2012).

Over the past few years, many undergraduate nursing programs have relied on various forms of high-stakes tests throughout their curricula to evaluate learning and competency of students (Davis, Grinnell, & Niemer, 2013; National League for Nursing [NLN], 2010; Shultz, 2010). The intent of the tests is to ensure students are prepared to provide safe and quality care in a highly complex 21st-century healthcare system (Frontiero & Glynn, 2012; National Advisory Council on Nurse Education and Practice, 2010). High-stakes tests come in many forms of assessments in nursing education that are used as primary sources to make critical decisions for student progression and graduation (NLN, 2010/2012; Sullivan, 2014). Common assessments used as high-stakes throughout undergraduate nursing curriculums include commercially prepared standardized tests (NLN, 2012; Shultz, 2010; Sullivan, 2014), clinical skills competency assessments in nursing skills and simulation labs (Bensfield, Olech, & Horsley, 2012; Jones, Ziegler, Baughman, & Payne, 2015; Kardong-Edgren, Adamson, &

Fitzgerald 2010; Oermann & Gaberson, 2010), and pass or fail medication calculations tests (Coben, Hodgen, Hutton, & Ogston-Tuck, 2008; Gonzales, 2012; Roykenes, Smith, & Larsen, 2014).

Nursing education literature supports various forms of high-stakes tests as useful tools for identifying both student and program strengths and weaknesses (Davis, Grinnell, & Niemer, 2013; Orr, Herberg, & Rutledge, 2010; Schroeder, 2013), and for effective preparation for the National Council Licensure Examination (NCLEX) (Harding, 2010; Lavandera, et al., 2011; Hyland, 2012; NLN, 2012). However, although not an initially intended purpose, the current trend in nursing programs is to use these high-stakes tests to establish program progression policies, which remains a source of contention in the literature (Anema & McCoy, 2014; NLN, 2012; Shultz, 2010; Spurlock, 2012/2013; Sullivan, 2014). Furthermore, there is no literature exploring undergraduate nursing students' experiences or perceptions of completing more than one high-stakes tests to progress and graduate from an undergraduate nursing program. However, students are primary stakeholders in the nursing education process. Therefore, the aim of this current study is to explore the different ways students experience multiple forms of high-stakes testing to progress throughout one undergraduate Bachelor of Science in Nursing (BSN) program.

High-Stakes Testing in the Target Nursing Program

Throughout the two-year concept-based curriculum of the prelicensure BSN program under study, students are required to complete and pass multiple high-stakes tests to progress to the next semester and ultimately graduate. Each semester, excluding summer sessions, students complete an Assessment Technologies Institute (ATI) content mastery exam and a medication calculations test throughout the two years of the concept-based program. In the first year of the

program, students complete the ATI Fundamentals exam and a medication calculations test during the fall semester, and the ATI Pharmacology and a second medication calculations test during the spring semester. In the second year of the program, students complete the ATI Medical-Surgical exam and a medication calculations test during the fall semester, and the ATI Registered Nurse (RN)-Comprehensive Predictor and a medication calculations test the final spring semester.

Problem Statement

Nursing professional practice is held to high standards of moral and ethical behavior, integrity, competency, and quality, with mandates for delivering safe patient-centered care (Bensfield, Olech, & Horsley, 2012; Ganske, 2010). The American Association of Colleges of Nursing ([AACN], 2012) and the American Nurses Association ([ANA], 2014) reported that nursing is the largest and most trusted healthcare profession in the United States with over 2.5 million registered nurses practicing in various healthcare environments. Nursing programs are under pressure to increase admissions and retain qualified nursing applicants (Davis, Grinnell, & Niemer, 2013; Williams, 2010), especially considering an estimated 1.05 million more nurses will be needed by the year 2022 to replace those nurses close to retirement (Bureau of Labor Statistics, 2013). Unfortunately, without a sufficient number of new nurses entering the workforce, the U.S. healthcare system may be at serious risk of not meeting the population's healthcare needs (Anderson, 2014; Rother & Lavizzo-Mourey, 2009).

Yet, the future nurse workforce needs to possess the necessary competencies for the 21st-century healthcare (Cleary, McBride, McClure, & Reinhard, 2009; Institutes of Medicine [IOM], 2010). Many nursing programs are facing challenges to not only produce a sufficient number of competent nurses, but also reform nursing education to achieve well-defined learning outcomes,

and maintain acceptable NCLEX-RN pass rates for accreditation (Benner, Sutphen, Leonard, & Day, 2010; IOM, 2010; Klein-Collins, 2011). There is no argument regarding the necessity of various evaluation measures, including high-stakes tests, to assess student nurse competence and learning in nursing education. However, the use of high-stakes tests to block student progression, graduation, and NCLEX is of serious concern (Giddens & Morton, 2010; NLN, 2012; Shultz, 2010, Spurlock, 2006/2012/2013; Sullivan, 2014).

Nursing students are primary stakeholders in the nursing education process and the persons required to complete high-stakes tests to progress in nursing programs. However, insufficient data exists related to the student's perspective and experiences with high-stakes tests in the nursing education literature. Only one published study in a journal and two dissertation studies have explored student experiences and perceptions of high-stakes testing and progression. Also, each study was limited to one form of high-stakes testing, including a standardized program exit test (Challenger, 2014; Tagher & Robinson, 2014) and a pass or fail medication calculations test (Roykenes, Smith, & Larsen, 2014). Yet, some programs have required students to complete more than one form of high-stakes tests, including clinical skills proficiency evaluations, medication calculations test, and some forms of standardized testing to progress in nursing curricula (NLN, 2012). To date, no literature exploring nursing students' experiences or perceptions with completing multiple forms of high-stakes to progress in undergraduate nursing programs exists in nursing education research. By understanding the nursing student experiences, this knowledge can assist faculty and administrators in developing just and fair examination policies in undergraduate education practices.

Purpose of the Study

The purpose of this study is to explore the different ways students experience multiple high-stakes tests for progression throughout one undergraduate BSN nursing program located at a rural university in the southeastern United States. As primary stakeholders, student insight is necessary for faculty and administrators in nursing programs to gain further understanding of the phenomenon to promote and enhance student success on high-stakes tests. The overall goal of the study is to provide initial evidence that may generate further discussions among nursing faculty towards appraisal of educational practices in undergraduate nursing curricula.

Research Question

This study explores nursing student's varying descriptions of their experiences of completing multiple forms of high-stakes tests, including standardized tests, and pass or fail medication calculations tests for progression within one undergraduate concept-based BSN nursing curriculum. Based on the study's purpose, the following research question was proposed for the study:

1. What are the different ways senior prelicensure nursing students describe their experiences preparing for and completing multiple forms of high-stakes tests to progress within one undergraduate BSN program?

Background

With a nurse turnover rate in hospitals averaging close to 25 percent (NSI Nursing Solutions, Inc., 2014) and the reported number of job openings for nurses expected to be at 1.05 million by 2022 (Bureau of Labor Statistics, 2013), nursing programs are under pressure to produce graduates at an increased rate. Nursing program faculty are also feeling pressure from community and healthcare agencies to provide higher levels of knowledge and skill for the

complexities of 21st-century healthcare (Frontiero & Glynn, 2012; IOM, 2010; NCSBN, 2015a). To evaluate knowledge and skills necessary for the increased demand of 21st-century healthcare, many undergraduate nursing programs across the United States have implemented high-stakes testing as a means to evaluate student learning and competency in various didactic and clinical courses (Bensfield, Olech, & Horsley, 2012; Davis, Grinnell, & Niemer, 2013; NLN, 2012). The tests are designed to not only measure critical thinking, communication, and psychomotor skills, as well as course content mastery, but also prepare students for the NCLEX (Davis, Grinnell, & Niemer, 2013; Heroff, 2009; NLN, 2012; Richards & Stone, 2008).

According to Sullivan (2014), the "concept" of high-stakes testing lacks sufficient research in nursing education (p. 72); however, the NLN (2010/2012) reported the use in association with progression policies to be a growing trend among nursing programs. When test results contribute to critical decisions regarding a student's progression and graduation, evidence must support that the test addresses the content and skills that students have had the opportunity to learn (American Psychological Association, n.d.). Subsequently, the accountability for student progress is a joint obligation of students and faculty, as well as the academic institution (Borden, 2010; Spurlock, 2013).

High-stakes testing not only can lead to serious consequences for students but also, can impact program outcomes (NLN, 2012; Spurlock, 2013). For example, nursing students who have successfully completed course and program outcomes, yet fail to achieve the required benchmark established as the standard for acceptable performance (Billings & Halstead, 2012), are at risk of not progressing and graduating from their respective nursing program (Spurlock, 2010; Sullivan, 2014). Equally important, progression policies using high-stakes testing have not clearly demonstrated an improvement in nursing program quality or NCLEX pass rates

(Pennington & Spurlock, 2010; Spurlock, 2013). As a result, the NLN (2012) created fair testing guidelines and cautioned against using the tests to determine overall student competency and program progression, especially when students have completed other course and curriculum requirements. Therefore, multiple sources of evidence, such as course exams, projects, and clinical performance are recommended to evaluate overall student competence and learning within nursing programs, thereby reducing the emphasis on high-stakes testing (Benner, Sutphen, Leonard, & Day, 2010; Billings & Halstead, 2012; McDonald, 2014; NLN, 2010/2012; Spurlock, 2013).

Definition of Key Terms

*Competency,*as defined by the American Nurses Association (2007), is "an expected level of performance that results from an integration of knowledge, skills, abilities, and judgment" (p. 1).

High-stakes testing in nursing education refers to specific tests used as a primary source for nursing faculty and schools to make critical decisions for student progression and graduation (NLN, 2012; Sullivan, 2014).

NCLEX-RN, also known as the National Council Licensure Examination for Registered Nurses, is the standardized national licensing exam designed by the National Council of State Boards of Nursing (NCSBN) "that measures the competencies needed to perform safely and effectively as a newly licensed, entry-level registered nurse" (NCSBN, 2015a, p. 3).

Progression refers to the ability to manage academic standards for satisfactory academic progress in a course of study (TAFE NSW, Higher Education, 2014) where students are "showing progress toward and completion of a certificate or degree" (HCM, 2011, p. 2).

Undergraduate Nursing Education refers to a planned higher educational curriculum that prepares students to be nurses at the diploma, associates, or baccalaureate level (Medical Dictionary for the Health Professions and Nursing, 2012).

Assumptions of the Study

For the purpose of this study, the following assumptions apply:

1. Student research participants were an accurate representation of the undergraduate nursing population at the university's study site.
2. Student research participants were experienced in preparing for and completing multiple high-stakes tests.
3. Student research participants were truthful in their responses during individual interview sessions.

Limitations of the Study

For the purpose of this study, the following limitations applied:

1. The study used a convenience sample, which could limit the transferability of the findings (Polit & Beck, 2012).
2. The research participants in the sample were previous students of the researcher; therefore, students may have felt obligated to participate in the study.
3. The student participants consisted of a graduating nursing cohort from one school of nursing located in one geographical area, which could limit the transferability of the findings.

Research Plan

To capture the different ways students experience multiple high-stakes tests to progress in the undergraduate nursing program, a descriptive qualitative design using a phenomenography framework was used to guide the study. Phenomenography is both a theoretical and conceptual

framework (Bowden & Walsh, 2000; Marton, 1986) that focuses on the different ways a group of individuals perceives, understands, or experiences the same phenomenon (Marton, 1986). A more detailed description of the framework is described in chapter three. Senior graduating students from one full-time nursing cohort were invited to participate in the study following approval from both the university's Institutional Review Board (IRB) and the nursing program's Dean. Data were collected through audio-recorded individual face-to-face interviews and subsequently analyzed using Dahlgren and Fallsberg's (1991) seven-step guidelines. Necessary efforts were taken to maintain the confidentiality of the participants and protection of all data.

Significance of the Study

The significance of the study relevant to nursing education is to gain an understanding of what it is like to prepare for and complete multiple high-stakes tests to progress within a nursing program, from the undergraduate BSN nursing student's description of the experiences. Since little evidence on how students experience high-stakes testing exists in the literature, the phenomenon requires further study to address the gap in this knowledge. Giving students the opportunity to reflect on their experiences may provide new knowledge and insight to enrich both student and faculty understanding of high-pressure challenges to succeed in nursing education. Furthermore, findings from the study may assist nurse educators and administrators to define and utilize various teaching and learning strategies that may prepare current and future students for success with high-stakes testing evaluations and nursing practice. The study findings also add to the body of knowledge in nursing education research by allowing discovery from student experiences, which may potentially lead to the development of a new theoretical perspective on student learning and success.

Chapter Summary

In summary, this chapter described the purpose and problem statements with a brief background in nursing education that justified the need to conduct the study. In addition, the chapter described the research question and methodology used to guide the study on the different ways students experience multiple high-stakes tests for progression in one undergraduate BSN program. Lastly, the chapter detailed definition of key terms, research assumptions, and limitations, as well as highlighted the study's significance to nursing education. The primary goal of the study is to gain insight from one of nursing education's primary stakeholders, the nursing student preparing for and completing the high-stakes tests.

Structure of Dissertation

This dissertation contains four chapters, within which are three manuscripts prepared for potential publication in peer-reviewed nursing journals. The review of literature related to high-stakes testing is described in chapter 2.0. Section 2.1 of the review of literature begins with a brief history of high-stakes testing, as well as a cursory review of student perceptions and experiences and concerns associated with high-stakes testing in both K-12 and higher education. The literature chapter concludes with an integrative review that explores the current state of high-stakes testing in nursing education to include the evolution of high-stakes testing in nursing education, its use and concerns, and research on student perceptions of high-stakes testing in nursing education in section 2.2 (Manuscript One). Chapter 3.0 also encompasses two sections. Section 3.1 entails a review of the framework of phenomenography, along with its use in the nursing education research (Manuscript Two). Section 3.2 is formatted as an original methodological dissertation chapter and describes the methods used to conduct the study. The results of the study are reported in Chapter 4.0, which includes Manuscript Three. The manuscripts encompassed in this dissertation were prepared and formatted as individual manuscripts. Manuscript formatting included the following sections: author's

note, abstract, the body of the manuscript, references, and tables and figures. The three manuscripts were similarly formatted to provide dissertation uniformity.

CHAPTER 2.0 LITERATURE REVIEW

Introduction

The purpose of the literature review was to gather preliminary and background information on high-stakes testing and identify what is already known about student perceptions of completing high-stakes tests. A review of the literature was done primarily to confirm the necessity of the research, gain understanding from a broad range of student perspectives related to taking high-stakes tests, and the appropriateness of the method that will be used to guide the study (Polit & Beck; Streubert & Carpenter, 2011). The review of the literature is not intended to influence the researcher's opinions or create a bias of the phenomena under study.

This chapter is organized into two sections. Section 2.1 entails a cursory review of literature about the history of high-stakes testing. This section will also explore current concerns and student's perceptions of high-stakes testing in K-12, as well as professional and undergraduate programs in higher education. Section 2.2 involves an integrative review of the literature from the past ten years that explores the state of high-stakes testing in nursing education to include the evolution of high-stakes testing, use and concerns, and any research on student perceptions of high-stakes testing in nursing education. Section 2.2 is in the form of a manuscript for potential publication in a nursing journal.

Section 2.1: Student's Perceptions of High-Stakes Testing in K-12 and Higher Education

High-stakes testing in public schools originated in the early 1980s from a report, *A Nation at Risk,* which was issued by the Reagan administration (National Commission on Excellence in Education, 198300). This report indicated public schools lacked standards in the education of students and called for reforms to raise academic standards in the educational system. The report sought to "generate reform of our educational system in fundamental ways and to renew the Nation's commitment to schools and colleges of high quality throughout the length and breadth of our land" (p. 14). As a result, the educational system turned to high-stakes tests as a reform measure to hold schools, educators, and students accountable for high-quality education with various incentives and consequences to school systems and students to motivate change, affecting all those involved in the education process (Abbott, 2014; Johnson & Johnson, 2009; Minarechova, 2012). The use of high-stakes tests has become a controversial topic in public education, especially in recent years, to not only assess student's ability but also increase teacher accountability (Seifert & Sutton, 2009). Test outcomes were used to determine punishment (i.e. sanctions, funding reductions, and grade failures) and rewards for schools and students (i.e. salary increases or bonuses to educators, student awards for achievement, grade advancement, and positive publicity to school systems) (Abbott, 2014).

Interestingly, mandates from the No Child Left Behind (NCLB) bill signed into law by former President Bush in 2002 also became synonymous with high stakes testing (Johnson & Johnson, 2009). The law mandated annual standardized testing for students in grades three through eight, and once in grades 10 through 12 on reading and math proficiency (Johnson & Johnson, 2009). The law also mandated sanctions be placed on public schools who failed to

make adequate yearly progress (AYP), which left funding that schools received dependent on the outcomes of standardized test scores (Duckworth, Quinn, & Tsukayama, 2012).

Supporters of high-stakes tests, especially in K-12 education, argued that the tests: (a) hold teachers accountable, (b) motivate students to learn and take testing more seriously, (c) evaluate the strengths and weaknesses of schools and students, and (d) provide parents, employers, and colleges with the confidence that students are learning at a level necessary for educational success (Abbott, 2014). In contrast, critics argued that high-stakes tests not only measured one aspect of student performance (Duckworth et al., 2012) but also led to curriculum narrowing (Maltese & Hochbein, 2012), which forced educators to teach to the test to meet state standards (Deerman, 2008). Also, high-stakes tests did not take into consideration socioeconomic factors and parental support on student performance (Paulson & Marchant, 2009). However, the effects of high-stakes testing are also dependent on the student's point of view. Therefore, perspectives through the lens of students in K-12 and higher education is presented in the following sections to gain better insight and understanding of the true impact high-stakes testing has on students.

K-12 Education

Since the passage of the NCLB law, K-12 education has become one of the most pertinent levels of education dependent on high-stakes tests, in the form of state and national standardized tests, as well as curriculum support and funding (Duckworth, Quinn, & Tsukayama, 2012). Many articles have been published on the use and impact of standardized testing in K-12 education, with considerable debate associated with educational reform (Advancement Project, 2010; Au, 2010; Duncan & Stevens, 2011; Duckworth, et al.; Hout, Elliott, & Frueh, 2012; Maltese & Hochbein, 2012; Minarechova; Paulson & Marchant, 2009; Smyth & Banks, 2012;

Supovitz, 2009). However, there is little in the literature addressing the student's perspectives of preparing for and taking such tests. According to Buck, Ritter, Jensen, and Rose (2010), the number of studies conducted on the negative impact of high-stakes testing on K-12 students, teachers, and school quality has outnumbered those studies on the positive impact by nine to one. Numerous education databases were searched within EBSCOhost and ProQuest, as well as Google Scholar for student perceptions, attitudes, or experiences with high-stakes and standardized testing in K-12 education. The following studies represent the most current literature between 2010 and 2015 associated with student perceptions of standardized or high-stakes testing in K-12 education.

Elementary and Middle School. Five studies were found exploring both elementary and middle school student's perceptions of standardized testing. Pershey (2010) studied the self-perceptions of fourth (N=144) and sixth (N=123) graders of their performance on a state-mandated achievement test at an academically challenged school district in Ohio. The quantitative study used a written inventory, Perceptions of Abilities Scales in Students (PASS) to evaluate student ability and confidence. Results showed that the fourth graders self-perception of ability and confidence were significantly lower ($p \leq .0001$and $p = .001$) compared to the sixth graders. The author suggested that students who perceive themselves as having less ability and confidence with high-stakes testing might be at risk for disengagement in school. In a similar study conducted by Putwain, Connors, Woods, and Nicholson (2012), sixth grade students (N=18) viewed high-stakes tests as an expected assessment to move to the next grade level, as well as a challenge to improve education, suggesting experience with taking previous achievement tests may have influenced the student's ability and confidence. However, those same students also perceived the tests as potential threats, including fear of failure, anxiety of not

finishing the test in the allotted time, and pressure from parents and teachers to succeed, suggesting student identity rested on the ideal of "attainment" (p. 299). In other words, if the students were successful on the achievement test, the students felt confident with their abilities to perform well in school.

Dutro and Selland's (2012) qualitative study examining third-graders (*N*=33) from a high poverty school district, supported both Pershey and Putwain et al.'s findings. Reflections of anxiety and fear of not progressing to the next grade level left students doubting their ability to do well in school. The students' perception of feeling "not proficient" may potentially harm their self-worth and decrease motivation, even in the absence of negative consequences (Dutro & Selland, 2012, p. 360). Interestingly, the researchers also found that students at the third-grade level could make the connection that although the test developers created the tests to improve learning, they were also determining their success or failure in school with them. The students also were able to indicate that the test developers had no influence on their learning in school. The identified perceptions from this study challenge the assumptions of high-stakes tests as being objective and neutral assessments of student aptitude (Zacher-Pandya, 2011).

Segool, Carlson, Goforth, Von der Embse, and Barterian (2013) explored third through fifth-grade students (*N*=335) comparing perceptions of test anxiety between high-stakes achievement tests and typical classroom tests from a predominantly Caucasian school in the midwestern portion of the United States. The researchers utilized two instrument tools, the Children's Test Anxiety Scale (CTAS) and the Behavior Assessment Scale in Children for Test Anxiety (BASC-TA). The CTAS measures test anxiety of third through sixth-grade students (Wren & Benson, 2004) and the BASC-2-TA tool measures a child's self-report of irrational worry and fear regarding test (Reynolds & Kamphaus, 2004). Both scales were administered to

the students under two separate conditions, directly following the achievement test and one month later to evaluate all classroom tests. The research findings reported that students test anxiety was significantly higher on the standardized test using both scales between conditions (CTAS: z = -5.04, p <.0005 and BASC-2-TA: z = -2.47, p =.01). There were no significant differences between grade level, gender, or ethnicity between test conditions. The researchers suggested the findings between conditions were most likely related to the student's experiences with classroom testing over high-stakes testing. However, when comparing this study to those previously described from Pershey (2010) and Dutro and Selland (2012), anxiety remained a key factor in student perceptions of high-stakes testing.

A unique study conducted by Watson, Johanson, Loder, and Dankiw (2014) with third through fifth-grade students (N=186) from a low-income and poorly performing school district in Pennsylvania explored student's perceptions of high-stakes tests before, during, and after testing using personal journals. Students were given instructions and suggestions of what they could write about to encourage descriptions of what they were feeling each day. The researchers asked students to journal at least two times prior, during, and after the test for six total entries. Findings in the journals indicated both positive and negative psychological and physiological manifestations. Many students did express satisfaction and confidence during the test; however, most expressed negative experiences before and during the test. Negative experiences included anxiety, fear related to failing the test, and pressure to achieve proficiency on the test, all of which were consistent with findings from the previously described research. In contrast to the other studies, anger was a new perception expressed by students in this study. In addition, physical symptoms such as pain, exhaustion, and nausea not expressed in the previous research were significant factors in this study. Watson et al. (2014) did not indicate if student reflections

of their experiences varied between the different grade levels, but the researchers did acknowledge the student groups differed in their demeanor, both in positive and negative ways, towards the testing process. However, the researchers reported that student demeanor was most likely an attribute of the teacher's modeling in the classroom, as well as age and grade level of the student.

High School. Only two studies in the current literature explored high school student's perceptions of high-stakes testing. Chamberlain, Daly, and Spalding (2011) examined south England high school students (*N*=19) perceptions of the triggers associated with test anxiety and standardized tests using a qualitative design with focus group interviews. Findings from the study indicated students experienced two types of anxiety, pre-exam anxiety and exam day anxiety. Students reported that pre-exam anxiety was mostly related to heavy course workloads, fear of failure, the awareness that one test could affect entrance into college, and parental pressure to perform successfully, whereas exam day anxiety related more to practical concerns, including test day student policies and the time available to complete the examination. Interestingly, most students reported that a degree of anxiety actually made them feel alert, focused, and motivated to perform on exam day, contrary to their perceptions preparing for the test, suggesting that test anxiety may impede the student's ability to prepare for high stakes testing. Therefore, the researchers recommended interventions specific to individual student needs during this stage may be beneficial. The overall results of the study support the notion that students are susceptible, whether pre-existing or not, to various levels of test anxiety associated with the high-stakes testing.

While most of the K-12 studies identified in the literature focused on student perceptions of high-stakes tests before or during testing, Kearns's (2011) qualitative study examined English

as a second language (ESL) students' perceptions (*N*=16) after a failure of a high-stakes standardized test in high schools in Canada. Perceptions expressed by students included shock, disappointment, shame, degradation, and self-doubt in their academic abilities. It was interesting to Kearns (2011) to find that most of the students were successfully performing in their English course and expressed confidence and readiness before the test. However, much of the disappointment in the students' perceptions revolved around the fate of one test determining progression and graduation from high school, yet the students were performing competently in their English courses. The students also maintained dissatisfaction that the standardized test was not equitable for ESL students. Kearns' (2011) research supported the previous findings from Chamberlain et al.'s (2011) study related to using high-stakes tests as a determinant of success or failure of students. Kearns argued that summative tests only represent a portion of student aptitude of knowledge learned in education. Kearns also suggested a need to generate open discussions amongst teachers, schools, and government entities to inform policy that adequately and equitably prepare ESL students for standardized testing and if using standardized testing for high-stakes purposes is a reliable measurement of student competency.

Higher Education

Higher education research faculty have also neglected the student's perspective of high-stakes and standardized tests, including graduate program admission tests and discipline specific certification and board examinations. Numerous databases were searched for current literature from the past five years (2010-2015) through EBSCOhost and ProQuest, as well as Google Scholar for student perceptions, attitudes, or experiences of high-stakes and standardized testing in higher education. Disciplines searched included law, business and accounting, education,

medicine, and other allied health fields, such a pharmacy, respiratory therapy, and physical therapy resulting in three studies from the literature.

One study conducted by Dhar, Perry, and Poole (2012) explored medical student's (*N*=1221) perceptions of the Undergraduate Medicine and Health Sciences Admission Test (UMAT), a general cognitive test required for entrance to medical school. The quantitative study was conducted at two New Zealand medical school programs among all level medical students using a 35-item mixed modality survey on a 4-point Likert scale. The survey items evaluated fairness, stress, and value of the entrance test. Results indicated 56 percent of the students found the test was not or not really valuable for admission into medical school, over 80 percent found the test to be stressful or very stressful, and nearly 70 percent found the test to be an unfair assessment of non-cognitive abilities necessary to be a medical doctor. These findings suggested the need for medical school programs to evaluate how their entrance tests are used for selection criteria and share that information with potential future students applying for admission. The researchers also recommended that future studies are necessary to explore student's views on how to select students more appropriately for medical education.

In a similar study related to discipline-specific high-stakes program exams, Moser (2012) explored foreign language (Spanish) teacher candidates (*N*=5) perceptions of test preparation and challenges following completion of a Praxis II World Language (Spanish) Test at a university in Mississippi. The certification test, comprised of oral and written sections, is required for teacher candidates who wish to teach foreign languages in primary and secondary education. A qualitative method using individual semi-structured interviews was employed to gather data on student perceptions. Findings from the data divided the candidates into two groups, "surprised prevailers" and "frustrated forgoers" (p. 6). These group categories were used to compare and

contrast student perspectives. The surprised prevailers (*N*=2) had taken the test twice before passing while the frustrated forgoers (*N*=3) never passed the test after multiple attempts. Interestingly, Moser (2012) found that both groups reported "surprise" related to the format and content of the test, inadequate preparation due to their faculty's lack of knowledge of test format and content, and anxiety during the oral portion of the test. However, only the frustrated forgoers complained the test content was different from content learned in the classroom. Findings from the study suggested a potential disconnect between classroom learning and test expectations. Moser argued the disconnection might result in retention and attrition issues of teacher candidates in the foreign language fields of education. Recommendations from the researcher included both curriculum/program modifications and faculty development about test and program standards.

Yang's (2012) quantitative study explored college students' (*N*=204) perceptions of difficulties in preparing for financial occupation licensure examinations, including the Charter Financial Analyst (CFA) and Certified Financial Planner (CFP). Students were recruited from various Taiwan and international universities, following an occupational financial licensure exam seminar, to complete a 24-item questionnaire scored on a five-point Likert scale. Data were analyzed using the Rasch model through the interactive software, WINSTEPS. Findings indicated that the five most difficult tasks related to preparing for professional financial examinations were math skills, professional requirements, theory comprehension, too much time needed for exam preparation, and insufficient English proficiency. The five least difficult tasks included the need for test banks and self-study materials, licensure for employment, enhanced salary, and better promotion opportunities. These findings support Moser's (2012) study previously described by suggesting the need for curriculum modification and faculty support to

enhance student competencies necessary for the adequate preparation and successful completion of professional exams.

In summary, Thiessen (2007) best describes understanding perceptions of high-stakes tests through the lens of the student: "that what matters in schools is centered on students, their daily actions and interactions, and how they make sense of their lives" (p. 6). Whether it is K-12 or higher education, student perceptions of high-stakes tests are situated within the same context. Perceptions of anxiety, fear, low self-esteem, equitability, fairness, disconnect, and anger related to a test controlling success or failure contradict the very purpose created by the National Commission on Excellence in Education and the NCLB law "to improve student achievement" (U.S. Department of Education, 2002, p. 9). High-stakes testing should be an empowering experience for students to learn, rather than a threat to their well-being. The current literature on student perceptions of high-stakes testing has induced many reactions, both physical and psychological. Accounting for the fact that students differ in their experiences, such perspectives are most valuable to education in informing practices that support schools, educators, and students through successful learning and testing experiences (Watson, et al., 2014).

Many of the concerns and findings addressed in the K-12 and higher education literature may also be relevant to the use of high-stakes tests in undergraduate nursing education. With this in mind, the next section of this chapter involves an integrative review exploring the nursing literature from the past ten years (2005-2015) related to the state of high-stakes testing in nursing education. The review contains the evolution of high-stakes testing, uses and concerns, and any research on student perceptions, attitudes, and experiences of high-stakes testing in undergraduate nursing curricula.

Section 2.2: Manuscript One: The State of High-Stakes Testing in Undergraduate Nursing Education: An Integrative Review

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Abstract

***Aim*:** The purpose of this review of the integrative literature was to explore the state of high-stakes testing in nursing education, to include the evolution of high-stakes testing, approaches concerns, as well as identify existing literature on student's perceptions of high-stakes testing in undergraduate nursing education.

***Background*:** With a complex 21st-century healthcare system, many nursing programs are facing challenges to not only produce a sufficient number of competent nurses but also reform nursing education to achieve well-defined learning outcomes and maintain acceptable NCLEX-RN pass rates for accreditation. As a result, the recent trend is for nursing programs to use various forms of high-stakes tests to assess student nurse competence and learning in undergraduate nursing education.

***Design/Method*:** The integrative review method of Whittemore and Knafl (2005) was used to guide search and evaluate the literature of research and non-research papers published between 2005 and 2015.

***Data Sources*:** Online databases queried included ProQuest Nursing and Allied Health and Dissertations, EBSCOhost, Cochrane Library, Journals@OVID, ScienceDirect, Medline, and CINAHL.

***Results*:** A total of 51 papers were identified in the literature search with various uses and concerns regarding high-stakes testing in undergraduate nursing education. However, very little literature exists on the student's point of view of high-stakes testing.

***Conclusion*:** Findings from the review were mixed, necessitating the need for further research. Additionally, insufficient research exists on the student's perspective of high-stakes testing affecting program progression.

***Keywords*:** high-stakes testing, undergraduate nursing education, approaches and concerns, student perceptions/experiences

The State of High-Stakes Testing in Undergraduate Nursing Education: An Integrative Review

In nursing education, a current trend is to use various tests as high-stakes to evaluate student learning and competency throughout undergraduate nursing curricula, as well as prepare students for the National Council of State Boards of Nursing licensure examination (NCLEX-RN). High-stakes tests come in many forms of assessments that are used as primary sources to make critical decisions for student progression and graduation (National League for Nursing, 2010/2012; Sullivan, 2014). The goal of using high-stakes tests is to make sure that students are well prepared to deliver safe and quality nursing care in a highly complex 21st-century healthcare system (Davis, Grinnell, & Niemer, 2010; National League for Nursing [NLN], 2012; Spurlock, 2012). However, the integration of high-stakes testing into nursing curricula (Morton, 2008), the validity and reliability of assessments (Morrison, Adamson, Nibert, & Hsia, 2008, NLN, 2012), and issues surrounding testing vary widely in the literature (Shultz, 2010; Spurlock, 2006/2013; Sullivan, 2014). Therefore, the purpose of this inquiry is to utilize the integrative review method of Whittemore and Knafl (2005) to evaluate the literature regarding the state of high-stakes testing in nursing education. Topics include the evolution of high-stakes testing in nursing education, approaches and concerns, and research of student perceptions of the tests in nursing education.

Background

Nursing programs are feeling pressure from community and healthcare agencies to provide higher levels of knowledge and skill for the complexities of 21st-century healthcare (Frontiero & Glynn, 2012; IOM, 2010; NCSBN, 2015a). The various political, socioeconomic,

and demographic changes affecting nursing practice in recent years have increased expectations for the current and future nursing workforce (NCSBN, 2014). Therefore, the future nurse workforce needs to possess the right competencies to keep up with the complex and ever-changing realms of healthcare (Cleary, McBride, McClure, & Reinhard, 2009; IOM, 2010).

To evaluate knowledge, skills, and attitudes necessary for the increased demand of 21st-century healthcare, many undergraduate nursing programs across the United States have implemented high-stakes testing to evaluate student learning and competency in various didactic and clinical courses (Bensfield, Olech, & Horsley, 2012; Davis, Grinnell, & Niemer, 2013; NLN, 2012). The tests are designed to not only measure critical thinking, communication, and psychomotor skills, and course content mastery, but also prepare students for the NCLEX (Davis, Grinnell, & Niemer, 2013; Heroff, 2009; NLN, 2012; Richards & Stone, 2008). High-stakes tests can be useful for identifying the strengths and weaknesses of students and programs, evaluating students' clinical competence and critical thinking skills (Davis, Grinnell, & Niemer, 2013; Richards & Stone, 2008; Robertson, Canary, Orr, Herberg, & Rutledge, 2010; Schroeder, 2013), and adequately preparing students for licensure (Harding, 2010; Hyland, 2012NLN, 2012; Lavandera, et al., 2011;). Nonetheless, the practice of high-stakes testing in nursing education lacks sufficient research (Sullivan, 2014).

Method

The current integrative review follows the systematic five-step process developed by Whittemore and Knafl (2005), which includes problem identification, literature search, data evaluation, data analysis, and presentation of findings. Whittemore and Knafl's (2005) process was used to search and evaluate the literature related to the identified problem to answer the following research questions:

1. What is the history of the use of high-stakes testing in undergraduate nursing education?
2. What are the approaches of high-stakes testing and their concerns in nursing education?
3. What is the impact of high-stakes testing on students and programs in nursing education?
4. What are students' perceptions, attitudes, or experiences of high-stakes testing in undergraduate nursing education?

Literature Search

To identify relevant papers based on the questions above, various online databases were searched, including Google Scholar, ProQuest Nursing and Allied Health and Dissertations, EBSCOhost, Cochrane Library, ResearchGate, Journals@OVID, ScienceDirect, Medline, and CINAHL. Key search terms included in various combinations were high-stakes testing and assessments specific to the types of high-stakes tests in undergraduate nursing education, including medication calculations tests, standardized tests, and clinical skills evaluations performed in simulation and skill labs. The Boolean operators "and" and "or" were added to include student perceptions, attitudes, and experiences, high-stakes testing history, approaches and types, concerns, policies, implementation, nursing education, and undergraduate nursing students.

Eligibility Criteria

Inclusion criteria for the integrative literature review included:

- quantitative, qualitative, and mixed-method studies

- non-research peer-reviewed journal articles, reports, reviews, textbooks, and conference proceedings
- full-text available in English or non-English translated into English
- pertinent to undergraduate nursing education
- pertinent to various forms of high-stakes tests, assessments, or evaluations in undergraduate nursing programs, including diploma, ASN, and BSN tracks
- pertinent to the history, purpose, approaches and uses, and concerns of high-stakes tests in nursing education
- pertinent to nursing student perceptions, experiences, and attitudes of common high-stakes tests in nursing education
- published between 2005 and 2015

Exclusion criteria for the review included dissertations, as well as research and non-research articles, reports, reviews, and textbooks not meeting the inclusion criteria. Reference lists from relevant papers were reviewed to identify additional accessible and related research. Selection of articles was based on the inclusion criteria above and the integrative review questions.

Study Selection

After a comprehensive search of the literature with the various key terms, initial screening of the literature resulted in 522 published papers, textbooks, and reports. Previewing reviews for pertinence, especially related to nursing education, reduced the applicable data to 109 articles. Additional review of the remaining literature pertinent to the inclusion criteria, with the removal of duplicates, reduced the data even further to 51 papers (see Fig. 1).

Data Evaluation

The final sample of 51 documents for the integrative review consisted of both qualitative and quantitative studies, as well as peer-reviewed journal papers, opinion papers, guest editorials, textbooks, organization reports and position statements, as well as systematic, integrative, and literature reviews. The level of evidence (Table 1) of the remaining papers in the integrative review was evaluated using the hierarchical ranking system for level/grade of evidence adapted by Ackley, Ladwig, Swan, & Tucker (2008).

Data Analysis/Comparison

Data were labeled according to each of the four research questions and the order of which the reference was used in the review. The data are presented in a literature analysis matrix to include author and title, aim and design (if an applicable research study), and findings relevant to the research question (Table 2). Also, the level of evidence was considered in the literature analysis matrix.

Results

Q 1. What is the history in the use high-stakes testing in undergraduate nursing education?

Limited papers have been published regarding the history or evolution of high-stakes testing in undergraduate nursing education. Most of the published literature describing the history of high-stakes testing pertain specifically to standardized testing. Standardized tests have been in use in nursing programs for the past 60 to 70 years (Shultz, 2010). Standardized nursing tests were initially created to be a diagnostic tool used within programs. Results of the tests helped nursing faculty identify students' weaknesses and develop remediation plans in preparation for state board licensure (Shultz, 2010; Oermann & Gaberson, 2014). However, the

trend in nursing programs over the past few years has been to use standardized tests as high-stakes (NLN, 2012; Spurlock, 2006).

Licensure examination to practice as a registered nurse is also high-stakes in the form of a standardized test. The first standardized test for nursing licensure, *State Board Test Pool Examinations* (SBTPE), was developed by the National League for Nursing (NLN) and then the American Nurses Association (ANA) given by individual states between 1941 and 1982 (NCSBN, 2014). However, to ensure safe and competent nursing care to protect the public, the National Council of State Boards of Nursing (NCSBN) was developed in 1978 to take ownership of the SBTPE and renamed the exam the NCLEX (National Council Licensure Examination) in 1982 (NCSBN, 2015b). Nursing program graduates cannot practice as a licensed registered nurse with the failure of NCLEX-RN, making the test high-stakes.

Similar to standardized tests, medication calculation instruction and examinations have been a part of undergraduate nursing programs since their initiation in nursing education (Sherriff, Wallis, & Burston, 2011). However, there was no clear history found in the literature of when testing evolved into high-stakes assessments. Likewise, clinical skills competency evaluations have been a part of nursing programs for many decades. It was not until the 1970s, following adoption in medical programs, that structured clinical skills competency assessments were implemented into nursing programs, as nursing education moved out of the hospital setting into academia (Major, 2005). The structured assessment, also known as the Objective Structured Clinical Examination (OSCE) was developed by Harden in the 1970s to evaluate students' clinical competency in medical education (Boursicot & Roberts, 2005). The idea was to have students rotate through several stations and complete specific tasks with a structured scoring checklist (Boursicot & Roberts, 2005). These structured clinical skills competency assessments

have evolved as high-stakes summative assessments in nursing programs; however, the review of the literature lacked specific data.

Q 2. What are the approaches of high-stakes testing and their concerns in nursing education?

As previously described, nursing programs have turned to various forms of high-stakes assessments to not only measure student learning and competency for a highly complex healthcare system but also prepare students for licensure and practice. Common forms assessments used as high-stakes tests in nursing education include commercially prepared standardized tests (NLN 2010/2012; Spurlock, 2013), clinical skills competency assessments (Bensfield, Olech, & Horsley, 2012; Boulet, 2008; Jones, Ziegler, Baughman, & Payne, 2015; Kardong-Edgren, Hanberg, Keenan, Ackerman, & Chambers, 2011), and pass or fail medication calculations tests (Coben, Hodgen, Hutton, & Ogston-Tuck, 2008; Glaister, 2007; Roykenes, Smith & Larsen, 2014).

Standardized tests. Standardized tests provided by education corporations, such as Assessment Technologies Institute (ATI) or Elsevier's Health Education Systems, Inc. (HESI), provide students with benchmark evaluations about their knowledge and mastery of nursing concepts and course content, as well as readiness for NCLEX (NLN, 2012; Schroeder, 2013). These tests also help nursing faculty identify both student and curricular strengths and weaknesses (NLN, 2012). Both corporations claim that (a) the test questions are similar to the National Council Licensure Examination for Registered Nurse (NCLEX-RN) questions for specific content areas, (b) the tests offer personalized student remediation and feedback for content weak areas, and (c) the tests have a 99 percent predictive accuracy for NCLEX success on the first attempted state board examination (ATI, 2014; Elsevier, 2010). Although

standardized tests cannot substitute for a quality education, they do identify a student's weakest content areas, promote student ownership of learning and remediation of course content, and assist faculty with data generation and appropriate course and curricular modifications (ATI, 2014; Elsevier, 2010; Heroff, 2009; NLN, 2012; Richards & Stone, 2008; Schroeder, 2013)).

However, there is increasing concern about potential over-use of standardized tests in nursing education. For instance, the NLN (2012) reported that one out of every three nursing programs in the U.S. requires completion with a preset proficiency score on one or more standardized tests to progress and graduate. This issue has raised additional concerns about whether the reliability of the tests predicts success in a diverse group of learners (Nitko & Brookhart, 2011). Though standardized tests identify high-performing students who are likely to pass the NCLEX-RN, they do not identify the likelihood of failure (Spurlock, 2006; Spurlock & Hunt, 2008; Sullivan, 2014). Interestingly, testing corporations such as ATI (2014) and Elsevier (2010) recommend their programs use their tests as low to moderate stakes to diagnose students' strengths and weaknesses, as well as to remediate in core nursing areas, not to restrict student progression and graduation. However, according to Young and Langford's (2010) survey of 66 nursing programs, consequences for students who did not meet the desired benchmark score determined by their school resulted in either a course failure, delay or denial of graduation, or a delay or denial to take the NCLEX.

Shultz (2010) emphasized that nursing faculty make high-stakes decisions based on the reliance of test products created by corporations, who have a limited background in nursing education, instead of the program's rigor and faculty expertise. Also, Spurlock (2013) argued there is insufficient direction available for nursing programs and faculty regarding the application and interpretation of standardized test scores to determine appropriate progression or

graduation policies. The complexity of setting benchmark scores for standardized tests requires a blend of statistical, psychometric, political, and ideological factors (Wendt & Kenny, 2007). The task of setting such scores may prove overwhelming, especially for the novice educator, leaving faculty at the mercy of the test vendor's reference point as an appropriate score on a test. For this reason, it is critical that faculty seek out and obtain advice from experts in education measurement, as well as have input on how to use the results when making decisions that affect students and the nursing program (Santo, Frander, & Hawkins, 2013; Spurlock, 2006).

Clinical skills competency assessments. Clinical skills competency assessments, including psychomotor and physical examination evaluations, as well as cognitive and clinical reasoning skills, are competency-based proficiencies taught in undergraduate nursing programs. The skills assessments are either taught as an independent skill competency course or integrated within clinical and didactic courses. The performance of these skills is generally evaluated by faculty in the nursing program's clinical skills or simulation lab settings guided by criterion-based checklists to measure the student's mastery of specific tasks (McDonald, 2014). Faculty-created checklists are also used to measure student mastery of tasks in the skills or simulation labs; however, interrater reliability and consistency may pose issues for valid student outcomes (Kardong-Edgren, Adamson, & Fitzgerald, 2010). Evaluation is important to ensure students can correctly perform these skills before going into clinical environments and providing patient care (Payne, Ziegler, Baughman, & Jones, 2015). Dependent on the nursing program's academic policies, unsuccessful performance may result in a clinical and course failure. A course failure impedes the student's progression in the program until the student completes the course.

Using clinical skills competency assessment for high-stakes performance evaluation in nursing education also brings forth concerns, especially in a structured simulated environment.

Kardong-Edgren, Hanberg, Keenan, Ackerman, and Chambers (2011) recommended against using simulation to evaluate skills competency as a high-stakes assessment due to confounding issues, such as differing levels of simulation, lack of standardized scenarios with which to test, varying expectations of students and faculty, potential bias of English as second language (ESL) students, and evaluation techniques. Also, Bensfield, Olech, and Horsley's (2012) study found that students need more experience and knowledge with simulation before high-stakes evaluation of clinical competency skills.

Pass or fail medication calculation tests. Medication calculation proficiency is an essential and required skill for nursing practice to promote patient safety. Medication calculation competence is defined by Coben, et al. (2010) as "the need to undertake appropriate arithmetical operations and computations to calculate a numerical value that falls within an appropriate degree of accuracy for the required dose or rate" (p. 14). Medication calculation assessment tests are required in most, if not all, undergraduate nursing programs to evaluate student competency in the dosage, calculation, and administration of medications in the patient care clinical environment (Dilles, Stichele, Van Bortel, & Elseviers, 2011). These assessments are often high stakes for students in nursing programs with specific proficiency requirements. Students who fail to meet the specified proficiency score required by the nursing program's medication calculations testing policy may be ineligible to progress in the program or receive a course failure.

Of concern, however, there are no guidelines set forth by U. S. nursing accrediting bodies such as the Accreditation Commission for Education in Nursing (ACEN) or Commission on Collegiate Nursing Education (CCNE) for medication calculation proficiency in undergraduate nursing programs to reflect student aptitude and competency (Coben, Hodgen, Hutton, &

Ogston-Tuck, 2008). The most current research found in the literature reported the average national passing benchmark score for medication calculations tests, identified by 223 undergraduate nursing programs, was 90 percent, with an average of two attempts for successful performance (Gonzales, 2012). Also, no evidence-based standards or guidelines exist in the literature to support the type and number of questions necessary to establish medication calculations competency. For that reason, when medication calculations tests are being used as high-stakes tests, there must be an accepted standard to ensure the reliability, validity, and fairness to all the individuals who take them (Koenig, 2011).

NCLEX-RN. Following graduation from nursing programs, all new nursing graduates must successfully meet an established benchmark score on the NCLEX-RN created by the National Council of State Boards of Nursing (NCSBN) before practicing as a professional Registered Nurse in the healthcare setting. The NCSBN was created in 1978 as a public safeguard for competent nursing practice across the United States (NCSBN, 2015b). The organization develops and manages the implementation of the NCLEX-RN exam, which is a standardized high-stakes exam designed to measure entry-level nurse competency consistent with professional nursing practice. Competency areas assessed on the exam include safe and effective care, health promotion and maintenance, and physical and psychosocial integrity (NCSBN, 2015). The NCSBN indicates that the test must contain legally defensive questions that are fair, culturally sensitive, and unbiased; however, language barriers of minority and international students may hinder their success on NCLEX, especially with the manner in which clinical situations are represented on the examination (Sitzman, 2007).

Q 3. What is the impact of high-stakes testing on students and programs in nursing education?

Progression. Although not initially an intended purpose, the recent trend in nursing programs has been to link high-stakes testing with program progression policies (Anema & McCoy, 2014; NLN, 2012; Spurlock, 2012/2013; Sullivan, 2014). Technical and Further Education in New South Wales ([TAFE NSW], 2012) defined student progression as the ability to manage minimum academic standards to maintain satisfactory academic progress in a course of study. With educational and curriculum reform movements and the demands of healthcare changes, many nursing programs have linked high-stakes testing to progression policies as a measure of overall student competency, ensure NCLEX success, and evaluate program effectiveness (Heroff, 2009). It seems the primary purpose of progression policies in nursing education is to identify students who are less likely to be successful on the NCLEX-RN following graduation from a pre-licensure nursing program (Spurlock, 2006). However, progression policies using high-stakes have not clearly demonstrated an improvement in nursing program quality or NCLEX pass rates (Pennington & Spurlock, 2010; Spurlock, 2013), and the use to block student progression borders on the edge of "unethical educational practice" (Giddens, 2009). The accountability for student progress is supposed to be a joint obligation between students and faculty, as well as the academic institution (Borden, 2010; Spurlock, 2013).

Currently, no standards exist in nursing curricula as to how programs should link high-stakes testing with progression policies. In response to the many concerns regarding the use of high-stakes tests as a progression measure, the NLN's (2012) Board of Governors developed the "Fair Testing Guidelines". The guidelines reflect NLN's core principles of caring, integrity,

diversity, and excellence while also recognizing the student's perspective and the role of faculty. The following guidelines are also consistent with general practices for ethical and fair testing practices for assessing and assuring students' abilities and competence to practice nursing:

1. Faculty have an ethical obligation to ensure that the tests and decisions resulting from the tests are consistent and based on evidence, as well as fair to all test takers regardless of personal characteristics and diversity.
2. Faculty have a responsibility to evaluate and validate the student's level of competency to practice nursing while also recognizing all learning assessments are not perfect.
3. Multiple assessment strategies are necessary to evaluate and validate basic nursing competence, especially when high-stakes decisions are based on the assessment.
4. Testing should be used to not only evaluate student learning and competence, but also support student learning, improve teaching, and facilitate curriculum improvements.
5. Faculty must have access to and review all testing information before student administration and grade, as well as the development of program policies related to the tests. Also, the faculty has the obligation to inform students of the purpose and consequences of the tests.

   (The NLN'S Response: Fair Testing Guidelines, ¶ 2)

Attrition. According to the NLN (2015), only 44 percent of student applicants were accepted to undergraduate nursing programs across the U.S., leaving entry into nursing programs rigorous and competitive. Therefore, admissions to programs represent students who are mostly

high achievers reflected by high college grade point averages (GPA), vying to fill one of the very few vacant seats. As a result, student attrition is a critical concern for programs of study and their students. Various factors can contribute to higher attrition rates in nursing programs, such as age, cultural diversity, stress and anxiety, personal issues, the uncertainty of career choice, and academic performance. However, factors related to the characteristics of the nursing program, including admission and progression policies may also contribute to the phenomena of student attrition (Spurlock, 2006; Taylor, Loftin, & Reyes, 2014).

Stress and Learning. Undergraduate nursing students experience more stress than other students in healthcare-related disciplines, including physical therapy, pharmacy, dentistry, or medical education (Goff, 2011; Harrison, 2009), especially when it relates to high-stakes testing (Carr, 2011). Lazarus and Folkman (1984) defined stress as a "relationship between the person and the environment that is appraised by the person as relevant to his or her well-being" (p. 19). Jimenez, Navia-Osorio, and Diaz (2010) reported the primary sources of stress among undergraduate nursing students include clinical practice, personal matters, and academic stressors. The most common academic stressors reported by students include testing and other evaluation procedures (Beggs, Shields, & Goodin, 2011), program workload (Altiok & Ustun, 2013; Goff, 2011) and worry about grades (Shaban, Khater, & Akhu-Zaheya, 2012). Furthermore, Goff (2011) and Sullivan (2014) contended that unsuccessful completion of a high-stakes test affecting progression ultimately leads to emotional distress for nursing students who have devoted personal and financial resources towards their education and prospective careers. Other consequences include test anxiety in those students with no previous history, as well as a misrepresentation of a student's overall progress in the nursing program (Spurlock, 2006; Taylor, Loftin, & Reyes, 2014).

Life stressors and rigorous academic expectations on the nursing student to successfully progress through a structured nursing program can also interfere with learning, affect academic performance, and weaken clinical performance (Chernomas & Shapiro, 2012; Goff, 2011). Pressures to succeed on high-stakes tests with progression consequences can create unfavorable learning conditions for students (Dunn, 2014). For example, Moscaritolo (2009) reported that high-stress levels among nursing students inhibit learning, decreases the ability to apply knowledge, and interferes with critical thinking. Within general academia, both Nichols (2007) and Au (2009) argued that a high-stakes environment is unproven to increase student learning. Essentially, the learning that takes place in a high-stakes environment is influenced by only the increased attention to specific material on a test (Nichols); therefore, meaningful learning of the overall content taught in a course may not take place (Goff, 2011). Therefore, it seems that the undue stress of such high pressured testing is counterproductive to the positive achievement of student learning outcomes.

Legal Implications. The NLN (2012) reported both individual and groups of students, who performed poorly on standardized tests and held from progression and graduation, have filed suit against their nursing programs citing various legal reasons. Litigation included breach of contract, specifically if the student handbook or catalog did not include consequences of testing towards program progression and graduation. Additionally, lack of due process became an issue when changes to progression policies were made while the student was actively enrolled in the nursing program. Litigation issues concerning ESL, fairness of tests, psychometric aspects of reliability and validity, and accommodations for student disabilities have also been reported (Nitko & Brookhart, 2011). Such litigation issues from students with poor outcomes on high-

stakes tests can impose negative media exposure and financial constraints to nursing programs and their academic institutions; therefore, damaging the program and institution's reputation.

Academic Dishonesty. When tests are high-stakes, especially those affecting progression and graduation, nursing students will invariably find ways to cheat. In a world of innovative technology and social networking, today's 21st-century nursing student can find fraudulent means to pass a test (Garcia & Woo, 2011). Lack of student academic integrity affects both test vendors and nursing programs. Both entities must continuously evaluate test security and integrity, which can be both financially and labor intensive.

Q 4. What are students' perceptions, attitudes, or experiences of high-stakes testing in undergraduate nursing education?

There has been a limited examination of student perceptions, experiences, or attitudes of high-stakes testing in the literature. Roykenes, Smith, and Larsen (2014) found that undergraduate freshman BSN students experienced various physiological manifestations, such as headaches, nausea, perspiration, trembling, as well as psychological manifestation including anxiety and fear of failure preparing for and taking high-stakes medication calculation tests. Students also reported the requirement to achieve 100 percent proficiency to progress in the program made them feel "scared" to varying degrees; nonetheless, students agreed failure could jeopardize patient safety. Roykenes et al. (2014) claimed their findings validate nursing students experience higher levels of stress and anxiety when confronted with high-stakes situations. Although this may be true, students in the study were freshmen in their first semester of the nursing program with little experience in the extensive rigors of BSN nursing education.

Conclusion and Recommendations

Various forms of tests are used as high-stakes within nursing education; however, the literature mainly focused on standardized testing. Nursing curricula are not designed to evaluate student competency and knowledge with one specific test (Sauter, Gillespie, & Knepp, 2012). Therefore, given the complexity of 21st-century healthcare, nursing faculty must strive to provide quality education with sound educational principles (Dillard & Siktberg, 2012) and graduate competent entry-level nurses. Findings from the integrative review varied, necessitating the need for further study. For instance, there was evidence that supports the constructive use of high-stakes tests to identify strengths and weaknesses of both students and programs, prepare students for licensure, and evaluate student competency; however, linking the tests with progression policies influences students and programs in various negative ways. Also, there is a dearth of literature regarding the student's perspective of the different forms of high-stakes testing, especially those affecting program progression and graduation. Gaining valuable insight from students not only would add to the current gap in the literature that may potentially address the uses and concerns of high-stakes testing, but also, guide faculty and programs in decisions to justify use in nursing education, inform educational practices and policy, and develop strategies to support student success. Using the information gained from this study can promote collaboration between faculty and students, which may potentially change how high-stakes testing is used in undergraduate nursing education.

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Fig. 1. Literature Search Flowchart

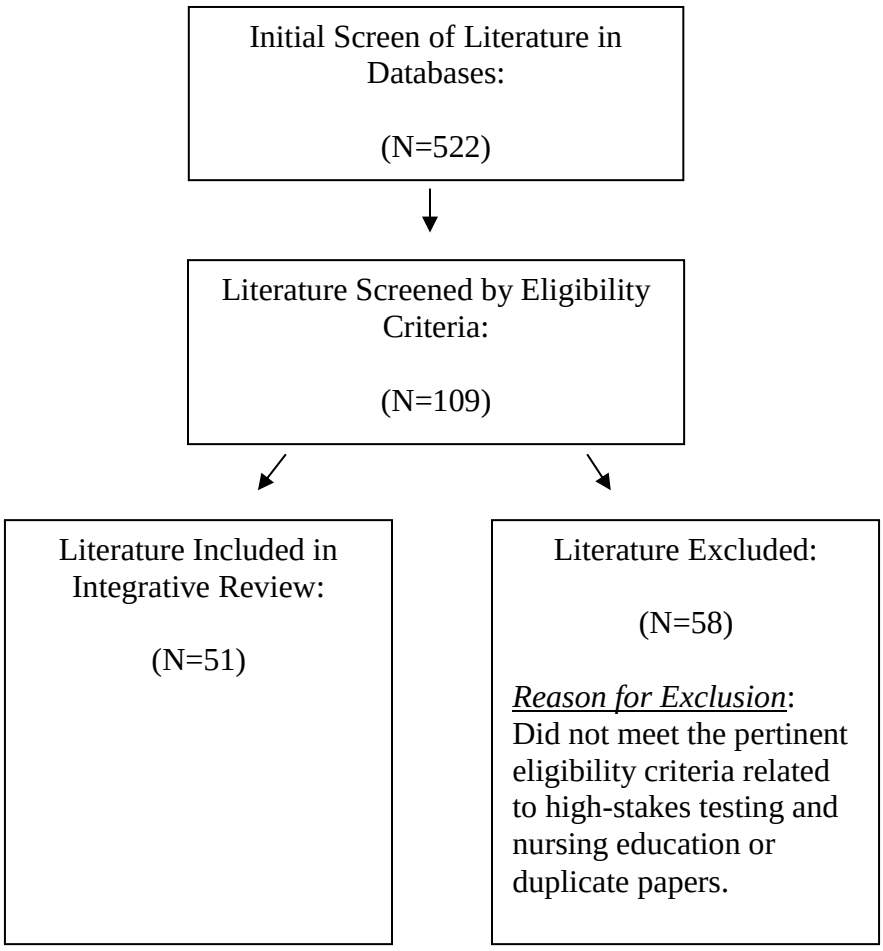

Table 1

Levels of Evidence (Adapted from Ackley, Ladwig, Swan, & Tucker, 2008)

LEVEL	TYPE OF EVIDENCE
I	Systematic reviews, meta-analysis of randomized clinical trials (RCT's), evidence-based clinical practice guidelines based on systematic reviews of RCT's, or three or more RCT's of good quality that have similar results.
II	One or two well-designed RCT's
III	One or more well-designed controlled trials without randomization
IV	One or more well-designed case control or cohort studies
V	Systematic reviews of descriptive and qualitative studies (meta-synthesis/integrative)
VI	Single descriptive or qualitative study
VII	Expert opinions and/or reports of expert committees

Table 2

Literature Analysis Matrix (listed in the order as described in the integrative review text)

Research Question	Author & Title	Aim/Design	Findings Pertinent to Research Question	Level of Evidence
What is the History in the use of High-Stakes Testing in Undergraduate Nursing Education?	Herman & Johnson (2009).	Expert opinion article aimed at describing a senior seminar course that guides formal NCLEX-RN preparation and specific course strategies that can be adapted to nursing curricula.	Describes history of standardized tests as a means to identify student strengths and weaknesses and prepare students for licensure.	VII
	Shultz (2010). High-stakes testing? Help is on the way	Non-research expert opinion article aimed at describing the overview and concerns of high-stakes testing in nursing education	Describes the history of using standardized testing in nursing curricula.	VII
	Oermann & Gaberson (2014). Evaluation and Testing in Nursing Education	Textbook on Evaluation and Testing in nursing education	Describes the history of using standardized tests as a diagnostic tool for remediation of student weaknesses and preparation for NCLEX.	VII
	NLN (2012). The fair testing imperative in nursing education. A living document from the National League for Nursing	Organizational report aimed at describing the use, trend, and concerns of high-stakes testing in nursing education	Describes the history and increasing trend of using standardized tests as high-stakes tests.	VII
	Spurlock (2006). Do no harm: Progression policies and high-stakes testing in nursing education	Non-research expert opinion article aimed at describing trend and concerns of high-stakes testing in nursing education	Describes the increasing trend of using standardized tests as high-stakes tests.	VII
	NCSBN (2014). Pencils down, booklets closed. The evolution of the NCLEX: 20 years as a computer adaptive exam	Organizational article aimed at describing the history of state board licensure	Describes the history of the state board licensure examination (standardized test) to become a registered nurse.	VII
	Sheriff, Wallis, & Burston (2011). Medication calculation competencies for registered nurses: A literature review	Literature review aimed to describe the focus of safe medications administration & calculation skills	Describes history of using medication calculations testing in nursing curricula.	VII
	Major (2005). OSCEs: Seven years on the bandwagon: The progress of an objective structured clinical evaluation programme	Literature review and case study aimed to evaluate the development and use of OSCE's in nursing curricula	Describes the evolution of structured skills competency assessments in nursing education from the use in medical education.	VII
	Boursicot & Roberts (2005). How to set up an OSCE	Expert opinion article on designing and implementing an Objective Structured Clinical Examinations (OSCE) tool	Describes the evolution of structured skills competency assessments in medical education.	VII
What are the approaches of high-	NLN (2012). The fair testing imperative in nursing education. A living document	Organizational report aimed at describing the use, trend, and concerns of high-stakes	Describes the standardized testing approach.	VII

stakes testing and their concerns in nursing education?	from the National League for Nursing	testing in nursing education		
	Schroeder (2013). Improving NCLEX-RN pass rates by implementing a testing policy	The quantitative study compared NCLEX pass rates of 572 graduates from five years before and after the implementation of a standardized testing policy with remediation and student success strategies throughout the curriculum of an ASN nursing program.	NCLEX-RN pass rate for the 5 years following implementation of the testing policy was significantly higher ($P < .01$) than the mean NCLEX-RN pass rate for the 5 years preceding implementation of the testing policy. However, student success and remediation strategies used to improve outcomes were not measured in this study.	VI
	Richards & Stone (2008). Student evaluation of a standardized comprehensive testing program	This study sought to determine student (N=663) response and satisfaction regarding the implementation of a standardized test package at a BSN program. Surveys were used to collect data. Items included barriers to testing, the type of assessment taken, benefits, use of testing preparation materials, and recommendations for future use of the program.	410 surveys returned for a response rate of 61.84 percent. Not all of the students took the six package mastery exams. Survey findings were random with not one barrier reigning significant over another. Findings were useful for curricular modifications, including use of tests as low-stakes.	VI
	Heroff (2009). Guidelines for a progression and remediation policy using standardized tests to prepare associate degree nursing students for NCLEX-RN at a rural community college	Evaluation article exploring experiences of student and faculty with the implementation of a high-stakes standardized test package with a new progression policy	Evaluation of student and faculty feedback (not included in the article) noted there were inconsistencies in remediation expectations following the implementation of the testing and policy. Policy revisions made with additional remediation guidelines for faculty and student.	VII
	Nitko & Brookhart (2011). Educational assessment of students	Textbook resource for classroom assessment and educational testing (non-nursing)	Describes the reliability and validity concerns related to standardized tests.	VII
	Spurlock (2006). Do no harm: Progression policies and high-stakes testing in nursing education	Non-research expert opinion article aimed at describing trend and concerns of high-stakes testing in nursing education	Describes concerns of high-stakes standardized testing and prediction of student failure of NCLEX-RN.	VII
	Spurlock & Hunt (2008). A study of the usefulness of the HESI exit exam in predicting NCLEX-RN failure	Purpose of the quantitative study was to evaluate the HESI Exit Exam as predictor for NCLEX-RN success/failure using a retrospective descriptive correlational design of HESI exam data from graduated student records (N=184) over an 18-month period.	Results indicate that accurately predicting NCLEX-RN failure, which is essential if educators are going to adopt progression policies based on a student's likelihood of NCLEX-RN failure, cannot occur with the HESI Exit Exam as the sole predictor of NCLEX-RN failure (NCLEX Success $p \leq 0.005$; NCLEX Failure: $p=0.733$	VI
	Young & Langford (2010). The eighth E2 validity study for RNs: Accuracy,	Survey study from Elsevier of 66 nursing programs regarding HESI cut scores used for	Findings reported 32 schools used a cut score of 850 for student progression. 52	VI

	benchmarking, remediation, and testing practices.	progression and consequences of not meeting the benchmark.	schools reported major consequences: capstone course failure, delay/denial of graduation, and delay/denial of NCLEX candidacy.	
	Shultz (2010). High-stakes testing? Help is on the way	Non-research expert opinion article aimed at describing the overview and concerns of high-stakes testing in nursing education	Describes how nursing programs are making high-stakes decisions based on recommendations of standardized tests from testing corporations.	VII
	Spurlock (2013). The promise and peril of high-stakes tests in nursing education	Non-research expert opinion article aimed at exploring the value of high-stakes testing and implications for nursing students, faculty, and leaders in nursing education policy	Describes the insufficient direction for faculty with how to apply and interpret standardized test scores and the little value of high-stakes tests improving NCLEX pass rates or program quality.	VII
	Wendt & Kenny (2007). Setting the passing standard for the National Council Licensure Examination for Registered Nurses	Non-research article aimed at providing information regarding standard-setting methodologies used by the NCSBN Board of Directors in determining the passing standard of NCLEX and implications for faculty	Describes the complexity of setting benchmark scores for standardized tests.	VII
	Spurlock (2006). Do no harm: Progression policies and high-stakes testing in nursing education	Non-research expert opinion article aimed at describing trend and concerns of high-stakes testing in nursing education	Describes the educational measurement concerns of high-stakes standardized testing for nursing faculty.	VII
	Santo, Frander, & Hawkins (2013). The use of standardized exit examination in baccalaureate nursing education	Non-research expert opinion article aimed at providing an overview of the controversy surrounding the use of standardized tests in nursing education	Recommends using best practice guidelines as discussed by the NLN when setting a minimal passing score for standardized tests.	VII
	McDonald (2014). The nurse educator's guide to assessing learning outcomes	Textbook resource for evaluating student learning in both classroom and clinical settings.	Describes using Criterion-Based checklists to evaluate clinical skills competency.	VII
	Kardong-Edgren, Adamson, & Fitzgerald (2010). A review of currently published evaluation instruments for human patient simulation	Non-research expert opinion literature review article aimed at reviewing tools for simulation evaluation	Describes concerns regarding interrater reliability and consistency of faculty developed evaluation tools. Recommends further review of the use and development of simulation evaluation tools.	VII
	Payne, Ziegler, Baughman, & Jones (2015)	The research study aimed at determining if a "mock" clinical skills assessment strategy would improve first-round pass rates for skills competency assessments and decreased the stress of nursing students. Used a retrospective approach for comparison of the junior & senior student (N=1,556) pass rates before and after the "mock" competency assessment strategy. Qualitative data from	The researchers reported improved first-round pass rates after the "mock" competency strategy; however, data were not reported in the study article. Students reported preparedness, understanding, and better focus on the mock assessment strategy.	VI

		course evaluations also used to collect data.		
	Kardong-Edgren, Hanberg, Keenan, Ackerman, & Chambers (2011). A discussion of high-stakes testing: An extension of a 2009 INACSL Conference roundtable	Non-research expert opinion article of the use of simulation for high-stakes testing.	Recommends not using simulation as a high-stakes environment for evaluating student competencies due to concerns about a lack of standardized scenarios to test with, questions about baccalaureate versus associate nursing levels of expectations in scenarios, and potential cultural bias.	VII
	Bensfield, Olech, & Horsley (2012). Simulation for high-stakes evaluation in nursing	Research aimed to describe the use of simulation as a high-stakes evaluation of senior baccalaureate nursing students (N=100) achievement of various end-of-program competencies, including psychomotor skills and health assessment.	Researchers report 25 students required remediation. Findings suggest students needed more experience and familiarity with simulation before high-stakes evaluation. Findings also led to the program integrating simulation in each semester of the nursing program.	VI
	Coben, Hall, Hutton, Rowe, Weeks, & Woolley (2010). Research report: Benchmark assessment of numeracy for nursing: Medication dosage calculation at point of registration	Expert opinion report related to an earlier project aimed at proposing a benchmark assessment for numeracy for nursing in Scotland for the National Health Service (NHS).	Defines and describes the meaning of medication calculations competence.	VII
	Dilles, Stichele, Bortel, & Elseviers (2011). Nursing students' pharmacological knowledge and calculation skills: ready for practice?	A quantitative cross-sectional survey using the Medication Knowledge and Calculation test of undergraduate nursing students (N=38).	Research reported nursing students' pharmacological knowledge and calculation skills are limited to average score 55% and 66%. Also, students did not perceive themselves able to deliver safe medication care in practice. Recommendations made that nursing programs to address the issue.	VI
	Coben, Hodgen, Hutton, & Ogston-Tuck (2008). High-stakes: Assessing numeracy for nursing	Exploratory interdisciplinary (nursing and education) study to evaluate a high-stakes summative numeracy assessments from junior nursing students (N=378).	The analysis points up the dangers of high stakes testing with a 100% pass mark in the absence of a reliable and valid assessment instrument set to an agreed standard and reflecting the scope of numeracy for nursing.	VI
	Gonzales (2012). Assessments of safe medication administration in nursing education	Survey (N=239) analysis study aimed at identifying methods used by the nursing faculty of assessing nursing students' knowledge and skills of safe medication administration.	Findings indicated no standardized method for assessing safe medication administration in nursing education.	VI
	Koenig (2011). Assessing 21st-century skills. Summary of a workshop	The textbook project aimed at assessments, measurement of assessments, and policy considerations.	Describes policy and standards are needed to ensure reliability, validity, and fairness for high-stakes testing in nursing education.	VII

	NCSBN (2015a). NCSBN history.	Nursing organization web page describing the creation of NCSBN to protect public with competent nursing practice.	Describes history of NCLEX examination	VII
	NCSBN (2015b). National Council of State Boards of Nursing. 2016 NCLEX-RN detailed test plan.	Nursing organization web page describing detailed 2016 test plan for NCLEX.	Describes competency areas assessed on the NCLEX for 2016 test plan. Emphasizes test contains legally defensive questions.	VII
	Sitzman (2007). Diversity and the NCLEX-RN: A double-loop approach	Analysis of the literature aimed at describing the state of cultural diversity of students in nursing education and supporting their preparation for the NCLEX.	Findings indicated that diversity is of concern to nurse educators about NCLEX-RN success.	V-VI
What is the impact of high-stakes testing on students and programs in undergraduate nursing education?	Anema & McCoy (2014). Competency-based nursing education. Knowing how to perform is not the same as actually performing	Expert opinion presentation at the American Association of Colleges of Nursing (AACN) 2014 Annual Meeting.	Link of high-stakes testing to progression policies in nursing education	VII
	NLN (2012). The fair testing imperative in nursing education. A living document from the National League for Nursing	Organizational report aimed at describing the use, trend, and concerns of high-stakes testing in nursing education	Describes concern of linking high-stakes testing outcomes to progression policies.	VII
	Spurlock (2012). Beyond studying the disorder: A call for positive nursing education research	Expert opinion editorial article aimed at the use of high-stakes tests and progression policies in nursing education.	Described the need for nursing education programs to research characteristics and practices of programs that maintain high NCLEX pass rates without high-stakes tests and progression policies.	VII
	Spurlock (2013). The promise and peril of high-stakes tests in nursing education	Non-research expert opinion article aimed at exploring the value of high-stakes testing and implications for nursing students, faculty, and leaders in nursing education policy.	Describes concerns of using high-stakes testing for student progression. Student progress in a joint obligation between student and faculty.	VII
	Sullivan (2014). A concept analysis of "high-stakes testing."	A concept analysis study aimed at providing a better understanding of the term "high-stakes testing".	Findings reveal the concept of high-stakes testing is not well researched in nursing education. High-stakes testing on progression leads to emotional distress.	VII
	Heroff (2009). Guidelines for a progression and remediation policy using standardized tests to prepare associate degree nursing students for NCLEX-RN at a rural community college	Evaluation article exploring experiences of student and faculty with the implementation of a high-stakes standardized test package with a new progression policy	Described progression policies are good for evaluating program effectiveness and modifying remediation policies.	VII
	Spurlock (2006). Do no harm: Progression policies and high-stakes testing in nursing education	Non-research expert opinion article aimed at describing trend and concerns of high-stakes testing in nursing education.	Describes primary purpose of progression policies in nursing education and use as being an unethical practice. Policies affect	VII

			attrition and retention and are a misrepresentation of overall student progress.	
	Pennington & Spurlock (2010). A systematic review of the effectiveness of remediation interventions to improve NCLEX-RN pass rates	Systematic review article aimed at reviewing studies (N=8) on progression policies and remediation effects on NCLEX pass rates.	Findings show that progression policies with high-stakes tests do not demonstrate improvement in program quality or NCLEX pass rates	V
	Giddens (2009). Guest editorial. Changing paradigms and challenging assumptions: Redefining quality and NCLEX-RN pass rates	Expert opinion guest editorial aimed at describing the influence of NCLEX pass rates over curriculum and education decisions	Describes the use of progression policies as a measure to improve NCLEX pass rates in nursing education as an unethical practice.	VII
	Borden (2010). The accountability/improvement paradox	Expert opinion article aimed at attention to the quality of measurement related to accountability.	Describes and emphasizes that student progress in a joint obligation between student and faculty.	VII
	NLN (2012). The fair testing imperative in nursing education. A living document from the National League for Nursing	Organizational report aimed at describing the use, trend, and concerns of high-stakes testing in nursing education	Developed fair testing guidelines	VII
	Goff (2011). Stressors, academic performance, and learned resourcefulness in baccalaureate nursing students	An explanatory correlational study using Gadzella's Student-life Stress Inventory (SSI) and Rosenbaum's Self-Control Scale (SCS) to explore learned resourcefulness, stressors, and academic performance in baccalaureate nursing students (N=53).	High levels of personal and academic stressors were evident, but not significant predictors of academic performance ($p = .90$). High-stakes testing affecting progression leads to emotional distress, which affects the meaningful learning of overall content/concepts.	VI
	Harrison (2009). What constitutes good academic advising? Nursing students' descriptions of academic advising	Survey study examining nursing students' (N=33) perceptions of the characteristics and functions of effective academic advisors.	Undergraduate nursing students experience more stress than other students in healthcare education.	VI
	Carr (2011). NCLEX-RN pass rate peril: One school's journey through curriculum revision, standardized testing, and attitudinal change	Expert opinion article describing the reasons for and strategies used by a university to reverse the decline of NCLEX-RN pass rates.	Reasons for poor pass rates were gaps in curriculum content, student attitudes toward the NCLEX, inadequate student preparation for taking standardized exams, and ineffective use of high-stakes exit testing. Several strategies, including removing progression policies associated with high-stakes tests from curriculum improved NCLEX pass rates.	VII
	Jimenez, Navia-Osorio, & Diaz (2010). Stress and health in novice and experienced nursing students	A quantitative cross-sectional study conducted to identify the differences in novice and experienced nursing students' (N=357) reports of stress and health.	Identified three primary sources of stressors among students: clinical, academic and external. Experienced students perceived more academic stressors than novices.	VI
	Beggs, Shields, & Goodin (2011). Using guided reflection to reduce test anxiety in nursing students	Expert opinion describing how the use of guided reflection can help students actualize feelings about test anxiety by using John's Model for Structured Reflection	Reports most common academic stressor expressed by students includes testing and other evaluation procedures.	VII

	Altiok & Ustun (2013). The stress sources of nursing students	Qualitative phenomenology study aimed at finding stress sources of second year nursing student (N=15).	Findings reported in four themes: clinical, social, personal, and theoretical training, which included program overload and test anxiety.	VI
	Shaban, Khater, & Akhu-Zaheya (2012). Undergraduate nursing students' stress sources and coping behaviors during their initial period of clinical training.	Descriptive cross-sectional study aimed to identify the level and types of stress perceived by baccalaureate nursing students (N=181) in Jordan in their initial period of clinical practice.	The most common type of stressors perceived was stress from the academic load (M = 2.34) and worry about grades (M = 2.81).	VI
	Taylor, Loftin, & Reyes (2014). First-time NCLEX pass rate: Measure of program quality or something else?	Expert opinion article about one nursing program's experience with low NCLEX first time pass rates and the unintended negative consequences that occur when these pass rates are used as the only criteria for judging a program's quality.	Use of F-TPRs as the primary indicator of quality by state boards of nursing and accrediting bodies may contribute to admission and progression policies designed to prevent students who are at risk of failing the NCLEX-RN on the first attempt from entering nursing programs and progressing to graduation. These policies may also contribute to a persistent shortage of graduating nurses, depletes the nursing workforce.	VII
	Chernomas & Shapiro (2012). Stress, depression, and anxiety among undergraduate nursing students	Cross-sectional descriptive exploratory study that investigated levels of stress, depression, & anxiety among nursing students (N=437) through an online survey using the Depression, Anxiety, & Stress Scale (DASS). Qualitative data from the survey was also collected from students (N=251).	The majority of students (>60 %) scored within the normal range levels of stress, depression and anxiety on the DASS scale. However, the multiple demands of personal lives and school related expectations found in the qualitative data, combined to create increased stress for many of the participants.	VI
	Dunn (2014). Insight into error hiding: Exploration of nursing students' achievement goal orientations	Pilot survey study that examined nursing students' achievement goal orientation (fear of failure) profile in a high-fidelity simulation class with the Patterns of Adaptive Learning Scale (PALS) 5-point Likert scale that measures three components: mastery goal orientation, performance approach goal orientation, and performance-avoidance goal orientation.	Performance-Approach Goal Orientation Scale (M = 2.73, SD = 0.81) and the Performance-Avoidance Goal Orientation Scale (M = 2.98, SD = 0.86). The strong presence of performance-approach and performance-avoidance goals suggests that students did fear failure, which may lead to unfavorable learning conditions for students.	VI
	Moscaritolo (2009). Interventional strategies to decrease nursing student anxiety in the clinical learning environment	Review article aimed at providing nursing faculty with the current literature on strategies to decrease undergraduate student nurse anxiety in the clinical setting.	High levels of anxiety can affect students' clinical performance, presenting a clear threat to success in a clinical rotation. It is crucial for nursing faculty to foster a supportive learning environment conducive	VII

			to undergraduate nursing student learning.	
	Nichols (2007). High-stakes testing: Does it increase achievement.	Expert opinion/literature review on the impact on student achievement of high-stakes testing.	There is no consistent evidence to suggest high-stakes testing leads to increases in student learning. Some evidence suggests it may have a negative effect for some student groups, including nursing.	VII
	Au (2009). High-stakes testing and discursive control: The triple bind for non-standard student identities	Expert opinion article describing the control high-stakes testing holds over curriculum and student identities for teaching and learning.	High-stakes learning environment is unproven to increase student learning	VII
	NLN (2012). The fair testing imperative in nursing education. A living document from the National League for Nursing	Organizational report aimed at describing the use, trend, and concerns of high-stakes testing in nursing education.	Describes litigation issues related to high-stakes testing (standardized tests).	VII
	Nitko & Brookhart (2011). Educational assessment of students	Textbook resource for classroom assessment and educational testing (non-nursing).	Describes litigation issues related to high-stakes testing.	VII
	Garcia & Woo (2011). The role of security in today's testing programs	Expert opinion article describing the security breaches and cheating related to computerized standardized testing.	Describes fraudulent means to pass a test in today's technology driven environment.	VII
What are students' perceptions, attitudes, or experiences of high-stakes testing in undergraduate nursing education?	Roykenes, Smith, & Larsen (2014). 'It is the situation that makes it difficult': Experiences of nursing students faced with a high-stakes drug calculations test	Mixed-methods study aimed at exploring undergraduate freshman nursing students' perceptions of high-stakes medication calculations testing and test anxiety using survey questionnaire (N=203) and qualitative interviews (N=6).	83 percent of students in the survey reported the requirement to achieve 100 percent proficiency made them feel "scared." Qualitative responses included various physiological and psychological manifestations of stress/anxiety.	VI

CHAPTER 3.0 METHODOLOGY

Chapter Introduction

As previously indicated in chapter one, undergraduate nursing programs have increasingly relied on different forms of high-stakes tests to determine student progression and graduation. The review of the literature clearly illustrated that additional research is needed to explore nursing students' experiences with high-stakes testing related to program progression in nursing education. Therefore, the primary purpose of the study is to explore how prelicensure nursing students describe their experiences with multiple forms of high-stakes tests to progress through one undergraduate BSN program.

A qualitative descriptive approach using phenomenography methodology is used to guide this research study. Phenomenography is a valid approach to answering the study's research question, "What are the different ways students experience multiple high-stakes tests for progression within one undergraduate BSN program"? This chapter identifies and describes the methodology into two distinct sections, 3.1 and 3.2.

Section 3.1 is formatted as an original dissertation methodological chapter that describes the steps used to conduct this phenomenographical study, including the design, setting, participant recruitment strategies and sample, researcher's role and experience, data collection procedures, ethical considerations, study trustworthiness, and phenomenography analysis procedures. Section 3.2 encompasses an overview of the phenomenography method and how the approach is being used in nursing education research. The overview is presented in a manuscript format to be submitted to a professional nursing journal for publication consideration.

Section 3.1: Research Methodology of the Study

Research Design

The primary purpose of this study was to explore how prelicensure nursing students describe their experiences of completing multiple forms of high-stakes tests to progress through one undergraduate BSN program. A qualitative descriptive methodology using a phenomenography approach guided the study. Phenomenography investigates the "qualitatively different ways in which people experience, conceptualize, perceive, and understand various aspects of, and phenomena in, the world around them" (Marton, 1986, p. 31). Phenomenography was designed to answer questions about thinking and learning related to complex phenomena in education research, distinguishing the method as both a theoretical and conceptual framework (Bowden & Walsh, 2000; Marton, 1986). The approach was specifically chosen for this study in an attempt to discover various ways of how nursing students describe their experiences surrounding the phenomenon of high-stakes tests. Appreciating the variation of nursing student's experiences may help inform nursing education of what students truly believe to be their reality of completing multiple forms of high-stakes tests.

Setting

The research study took place at one full-time school of nursing (SON) prelicensure Bachelor of Science (BSN) program of a rural liberal arts university located in the southeastern portion of the United States. The prelicensure BSN program is fully accredited by the Commission on Collegiate Nursing Education (CCNE) and approved by the program's state board of nursing. The SON admits approximately 120 to 130 students into the prelicensure BSN

program each summer between two campuses, a full-time and part-time program. The full-time program is located at the main university campus, where students complete their degree in six semesters, including two eight-week summer sessions. Currently, there are approximately 160 undergraduate prelicensure BSN students enrolled in nursing courses in the full-time nursing program.

Participants

The target participants for recruitment to the study were senior prelicensure BSN students completing their final semester of the nursing program at one southeastern university. Targeting students enrolled in a specific program of study, such as nursing, guarantee experiences of a shared phenomenon in phenomenographic research (Reed, McKenzie, & Ingerman, 2013.). The research idea was first introduced to the students, following final testing, the semester before the study, thus eliminating the threat of penalty or coercion to participate in the study (Polit & Beck, 2012). At the end of the previous semester, I also believed a collegial rapport was established with the students. The rapport between the researcher and participant remains central to qualitative research (Marshall & Rossman, 2011; Patton, 2002).

Eligibility criteria for inclusion in the study were that the students must be 18 years of age or older and could speak the English language. In addition, students had to be enrolled as a full-time nursing student during the final semester of the program, following the university's midterm withdrawal period. Any student who did not meet the criteria was excluded from the study.

Researcher's Role and Experience

The researcher is the primary instrument in phenomenographic interviews; thus, allowing the researcher to experience a different world through the lens of each participant (Marton, 1988;

Sjöström & Dahlgren, 2002; Forbes, 2011). My role in this study was to be an active listener that engaged in the interview dialogue to connect with the participants (Polit & Beck, 2012. It was also essential for me to explain my role as researcher to the participants, including being a neutral and non-judgmental auditor during the interview process, explain possible uses and value of the information generated, and how each student participant could engage in the study (Patton, 2002; Marshall & Rossman, 2011).

I am an EdD in Nursing Education student with no prior experience in phenomenography or other types of research. I was initially Collaborative Institutional Training Initiative (CITI) certified May of 2013 and completed a refresher course May of 2015. I am a Caucasian, middle-aged female with 23 years' experience as a Registered Nurse. I have been a full-time nurse educator at the university level for eleven years, with the past eight years being at the university where the study took place. As a nurse educator, I have given multiple forms of high-stakes tests, including pass or fail medication calculations test, clinical skills competency evaluations, and Assessment Technology Institute (ATI) course content mastery and Registered Nurse (RN) Comprehensive program exit standardized tests. In my first nine years of educating associate and baccalaureate level nursing students, the only HST's that would hinder a student's progression within a nursing program would be the pass/fail medication calculations tests and the standardized ATI RN Comprehensive program exit exam. Over the last three years with the initiation of a new concept-based BSN curriculum and substantial progression policy changes, I have observed that there are multiple forms of high-stakes testing, including pass or fail medication calculations and various standardized tests that students must complete in order to successfully progress throughout one nursing program.

Recruitment and Sampling Procedures

The study used a purposeful convenient sampling procedure to recruit prelicensure senior nursing students in the final semester of the nursing program. Purposeful convenience sampling is appropriate for the study since the senior nursing students have had numerous experiences completing multiple forms of required high-stakes tests to progress successfully within the nursing curriculum (Polit & Beck, 2012; Streubert & Carpenter, 2011). Before the study's approval, I contacted and met with the course coordinator of the student's final semester healthcare course to disseminate the invitation and access to students. The course coordinator agreed to be responsible for dispersing the invitation letter and consent form to the students after the university's midterm withdrawal period.

Recruitment. Following approval from the university's Institutional Review Board (IRB) and Dean of the SON, an invitation letter and consent form (Appendices A and B) were distributed by the student's healthcare course coordinator through the course's learning management system (LMS) email. Two weeks following email distribution of the invitation letter, I met face-to-face with the 59 final semester senior students at the beginning of their weekly scheduled healthcare course period. During the meeting, I presented the research topic, purpose, benefits, voluntary participation and withdrawal from the study, informed consent to participate, confidentiality, and implications of the study to nursing education. Students were also provided the opportunity to ask questions and discuss concerns about the research study.

Following the presentation and the Q&A session, I distributed a half-sheet form of the Intent to Participate to each student (see Appendix C). Each form contained a check box with a "yes" or "no" response related to voluntary participation in the study. Space for contact information was provided so students who checked the "yes" response box could complete. All

students were asked to complete the form at the end of the class period, fold it in half, and place in the provided envelope on the lecture podium before exiting the classroom. Completion of the form was strictly voluntary. After the students had exited the classroom, the course coordinator sealed the envelope and returned it to me. I felt this procedure maintained the confidentiality of potential student participants.

Sample. Out of 43 completed *Intent to Participate* forms reviewed by the primary researcher, 22 students agreed to participate in the research study. After various follow-up email and telephone communications, 18 students committed to the final project and scheduled an appointment for individual interviews at a convenient date and time. Participation in phenomenographical studies normally range between 10 to 30 participants to ensure sufficient variation in sampling (Stenfors-Hays, Hult, & Dahlgren, 2013); however, Trigwell (2000) recommended no more than 20 participants for reasonable variation and data management. My sample was therefore within the acceptable range for phenomenography study.

Students who participated in the study completed a personal profile data sheet (Appendix D) and informed that the data would be linked to the demographic characteristics of the sample for the research study. The sample comprised of both non-traditional and traditional students with various demographic characteristics, including one male and 17 female representing Caucasian, African American, and Hispanic/Latino ethnicities. The majority of study participants were single with no children in the 18 to 24 age group. The overall GPA ranged between 3.1 and 4.0; however, the average GPA was 3.6 to 4.0, respectively. Table 3 below describes the student participant demographics for the research study in more detail.

Table 3

Research Sample Demographic Characteristics

Demographic	Student Participants n (%)
Gender	
Female	17 (94%)
Male	1 (6%)
Age	
18-24	11 (61%)
25-31	2 (11%)
32-38	1 (5.5%)
39-44	1 (5.5%)
45_{+}	3 (17%)
Ethnicity	
White	13 (72%)
African American	3 (17%)
Hispanic/Latino	2 (11%)
Other	0 (0%)
Previous Degree/Career	8 (44%)
Current Overall GPA	
2.0-3.0	0 (0%)
3.1-3.5	7 (39%)
3.6-4.0	11 (61%)
Marital Status	
Married	5 (28%)
Single	13 (72%)
Children	
No	13 (72%)
Yes	5 (28%)
Currently Employed	
No	9 (50%)
Yes	9 (50%)
Repeated BSN course due to high-stakes test outcome	
No	16 (89%)
Yes	2 (11%)

Data Collection

Interviews. Individual audio-recorded semi-structured interviews are typical collection methods for phenomenographic research studies with only a few predetermined key questions (Bowden & Walsh, 2000; Marton, 1988; Marton & Booth, 1997; Reed, McKenzie, & Ingerman, 2013). Audio recording the interviews allows the researcher to listen actively to what was being said by the student participant (Munhall, 2012), as well as determine the accuracy of the transcription of the data (Akerlind, 2012). Before the start of the research study, I conducted a practice interview with one open-ended question and three semi-structured questions with my dissertation chair. Using a pre-determined list of open-ended and semi-structured interview questions in phenomenography research allows student participants autonomy to choose an aspect of the phenomena to focus and reflect on (Marton, 1988; Bowden & Walsh, 2000). Also, the interview questions allow the researcher to understand the "bigger" picture by creating room for unexpected answers (Stenfors-Hayes, Hult, & Dahlgren, 2013, p. 264) that may lead to a new awareness (Marton &Booth, 1997) of the phenomenon.

The following is the list of pre-determined interview questions used for the practice interview and the primary research study following approval by my dissertation chair and IRB:

1. Tell me about your experiences completing various forms of high-stakes tests throughout the undergraduate nursing program (open-ended question).
2. What are your perceptions of these high-stakes as a measurement of progression in the nursing program?
3. What do high-stakes tests mean to you as a nursing student?
4. What did you learn about yourself before, during, and after the experiences of completing various forms of high-stakes tests?

Data collection took place the last week of spring semester 2015 following the student's final semester exams, including a high-stakes standardized comprehensive RN exit program exam. I believed that students would be more engaged in conversation without the stress of preparing for end-of- semester and program testing. Before the start of each interview, the students reviewed and signed the informed consent. Additionally, the students created an individual pseudonym as protection of identity during the research study. Individual interviews took place in a closed, quiet, and private office setting. Fourteen face-to-face interviews took place at the full-time campus in the primary researcher's private office. The remaining four interviews took place via telephone on various evenings in the primary researcher's private home office due to individual students' requests for accommodations. Before the beginning, each interview, I explained to the student that the interview would start with an open-ended question with subsequent semi-structured questions previously described. I also explained that supplementary questions and clarification might be necessary depending on student responses to the research questions.

Consequently, additional probing questions, such as "tell me more about", "give me an example of", and "what did you mean by," were necessary during student interviews, based on varied student responses. Probing questions help to clarify and confirm the participant's meaning of the phenomenon (Abrandt, 1997; Bowden & Walsh; Sjöström & Dahlgren, 2002). Furthermore, I made sure to clarify student responses to each interview question, as well as any additional dialogue stimulated during the research study. According to Akerlind (2005), Sjöström & Dahlgren, and Reed, McKenzie, and Ingerman (2013), it is important for the researcher to interpret statements immediately with the participant. Interpretation and clarification of data during interviews serves as an informal technique of "member checking"

(Polit & Beck). With phenomenography research, Green (2005) pointed out that for participants who completely describe their experiences of the phenomenon, there is no need for the researcher to follow up with additional interviews. Subsequently, by the end of the first interview, and those thereafter, a fifth question, "As a nursing student, tell me your recommendations for nursing faculty and programs using high-stakes in nursing curricula", was also added to the list of research questions. Overall, the research study interviews lasted anywhere from 9-44 minutes in duration, with most interviews averaging 26 minutes. Each student was receptive and comfortable with the interview questions, as well as professional and forthcoming with rich descriptions of high-stakes tests and progression.

Bracketing. Following each interview, I wrote anecdotal notes of any intense emotions, facial expressions, and other nonverbal reactions from the participants in a journal. Also, I wrote personal thoughts and impressions, also known as "bracketing" (Tufford, 2012), in the journal before and after data collection. Bracketing is often a recommendation for phenomenography research to ensure a descriptive and personal focus of the participant's experiences (Ashworth & Lucas, 2000; Akerlind, Bowden, & Green, 2005; Barnard, McCosker, & Gerber, 1999), as well as increase the rigor of the research (Tufford). Bracketing kept me aware of my personal bias and opinions so that the data collected would be a true representation of the student's experiences of the phenomenon. Regardless, Bowden and Walsh (2000) argued that no researcher can come into phenomenography research without preconceived notions; otherwise, they cannot make sense of what the participant is describing about the experience.

Data management. Following each interview, the audiotape recording was uploaded to the primary researcher's laptop computer as a mp.3 file. Each mp.3 file was saved separately with the student's pseudonym identifier in a private primary Google Drive folder. The folder

was shared with my dissertation chair and a paid, experienced third-party transcriptionist. The transcriptionist was notified each time a new audio file was uploaded to the private Google Drive folder. A secondary folder was also created within the private primary Google Drive folder, which was shared with the dissertation chair and transcriptionist. The secondary folder served as a repository for the completed transcribed data uploaded as Word documents by the transcriptionist. Once all the transcribed Word documents were uploaded to the secondary folder, both the primary and secondary folders in Google Drive were unshared to the transcriptionist for the long-term security of the data. All transcribed Word documents were then printed and organized in a notebook binder in preparation for initial data analysis.

Audit trail. All of the data, including the informed consents, demographic profiles, journal notes, audiotaped and written transcripts, and data analysis were part of the audit trail for this research study. Essentially, audit trails are a systematic collection of all audiotaped and transcribed data, journal and anecdotal notes, analysis data from transcriptions and vendor products, and drafts of the final report (Polit & Beck, 2012). The audit trail not only assisted me in verifying the rigor of the study (Lincoln & Guba, 1985; Patton, 2002), but also allowed an independent reviewer to examine conclusions of the data (Marshall & Rossman, 2011; Polit & Beck; Reed, Ingerman, & Berglund, 2009).

Ethical Issues

The researcher took several steps in order to protect the students in this study, including:

1. Both the university's Institutional Review Board (IRB) and the Dean of the School of Nursing approved the research study before student recruitment.
2. Each of the students was provided a copy of the invitation letter describing the purpose of the research, benefits and risks of participating in the research, protection

of any sensitive information and documents shared between the participant and researcher, confidentiality, and voluntary withdrawal from the research without penalty.

3. The researcher met with the students and answered any questions regarding the research process before obtaining informed consent.
4. The researcher obtained informed consent from each student before the start of the audiotaped research interviews.
5. For the protection of identity and confidentiality, the students created an individual pseudonym used throughout the research study process to code interview transcription, demographic, and analysis data, as well as the final report of the research study.
6. As a Registered Nurse, I continuously assessed students for any emotional distress during each interview, as well as reminded each student withdrawal from the research study carried no penalty.
7. Computer files with all student data were password protected. Informed consents, journal notes, and printed transcripts were kept locked in the primary researcher's private office filing cabinet, with only the researcher having access to the key.

Data Analysis

The aim of phenomenographic data analysis is "specifically to discover categories from the data, not to analyse [it] in terms of predetermined classifications" (Bowden & Walsh, 2000, p. 20). Discovery of categories comes from the participant's self-described account of the experience, as it relates to each aspect of the phenomenon (Barnard, McCosker, & Gerber, 1999; Bowden & Walsh, 2000). The intent of these categories is to represent a holistic relationship

between the participant and the phenomenon, emphasizing both similarities and differences from one category to other (Bowden & Walsh, 2000; Reed, 2006). In other words, the categories represent the qualitatively different ways of experiencing the same phenomena (Marton, 1981) by incorporating all aspects that emerge from the data (Bowden & Walsh). However, Daly, Adams, and Bodner (2012) emphasized that researchers must provide a careful description and interpretation of participant perceptions in the categories to ensure experiences are communicated as they are perceived and understood by the participant.

There are various approaches to data analysis for phenomenography research; however, all share the same principles of developing categories from participant perceptions of the experiences related to phenomena. Table 3.1 illustrates the approach for this research using Dahlgren and Fallsberg's (1991) seven-step process of phenomenographic data analysis to include familiarization, condensation, comparison, grouping, articulation, labeling, and contrasting. Each step of the process involves a defined procedure for data analysis; however, there are evident similarities between the different steps (Sjöström & Dahlgren, 2002; Stenfors-Hayes, Hult, & Dahlgren, 2013). Marton (1986) noted that the process of phenomenographic data analysis is tedious and time-intensive due to "categories are tested against the data, adjusted, retested, and adjusted again. There is, however, a decreasing rate of change, and eventually the whole system of meanings is stabilized", (p.43). In other words, it takes time and patience on the researcher's part to ensure participant meanings of experiences are extracted and taken into account from all of the data. Additionally, the integration of qualitative data analysis software, ATLAS-ti, version 7, was also used to assist the primary researcher with the process of data management in a more efficient manner. Although computer software cannot replace the creativity of the researcher, it can assist with the coding of categories, clustering, writing analytic

memos (Marshall & Rossman, 2011), sorting and storing data, and interconnecting text-based materials (Denzin & Lincoln, 2000). As described in Table 3.1, initial coded statements and paragraph sections were uploaded to the ATLIS.ti software prior to the third read of all transcripts.

Trustworthiness

Trustworthiness was evaluated based on Lincoln and Guba's (1985) model for establishing credibility, dependability, confirmability, transferability, and authenticity, which was later added to the model by new paradigm assumptions (Lincoln & Guba, 1986). Credibility is the assurance and confidence of the findings, and dependability is noting that the outcomes are consistent and can be repeated. Confirmability is the degree to which the results can be confirmed or corroborated by others, and transferability is that the findings will have applicability in other contexts. Authenticity is the degree to which the researcher fairly and faithfully expresses a range of different realities of participants as experienced by the participant (Morrow, 2005; Patton, 2002). These steps project what the researcher did during the implementation of the research (Marshall & Rossman, 2011). Lincoln and Guba's model is a reliable method for establishing trustworthiness for phenomenographic studies (Reed, Ingerman, & Berglund, 2009) based on the methodological rigor identified below.

Credibility. I spent up to 44 minutes with each participant during individual interviews. Adequate time or prolonged engagement with each participant to describe their experiences is one of the best ways to establish credibility (Lincoln & Guba, 1985; Streubert & Carpenter, 2011). Clarification of data during the interviews served as informal member checks received from the participants during the interview process and enhanced the credibility of the

Table 3.1

Phenomenography Data Analysis Process

Seven Steps of Analysis (Dahlgren & Fallsberg, 1991)	**Procedure in Current Study**
1) Familiarization: reading through the interview transcripts to become familiar with the contents and to ensure no omissions or errors were made in transcription.	• Transcripts read twice while listening to audio recordings • Student descriptions of experiences related to the research question were identified • Descriptions were coded from student statements and paragraph sections discovered in the transcript data • Insights and reflection were handwritten in the margins of the corresponding paper transcript pages • 534 student statements containing 172 coded descriptions related to the phenomenon initially emerged from the data. • All transcripts and coded descriptions were uploaded to ATLAS.ti software for data management
2) Condensation: selecting and further examining statements from the dialogue that are significant to the phenomena under study.	• Each transcript was read a third time in ATLAS.ti • New statements and coded descriptions highlighted and linked • Coded descriptions sorted, compared, and organized by similarities and differences using the code manager, memo, and analysis features in ATLAS.ti • Collective meanings expressed by the group identified • Coded descriptions condensed to 23 various descriptions
3) Comparison: comparing statements for similarities and differences.	• Additional comparison of coded descriptions reviewed in ATLAS.ti • Similarities and differences of coded descriptions identified and exported to a Word table spreadsheet using the code manager export feature in ATLAS.ti • Each coded description contained between two and 141 statements • Statements re-examined for proper placement in coded descriptions

4) Grouping: assigning statements that express similarities of understanding the phenomenon to preliminary categories of descriptions.	• Similar condensed and compared coded descriptions grouped together in preliminary categories on a separate Word table spreadsheet • Seven preliminary categories of description containing between one and three subcategories identified from the coded descriptions
5) Articulation: capturing the meaning of each category where variation between and within each category is taken into account.	• Preliminary categories with identified sub-categories written on a large white board to illustrate data (helped me view the "big picture" of the various descriptions experienced by the group of students as a whole) • Collaborated with mentor, an experienced qualitative researcher, who read through the transcripts and critiqued the data • Categories further condensed to five final categories of description • Final categories contained between two and three sub-categories
6) Labeling: naming the categories based on characteristics that distinguish each category. Steps 3-6 are repeated to validate similarities and differences among the categories.	• Read transcripts a fourth time to validate connection between the student's coded descriptions and the categories of descriptions • A fifth and final read done to validate student's coded descriptions related to sub-categories within each category • The five categories of description depicting collective meanings of student descriptions named: value, stress, high demands/expectations, inconsistency, and transfer of learning
7) Contrasting: describing the meaning of each category in relation to similarities and differences (results).	• Categories of description defined based on similarities and differences as an effort to identify a relationship between the categories • Structure of relationship illustrated as an outcome space in Fig. 6 • Figs. 1-5 illustrate each category with identified sub-categories

information. Also, collaboration with my dissertation chair, who is an expert qualitative researcher, to review the data was essential for credibility and quality.

Dependability. Polit and Beck (2012) emphasized that credibility cannot be accomplished in the absence of dependability. Dependability for this study was communicated by means of the data (Munhall, 2012), including the participant audio and written transcriptions, journal notes, coding patterns from data analysis software, generated categories, and other forms of the audit trail previously described and kept by the researcher. Additionally, the data analysis process described in Table 3.1 aided in establishing dependability of the data. In phenomenography, however, dependability can also be established from the researcher's knowledge of the phenomenon (credibility of content), sampling of participants with experience of the phenomenon (credibility of method), and the researcher's ability to defend (communicative credibility) the findings to others (Akerlind, 2005; Reed, Ingerman, & Berglund, 2009; Säljö, 1996).

Confirmability. Confirmability was established with the audit trail over the course of the research so that any researcher or another interested party can follow the process (Polit & Beck, 2012; Streubert & Carpenter, 2011). Audit trail documents and the data analysis process noted under the dependability section are also components needed for confirmability. Member checking to establish credibility was also used to establish confirmability. In addition, the bracketing technique used through the anecdotal notes and journaling was another way to establish confirmability.

Transferability. I described aspects of the findings in rich and detailed descriptions in the results section of this research study. The reader can then judge the applicability of findings for themselves in relation other settings and populations (Lincoln & Guba, 1985; Polit & Beck,

2012). It is my hope that the findings will also influence gaps in the nursing literature and demonstrate relevance in other research disciplines.

Authenticity. Authenticity was established by describing the research participants' various experiences of the phenomenon in the participants own words. The participants' descriptions within the categories of description described in more detail in chapter four represented aspects of the phenomenon experienced in the words and understanding of each individual (Barnard, McCosker, & Gerber, 1999). In phenomenography, these fundamental aspects of the phenomenon preserve the meanings that are expressed from the language of the individuals to maintain quality (Bowden & Walsh, 2000).

Chapter Summary

This methodology chapter was composed of two distinct sections. The first section detailed the use of the phenomenography method to conduct the current study. Procedures for sampling, data collection and analysis, ethical considerations, and trustworthiness were described and deemed appropriate based on the purpose and research question provided for the research study. The second section was delivered in a manuscript form below describing the qualitative research approach of phenomenography and its use in nursing education. The manuscript will be submitted to a professional nursing journal for consideration of publication as a research methods article. The primary researcher used phenomenography to gain a better understanding of the qualitatively different ways undergraduate nursing students describe their experiences with multiple forms of high-stakes testing to progress within one undergraduate BSN program. Results of this research study are described in chapter four.

Section 3.2: Manuscript Two: "Using Phenomenography as a Qualitative Research Method in Nursing Education Research"

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Abstract

***Aim*:** The aim of this paper is to explore the qualitative method of phenomenography, a research approach used to identify the different ways individuals experience a phenomenon. Initially, phenomenography was developed for examining the various ways students perceived their learning, specifically within the discipline of education in the higher education setting. Over the years, use of the research method grew extensively in other disciplines that include liberal arts, math, and sciences. Therefore, an additional aim of the paper is to explore the use of phenomenography in nursing education research.

***Methods*:** The research method of phenomenography is presented by describing the qualitative approach in detail, including the underlying assumptions and structure, and describing examples of phenomenographic studies within nursing education research.

***Conclusion*:** The use of phenomenography as a method for nursing education research can have an important influence on the nursing student's learning transformation in both the classroom and clinical setting. Additionally, findings using the method may generate faculty discussions for curriculum and course policy modifications, facilitate understanding of complex faculty and student issues, and provide a solid connection between nursing education research outcomes with nursing education practice.

Keywords: phenomenography, nursing education

Using Phenomenography as a Qualitative Research Method in Nursing Education Research

Munhall (2012) defined qualitative methods nursing research as human science inquiry that describes the understanding, interpretation, and direction of human thought towards the "interconnectedness" of being in the world, which is made up of multiple realities from multiple perceptions (p. xiv). Qualitative inquiry allows the nurse researcher to gain a better understanding of complex social phenomena and explore its meaning, as the individual experiences it using the participant's viewpoint, rather than that of the researchers (Sin, 2010; Streubert & Carpenter, 2011). Data collected through qualitative research methods provide rich and descriptive discovery of individual experiences that statistical or quantitative inquiry cannot offer.

Qualitative research methods in nursing education encompass a variety of approaches that seek to discover new meaning or explain phenomena, such as phenomenology, grounded theory, and ethnography (Polit & Beck, 2012). However, another approach that is valuable, yet less commonly described in nursing education research, is phenomenography. The purpose of this article is to describe the main ideas of phenomenography and to focus on the contribution of phenomenographical studies conducted within nursing education research.

Phenomenography

Phenomenography is defined as a qualitative, empirical approach "for mapping the qualitatively different ways in which people experience, conceptualize, perceive, and understand various aspect of, phenomena in, the world around them" (Marton, 1986, p. 31). In other words, the approach aims to focus on the various ways, including similarities and differences, a group of individuals experience the same phenomenon, not of the individual experience or of the

phenomenon itself (Marton & Booth, 1987; Trigwell, 2006). Marton and his colleagues Saljo, Dahlgren, and Svensson, were interested in exploring the different ways students experience learning in the discipline of education at the University of Gothenburg in Sweden (Barnard, McCosker, & Gerber, 1999; Bowden, 2000; Marton, 1981; Reed, 2006), so they developed the method of phenomenography in the 1970s. Since then, phenomenography has grown extensively within the education discipline as a qualitative method to study student learning in the classroom and curricular reform (Bowden; Booth & Ingerman, 2002; Cope, 2002; Daly, Adams, Bodner, & Kelly, 2012; Ellis, 2004; Marton & Booth, 1997; Vartiainen, 2008). As a result, the method extended further to other higher education disciplines, such as mathematics (Crawford, Gordon, Nicholas, & Prosser, 1994), science and physics (Bowden & Walsh; Hazel & Prosser, 1994; Lyons & Prosser, 1995; Newton & Martin, 2005), statistics (Reid & Petocz, 2002), co-disciplines of English and marketing (Webber, Boon, & Johnston, 2005), engineering (Reed, 2006), accounting (Love & Fry, 2006), and medical school education (Fyrenius, Wirell, Silen, 2007; Stenfors-Hayes, Hult, & Dahlgren, 2011a/2011b).

The overwhelming popularity of using phenomenography in different realms of higher education has made the method applicable to both classroom practice and educational research (Marton, 2014). According to Akerlind, McKenzie and Lupton (2014), "experience is always partial. At any one point in time and context, people discern and experience different aspects of any concept or phenomenon to different degrees. This applies as much in the classroom as in the larger world" (p. 231). Higher education researchers have advocated using phenomenography as a valid approach to finding solutions to phenomena that may be problematic for students and educators in all academic settings (Bowden & Walsh, 2000; Kahn, 2014; Meyer & Land, 2003). With that in mind, the research method mirrors what Brookfield (2006) terms "classroom

assessment techniques" (CATs), which assesses student feedback or "snapshots" of their understanding of key concepts learned in the classroom. Being able to assess that understanding through phenomenography enables both the student and educator to reflect and make sense of what is known, how it is known, and what is needed to generate new understanding and knowledge (Bowden & Walsh; Khan). Therefore, outcomes of phenomenography research may be instrumental in improving educational practices, not only from the lens of the student, but also the educator (Bowden & Walsh). Before using phenomenography, one needs to understand the assumptions, perspectives, structure, and the differences and similarities of the method with phenomenology to appreciate the application of the method in educational research.

Assumptions of Phenomenography

Ontology. Ontology assumptions pertain to the nature of being in the world (Denzin & Lincoln, 2000; Patton, 2002; Polit & Beck, 2012). Phenomenography is based on a non-dualistic ontology, meaning there is a distinct relationship between the individual, their experience, and aspects of their world (Marton, 1981; Yates, Partridge, & Bruce, 2012). In other words, one world exists and people understand their experiences within that world in many different ways (Bowden & Walsh, 2000; Marton, 1981; Sjöström & Dahlgren, 2002). Traditional dualistic perspectives view the individual and their aspect of the world as distinct and separate entities (Marton; Bowden & Walsh). Ontology assumptions have a contextual foundation, whereby the individual's experience is related to a specific context or situation; however, the interest is on the individual's understanding of the experience within the context (Friberg, Dahlberg, Petersson, & Öhlen, 2000).

Epistemology. Epistemology assumptions pertain to the nature of knowledge (Denzin & Lincoln, 2000; Patton, 2002; Polit & Beck, 2012). In phenomenography, overall knowledge of

the world is gained through multiple realities between each individual's experience and the phenomenon (Sjöström & Dahlgren, 2002). Marton and Booth (1997) emphasized what is learned from these individual realities represent a "collective consciousness" about the phenomena under study, which "enables the learner to experience a phenomenon in a way she has not been able to experience it" (p. 155). As a result, new knowledge is formed with a deeper level understanding of the phenomenon (Bowden & Walsh,2000).

Second-Order Perspective

Phenomenography utilizes a second-order perspective to gain insight of phenomena. Unlike the first-order perspective, which primarily focuses on what the phenomenon actually is (Bowden & Walsh, 2000; Marton, 1981), second-order perspective focuses on the relationship between each individual's reality of their experiences with the phenomena (Dringenberg, Mendoza-Garcia, Tafur, Fila, & Hsu, 2015). In other words, the emphasis rests on the individual's reality of the experience towards the phenomenon, not the researcher's understanding of the experiences.

Structure of Phenomenographic Inquiry

Individual reality. Individual realities of the phenomenon are described as conceptions, perceptions, or experiences. Each term is used interchangeably with one another in phenomenography (Bowden & Walsh, 2000; Marton, 1981) and represents individual interpretations of data from both the senses and personal history, thus giving various realities of the phenomenon to report (Sjöström & Dahlgren, 2002). Individual interpretations may vary and change, as new insights to the phenomenon are brought into focus (Barnard, McCosker, & Gerber, 1999; Bowden & Walsh; Reed, McKenzie & Ingerman, 2013). Therefore, it is

imperative not to dismiss any one individual's reality, as these various interpretations of experiences are integral to forming the categories of description (Bowden & Walsh; Marton).

Categories of description. Categories of description are a collection of both similarities and differences from individual interpretations of their experiences with the same phenomenon (Akerlind, McKenzie, & Lupton, 2014; Barnard, McCosker, & Gerber, 1999; Bowden & Walsh, 2000; Marton, 1981). As a result, each category represents the overall group's interpretation of the phenomenon (Bowden & Walsh; Marton & Booth, 1997; Reed, McKenzie, & Ingerman, 2013). Though the categories are the researcher's abstraction of the various ways of understanding phenomena, each category preserves the meanings expressed by the language of the individuals for quality (Barnard, et al.; Bowden & Walsh; Larsson & Holmström, 2007). As a way to maintain quality of the categories of description, Marton and Booth (p. 152) proposed three key criteria:

1. Each category should reveal something distinct about a way of experiencing a phenomenon.
2. Each category should stand in a logical relationship with other categories.
3. The number of categories is determined by the extent of the variation.

Outcome Space. The outcome space is a diagram, table, or image that illustrates the logical relationship between the categories of description (Barnard, McCosker, & Gerber, 1999; Marton, 1981; Yates, Partridge, & Bruce, 2012). The logical relationship of the categories is then placed in a hierarchal format. The format is not about preference, but about how the categories are related to one another in a systematic and logical manner (Bowden & Walsh; Kahn, 2014). For that reason, phenomenography is referred as empirical phenomenology

(Akerlind, 2005; Bowden & Walsh, 2000; Kahn, 2014; Marton, 1981). As a result, the outcome space is reflective of the rich and complete experiences surrounding the phenomenon (Akerlind).

Phenomenography or Phenomenology

Sometimes, phenomenography and phenomenology approaches are confused with one another, depending on the research purpose. Both approaches aim to reveal human experiences and awareness (Barnard, McCosker, & Gerber, 1999; Patton, 2002; Sjöström & Dahlgren, 2002); however, there are distinct differences between the two methods:

1. Phenomenography is more interested in the different ways (similarities and differences) of understanding the phenomenon experienced, rather than a "singular essence" or commonality of individual experiences of the phenomenon, as seen in phenomenology (Barnard, McCosker, & Gerber, 1999; Marton, 1981; Ornek, 2008; Sjöström & Dahlgren, 2002).
2. Phenomenography provides a description of the world as it understood (second order perspective), rather than a description of how it is experienced (first order perspective) in phenomenology study (Barnard, et al.; Bowden, 2000; Marton, 1981; Ornek, 2008).
3. Phenomenography seeks what is perceived to be true, not abstract truths (Marton & Booth, 1997).
4. Phenomenography aims to reveal collective meaning; whereas, phenomenology looks at individual experiences (Barnard et al.; Marton; Ornek, 2008).

Examples of Phenomenography Methodology Used in Nursing Education Research

Phenomenography has been used widely in clinical nursing research to explore patients' experiences of various disease processes (Bjurling-Sjöberg, Engström, Lyckner, & Rydlo, 2012;

Boström, Sandh, Lundberg, & Fridlund, 2002; Heiwe & Tollin, 2012; Johansson, Swahn, & Strömberg, 2007; Mattsson, Forsner, Castrėn, & Arman, 2011; Zwedberg & Naeslund, 2011). However, very few studies have been conducted using the approach within nursing education research. After a review of the literature, five studies were found using the phenomenographic approach specific to nursing education. Two studies focused on the nursing students' conceptions of internationalization related to nursing education (Wihlborg, 1999) and patient storytelling (Christiansen, 2011). Two additional studies focused on clinical faculty approaches to teaching strategies to prepare nursing students for practice (Forbes, 2011) and clinical preceptors conceptions of mentoring nursing students (Jokelainen, Jamookeeah, Toosavainen, & Turunen, 2013). The final study focused on the various ways nurses conceived their learning process in doctoral nursing education (Arvidsson & Franke, 2013). The following sections describe each of the five phenomenographic studies done in nursing education.

Student Perspectives of Phenomena

Internationalization of nursing education. Wihlborg's (1999) study explored 25 Swedish nursing student's conceptions of internationalizing nursing education. Findings indicated that nursing students seemed to understand internationalization of nursing education in similar ways; however, the students viewed internationalization as a whole in qualitatively different ways. For example, students viewed internationalization as increasing the possibilities to satisfy personal needs and wants, opening up the possibility of study and work abroad, and a way to develop common rules for nursing education and adaptation to other countries for practice. Overall, the researcher concluded that nursing students viewed nursing as a holistic profession, and felt that it was important for nursing programs to develop teaching principles that

would guide nursing education towards a more global and flexible process for international practice.

Patient storytelling. Christiansen's (2011) study explored 20 junior nursing student's experiences with patient's digital stories from a university in the United Kingdom (UK). Patients' digital stories are short video presentations with pictures and music created by patients, who share their personal experiences of illness and healthcare as a way to support student's professional education and learning. The goal of the study was to ascertain if engagement with patient's stories influenced the student's professional learning. Findings revealed four qualitatively different ways nursing students experience patient stories with different outcomes of learning. Students viewed the experience as a learning resource, an emotional experience, a reflective experience, and a transformative experience. Overall, the researcher reported that patient digital stories were effective and meaningful learning tools for nursing students, as they offered students the opportunity to "engage in the reality of others" (p. 293). As a result, the researcher concluded that using patient digital stories in nursing education has the potential to generate teaching and learning principles that can enhance the nursing student's professional learning and development for practice.

Learning process of doctoral nursing students. Arvidsson and Franke's (2013) study explored variations of how 20 doctoral nursing students conceive their learning process in doctoral nursing education from six doctoral programs in Sweden. The goal of the study was to ascertain conceptions of experienced professional nurses enrolled in doctoral studies of their learning process in becoming nurse researchers. Findings revealed three different ways the students conceived their learning process, including the synthesis of different parts of the research process in developing and preparing nurses for action in the nursing profession,

integration of practical problems about scientific research, and transforming themselves from nurse to researcher. Overall, the researcher's emphasized that the study allowed the students the opportunity to reflect on their learning, in spite of their professional nursing experiences, knowledge, and research perspective. As a result, the researchers proposed the findings of the student's conceptions was a transformational learning process, as students were able to reflect on and work through previous professional experiences and transform that experience into a research perspective.

Clinical Faculty and Preceptor Perspectives of Phenomena

Clinical faculty teaching strategy approaches. Forbes's (2011) study examined 20 clinical nursing faculty perceptions of their approach to teaching strategies used to prepare nursing students from various universities in Australia for nursing practice. The goal of the study was to ascertain teaching methods used by clinical nursing faculty that were important in preparing nursing students for practice. Findings revealed four different ways the group of clinical faculty approached their use of teaching strategies in clinical nursing education. The four teaching approaches were centered on either nurse-focused or patient-focused strategies. Nurse-focused strategies pertained to performing tasks and providing appropriate patient care, and patient-focused strategies pertained to achieving individual patient outcomes, as well as collaborating with others to achieve individual patient outcomes. Overall, the researcher concluded that different approaches for teaching clinical nursing might help future clinical faculty in nursing education increase their awareness of appropriate teaching strategies to prepare students for nursing practice. As a result, the researcher recommended adopting a more patient-focused approach, which may lead to better patient and student learning outcomes.

Clinical preceptor's conceptions of mentoring nursing students. Jokelainen, Jamookeeah, Tossavainen, and Turunen's (2013) study explored conceptions of 39 practicing nurses from Finland (*n*=22) and the UK (*n*=17) on mentoring nursing students in the clinical practice setting. The findings identified four different ways nurses conceived mentoring of clinical nursing students, which included focusing on individual students and developing a positive relationship with them, maintaining a supportive working and learning environment, collaborating with students to help them build confidence and competence in nursing practice, and ongoing evaluation of student performance and learning outcomes. Overall, the findings from the study suggest both human and pedagogical approaches to mentoring are important characteristics to facilitate the nursing student's learning and professional development. Therefore, the researcher's recommended sufficient resources are available to develop the clinical nurse's mentor role that promotes positive communication skills, as well as teaching and assessment competencies to be more effective in the role with nursing students.

Discussion

The overall goal of phenomenography is to acknowledge the different ways individuals experience phenomena, as well as appreciate each individual's experience of phenomena as unique and meaningful. In essence, phenomenography finds a way to examine these differences to facilitate a better understanding of the phenomenon (Stenfors-Hayes, Hult, & Dahlgren, 2013). The approach often distinguishes itself from other qualitative research methods, as the emphasis lies on the variation of the world between individuals, not the commonalities (Sjöström & Dahlgren, 2002). It is common for individuals to react differently when confronted with any issue; therefore, researchers need to consider those reactions when exploring the true experiences of specific phenomenon.

Phenomenographic studies have been widely conducted in most higher education disciplines in the United States (U.S.) and abroad; however, very few studies have been conducted in nursing education. The five nursing education studies found focused on the various ways student, clinical faculty, and preceptor experience and understand specific phenomena in nursing education. However, all of the studies were limited to nursing education in Europe and Australia. Nonetheless, findings from these studies indicated a need to transform and improve teaching and learning principles, professional development, and educational practices, thus, making phenomenography a feasible approach to use in other areas of nursing education research. For instance, the method could be used to explore the various ways students and/or faculty perceive classroom, simulation, and online teaching and learning methods, assessment and evaluation methods, information technology, study abroad experiences, and academic policies as an effort to raise or enhance awareness, knowledge, or understanding of many nursing education phenomena.

Conclusion

The purpose of this article was to describe the qualitative research approach of phenomenography and the use of the approach in nursing education research. Phenomenography, different from phenomenology, would be a useful method for researchers who wish to explore the different ways nursing students and faculty experience, perceive, or conceive phenomenon around them within the realms of nursing education. Various applications of the method have already been used in nursing education research; however, the studies were few and limited to countries outside the United States. It is recommended that the approach be further explored with various nursing education issues within the U.S. to support and contribute to the quality of nursing education and nursing education research.

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Chapter 4.0 RESULTS

Chapter Introduction

The purpose of the study was to explore the different ways in which prelicensure students perceive their experiences of completing multiple forms of high-stakes tests to progress through an undergraduate BSN nursing program. The following research question was used to guide the study: What are the different ways prelicensure nursing students describe their experiences completing multiple forms of high-stakes tests to progress within one undergraduate BSN program?

The research methodology for this qualitative study was phenomenography, which seeks to discover "the qualitatively different ways in which people experience, conceptualize, perceive, and understand various aspect of, phenomena in, the world around them" (Marton, 1986, p. 31). Individual audio-recorded semi-structured interviews were used to ascertain student experiences of the phenomenon.

This chapter is modified in the format of a manuscript to be submitted to *Nurse Education in Practice* nursing journal for consideration of publication as a research article. The purpose of the manuscript is to synthesize the body of knowledge associated with the primary researcher's research study dissertation, including the purpose of the study, background and literature review, methodology, and findings. Also, the manuscript also provides discussion and implications of the findings as well as recommendations for future research about undergraduate nursing education and other higher education disciplines.

Section 4.1: Manuscript Three: "Nursing Students' Experiences of Multiple High-Stakes Tests to Progress in one Undergraduate BSN Program"

Author Note

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Abstract

***Aim*:** The aim of this research study was to explore the different ways in which prelicensure nursing students describe their experiences completing multiple forms of high-stakes tests to progress through an undergraduate BSN nursing program.

***Background*:** High-stakes tests are assessments and evaluations used to make critical decisions about student competency and nursing curricula. Each year, thousands of nursing students are required to complete high-stakes tests to progress successfully and graduate from undergraduate nursing programs. This issue has raised significant concerns within nursing education.

***Design and Methods*:** The current study was guided by a qualitative descriptive design using a phenomenographic approach. Semi-structured interviews were conducted with 18 senior undergraduate nursing students in their final semester at one rural university in the southeastern United States.

***Results*:** Five primary categories of description emerged from the data: values, stress, inconsistency, high demand/expectations, and transfer of learning.

***Conclusions*:** The research findings extend the knowledge gap in the current nursing literature by providing rich insight of high-stakes testing related to program progression from the undergraduate nursing student. Awareness and understanding of student experiences are critical to student success in not only undergraduate nursing education but also other professional health science and discipline-specific undergraduate programs in higher education.

Keywords: high-stakes tests, phenomenography, undergraduate nursing education, nursing student experiences

Nursing Students Experiences of Multiple High-Stakes Tests to Progress in One Undergraduate BSN Program

Over the past five years, many undergraduate nursing programs have relied on various forms of high-stakes tests throughout their curriculums to evaluate learning and competency of students (Davis, Grinnell, & Niemer, 2013; NLN, 2010; Shultz, 2010). The intent of the tests is to ensure students are prepared to provide safe and quality care in a highly complex 21st-century healthcare system (Frontiero & Glynn, 2012; National Advisory Council on Nurse Education and Practice, 2010). High-stakes testing in nursing education are assessments used to make critical decisions about examinees (National League for Nursing, 2010/2012; Sullivan, 2014). Types of high-stakes testing used throughout undergraduate nursing curriculums include commercially prepared standardized tests (NLN, 2012; Shultz, 2010; Sullivan, 2014), clinical skills evaluations in nursing skills and simulation labs (Bensfield, Olech, & Horsley, 2012; Jones, Ziegler, Baughman, & Payne, 2015; Kardong-Edgren, Adamson, & Fitzgerald 2010; Oermann & Gaberson, 2010), and pass or fail medication calculations tests (Coben, Hodgen, Hutton, & Ogston-Tuck, 2008; Gonzales, 2012; Roykenes, Smith, & Larsen, 2014). Although not initially the intended purpose, the trend in nursing programs has also been to link high-stakes testing with program progression policies (Anema & McCoy, 2014; NLN, 2012; Spurlock, 2012/2013; Sullivan, 2014).

Background

The concept of high-stakes testing in nursing education lacks sufficient research (Sullivan, 2014); however, use of high-stakes tests has widely increased in many undergraduate nursing programs (NLN, 2012; Shultz, 2010). The literature supports high-stakes tests as useful tools for identifying student and program strengths and weaknesses (Davis, Grinnell, & Niemer,

2013; Orr, Herberg, & Rutledge, 2010; Schroeder, 2013), for effective preparation for the NCLEX exam (NLN, 2012) and as a predictor of NCLEX success (Carr, 2011; Harding, 2010; Hyland, 2012; Lavandera, et al., 2011). Hyland's (2012) study, however, indicated that other strategies, such as curriculum modifications, remediation programs, independent study, and progression policies in conjunction with high-stakes tests may have attributed to the increased NCLEX pass rates.

In contrast, the use of high-stakes tests to establish progression policies remains a source of contention in the literature (Giddens, 2009; NLN, 2010/2012; Shultz, 2010; Spurlock, 2013; Sullivan, 2014). According to the NLN (2012), one out of every three undergraduate nursing programs requires successful completion of a high-stakes test to progress. Unsuccessful completion of high-stakes tests blocks the student's promotion to the next level or graduation from the nursing program, ultimately denying their eligibility to take the National Council Licensure Exam (NCLEX) to become a registered nurse (NLN, 2010/2012; Spurlock, 203; Sullivan, 2014). This includes students who complete course and program learning objectives, yet are held from progression or graduation for not achieving a specific benchmark or assessment scores on a particular high-stakes test (Spurlock, 2006/2013; Sullivan, 2014). Both Borden (2010) and the NLN (2012) claimed this practice does not take into account the diversity and learning style of the student population. Additionally, Spurlock (2013) argued there is no scientific evidence to support that implementing progression policies and high-stakes testing improves program quality or NCLEX success. Essentially, high-stakes tests are being used to control the circumstances for which they are collected (Hurst, 2012) rather than the consideration of overall student performance and perseverance. For this reason, the literature supports multiple sources of evidence (e.g. course exams, projects, and clinical performance), to evaluate overall

student competence and learning within nursing programs (Benner, Sutphen, Leonard, & Day, 2010; Billings & Halstead, 2012; McDonald, 2014; NLN, 2010/2012; Spurlock, 2013).

When high-stakes tests link with progression policies, they can also lead to other consequences for students and nursing programs. Chernomas and Shapiro (2012) reported rigorous academic expectations on nursing students to progress successfully through structured nursing programs interfere with student learning. More specifically, pressures related to the preparation of high-stakes tests affect nursing student performance and meaningful learning in both clinical and classroom settings (Beggs, Shields, & Goodin, 2011; Bensfield, Olech, & Horsley, 2012). Progression policies linked with high-stakes outcomes affect nursing programs with higher attrition rates (Ascend Learning, LLC, 2012; Davis, et al., 2013; Kaplan, 2013; Newton & Moore, 2009; Spurlock, 2006), cheating (Garcia & Woo, 2011), and litigation (NLN, 2012).

Clearly, there is an array of literature from leading nurse educators and education vendors describing both positive and negative aspects of using high-stakes tests in undergraduate nursing education. However, there was a dearth of literature, including two dissertation studies, exploring the nursing student's experience or perspective of completing high-stakes tests for successful progression in an undergraduate nursing program (Challenger, 2014; Roykenes, Smith, & Larsen, 2014; Tagher & Robinson, 2014). These past studies explored student perceptions or experiences with only one form of high-stakes test, including end-of-program or exit testing (Challenger; Tagher & Robinson) and medication calculation tests (Roykenes, Smith, & Larsen). Therefore, the purpose of this study was to explore the different ways in which nursing students describe their experiences with multiple high-stakes tests to progress through one undergraduate BSN program.

High-Stakes Testing in Study Program

Throughout the two-year concept-based curriculum of the prelicensure BSN program under study, students are required to complete and pass multiple high-stakes tests to progress to the next semester and ultimately graduate. Each semester, excluding summer sessions, students complete an Assessment Technologies Institute (ATI) content mastery exam and a medication calculations test throughout the two years of the concept-based program. In the first year of the program, students complete the ATI Fundamentals exam and a medication calculations test during the fall semester, and the ATI Pharmacology and a second medication calculations test during the spring semester. In the second year of the program, students complete the ATI Medical-Surgical exam and a medication calculations test during the fall semester, and the ATI RN-Comprehensive and a medication calculations test during the final spring semester.

Methods

Research Design

Since the purpose of the study was to explore the different ways students describe their experiences with high-stakes tests, a qualitative descriptive design using a phenomenographic approach framed the study. Phenomenography focuses on the different ways groups of individuals perceive, understand, or experience the same phenomenon (Marton, 1986). In other words, one individual in a group may experience a specific phenomenon in one way while another individual experiences it in a different way. The collection of various experiences is represented by "categories of descriptions" (Akerlind, McKenzie, & Lupton, 2014; Bowden & Walsh, 2000; Marton, 1981; Yates, Partridge, & Bruce, 2012). As a result, a relationship among and between the group of individuals, their different experiences, and the phenomenon is formed

and portrayed as a table, image, or diagram in what is termed the "outcome space" (Bowden & Green, 2005; Cousins, 2009, Marton & Booth, 1997; Yates, et al.).

Sample and Setting

Phenomenographic research requires a range of 10 to 30 participants to ensure sufficient variation of a shared phenomenon (Stenfors-Hays, Hult, & Dahlgren, 2013). Therefore, a purposive convenience sample of eighteen senior nursing students was recruited from one full-time undergraduate BSN program at a rural university in the southeastern United States following an invitation to participate for volunteers. Participants included one male and 17 female senior students between 21 and 41+ years of age, in their final semester of the nursing program.

Ethical Considerations

Before data collection, I obtained formal research approval from the Institutional Review Board (IRB) of the academic institution and the Dean of the School of Nursing for this study. Before participation in the research study, each student was informed of the purpose of the study, methods to collect data through confidential audiotaped individual interviews, that they could voluntarily withdraw from the study at any time without penalty, and informed consent procedures through written and in-class verbal invitation. All participating students voluntarily signed the informed consent before data collection. Students selected a pseudonym to protect anonymity throughout the research study process. To maintain the security of data confidentiality, I password protected all computer data, including journals, printed transcripts, and audio files which were kept locked in a desk drawer in my office.

Data Collection

Data were collected from students through individual semi-structured interviews using five pre-determined questions, starting with one open-ended question followed by four semi-structured questions. Probing questions, such as "tell me more about", "give me an example of", and "what did you mean by" were also necessary to help clarify and confirm student experiences of the phenomenon (Abrandt, 1997; Bowden & Walsh, 2000; Sjöström & Dahlgren, 2002). Private interview sessions lasted anywhere from 9-44 minutes, were audio recorded, and then transcribed verbatim on a Word document by a paid third-party experienced transcriptionist.

Data Management

Data management encompassed a two-step process. First, I printed each student's interview transcripts with three-inch margins for research notations. Secondly, I uploaded the Word document transcripts to .ti, version 7, to manage the data more efficiently. .ti is a qualitative data analysis software package that organizes data for coding and clustering of participant statements, integrating memos within the data (Marshall & Rossman, 2011), sorting and storing data, and connecting multimedia data materials (ATLAS.ti 7 User Manual, 2013).

Data Analysis

An aim of phenomenographic data analysis is "specifically to discover categories from the data, not to analyze [it] in terms of pre-determined classifications" (Bowden & Walsh, 2000, p. 20). In other words, discovery comes from each participant's account of their experience with the phenomenon, as it is being experienced (Bowden & Walsh). Therefore, analysis requires a specific procedure that involves ongoing examination that differentiates and organizes the various experiences emerging from the data (Bowden & Walsh; Reed, 2006; Stenfors-Hayes, Hult, & Dahlgren, 2013). The process of phenomenographic analysis for the research study

follows Dahlgren and Fallsberg's (1991) seven-step process of familiarization, condensation, comparison, grouping, articulation, labeling, and contrasting of data. Each step is defined and illustrated in Table 4.1. While the steps are distinctly separate, their meanings commonly overlap with one another (Dahlgren & Fallsberg; Stenfors-Hayes, Hult, & Dahlgren).

Student Reflections of High-Stakes Tests

Based on the data analysis, 161 various descriptions were initially identified from the student interview transcript data. Student descriptions were condensed and collapsed to capture the collective reflections of the various ways a group of nursing students describes their experiences completing multiple forms of high-stakes tests to progress through one undergraduate nursing program. As a result, five primary categories of descriptions emerged from the data: values, stress, high expectations/demands, inconsistency, and transfer of learning (Figs. 1-5). Interestingly, several of the student's statements described experiences that pertained to more than one category of description, indicating a relationship among categories. Therefore, the outcome space is illustrated in the form of a relationship diagram (Fig. 4.6). Quotations within each of the categories described below signify student descriptions about their experiences of the phenomenon.

Category 1: Values

According to the National League for Nursing *Hallmarks of Excellence in Nursing Education* (NLN, 2007) "values are the product of one's life experiences, give meaning and direction to life, and are influenced by family, friends, religion, culture, environment, education and other factors". The students in this study described high-stakes tests regarding both positive and negative attributes of values. Student accounts focused on three sub-categories of values students placed on the importance and usefulness of high-stakes tests, including caring, testing,

and learning (Fig. 4.1). This category contains the majority of coded student descriptions discovered in the transcript data.

Value of caring. Students characterized caring as a positive attribute within the category of values. Three themes of student reflections that were constant in this sub-category include caring for self, caring for others, and the desire for faculty understanding of student stress related to high-stakes testing and progression. Caring for others was valued most in relation to collegial bonds formed with classmates and the care of patients. Particularly, the idea of losing a classmate in the nursing program due to failure of a high-stakes test was upsetting to students as illustrated by following student statement:

> (Breeze). "People that I may not be the closest friends with or whatever, I hate to see us lose someone from our cohort because it's almost like losing a part of your family…we've been together a long time now and seeing somebody fail out or having to drop down to the part-time program is the worst thing ever. You're like 'No! We're supposed to finish together!'"

Ironically, caring is the core philosophy of the nursing program setting for this study. In essence, caring is essential to these students and a core component of nursing practice. Therefore, encompassing a value in caring will ultimately sustain a culture of caring in both the professional and personal environment (Hills & Watson, 2011).

Value of high-stakes testing. Students described high-stakes testing as both positive and negative attributes of values. Two themes consistent with student reflections in this sub-category focused on the value and validity of using high-stakes tests in the nursing program. For example, students viewed the value of using high-stakes tests as a way to enhance knowledge and competency, prepare for NCLEX, improve critical thinking skills, and motivate learning as illustrated in the following student statement:

> (Amanda). "The ATIs really do kind of help you study and prepare yourself for the very high stakes test which we have, which is NCLEX. So I see the benefit in studying the

> way I studied for ATI and using that to study for NCEX, and by having it as a high stakes thing, you ensure that students are putting in effort to pass the test or meet the criteria, versus it not being high stakes and then them willing to take a thirty on the test and still proceed".

Overall, students valued the use and purpose of high-stakes tests. However, students did question the value of using high-stakes tests as a valid measurement for NCLEX success and nursing practice competency. Students expressed concerns that high-stakes tests do not take into consideration a student's language barrier and learning style in relation to testing structure. One student (Elizabeth) stated, "just because I gave you the answer in a different way doesn't mean I gave you the wrong answer… my answer and that person's answer could be different but they could still be the right answer". Students also believed the nursing program considers high-stakes tests more valuable forms measurements of learning competency since outcomes of high-stakes testing affect progression. As a result, students spent more time studying for high-stakes tests than other course assessments and assignments. The following comment illustrates this sentiment:

> (Nadia). "I felt like it focused a lot because it determined if you were going to go to the next level of nursing school, so it kind of made you feel like that was nursing school, even though of course we had other courses, but I felt like they were manageable to study, but once we had an ATI in a course coming up I feel like all the other classes got put on the back burner. So in a way, I would say that our main focus is ATI because we know that it means so much to this nursing school".

Essentially, participants indicated that attention to other courses and assignments were postponed to prepare for a high-stakes test. As a result, other opportunities for meaningful learning were potentially at risk (Beggs, Shields, & Goodin, 2011; Kaplan, 2013).

Value of learning. Students characterized learning as a positive attribute within the category of values. Three themes consistent with student reflections in this sub-category focused on commitment, good study habits, and most importantly, self-confidence as key factors to

success on high-stakes tests. Students' value of commitment to the learning process was evident by various accounts of perseverance, the desire to contribute to society, taking responsibility for learning, and maintaining a student/life balance. For example, one student (Nicole) stated, "if it [nursing school] was easy, anyone could do it, but I personally would rather know that I made it through doing well, doing the hard stuff, as opposed to taking the easy route".

Commitment to learning, along with good study habits, appeared to provide students with a sense of empowerment and self-confidence, which were key factors described by students in achieving successful outcomes on high-stakes tests. The following comment illustrated this sentiment:

> (Ann). "It's been nice to see that hard work does pay off when it comes to – you know, you're taking this however many question test. The hard work that comes up to preparing for a really anxiety-producing moment can result in a good report. Like, a good passing report. Evaluating myself in that way has been – Besides pharmacology it's been I guess confidence producing…It's also been an affirmation kind of – of 'okay, you are learning, and you are doing what's expected of you'."

Category 2: Stress

Student reflections consistently described high-stakes tests as stressful experiences, mostly because successful completion was required to progress to the next level in the program. This particular category of description appeared to be the most commonly described experience from students throughout the data. The term "stress" and related terms were expressions discovered in all the interviews reflective of the preparation, completion, and outcomes related to high-stakes testing. The stress category comprised three sub-categories of student descriptions, including physiological and psychosocial manifestations, coping strategies to relieve stress, and reflections of the unforeseen rigors of nursing education (Fig. 4.2).

Manifestations of stress. This sub-category reflected student accounts of the various physiological and psychosocial manifestations of stress, which often produced conflict on the

part of the student during the interviews. Physical manifestations of stress described by students included heart palpitations, shortness of breath, nausea, perspiration, insomnia, shakiness, body aches, cold sores, and hives. Although sometimes occurring simultaneously with physiological symptoms, psychosocial manifestations appeared to be more dominant in the student reflections. Psychosocial manifestations varied to include test anxiety, fear of failure, anger, motivation, decreased self-esteem, sadness and loss, family and work responsibilities, financial obligations, frustration and worry, perfectionism, and minor technological issues during testing. The following student statements are a couple of examples reflective of each type of manifestation:

> ***Physiological.*** (Suzanne). "There was points where I would literally have to stop and breathe because I felt like my chest was tightening. I would shake. I would sweat. I would get so anxious that I couldn't – the screen would be blurry."
>
> ***Psychosocial.*** (Laura). "Just because it's, you know, if you don't pass, you don't move forward. There's no, I mean, it's just I look at everything that I put into this program and the money I put into it, the time, the effort and to know that everything can come down to one test".

Accordingly, the literature does indicate that students in nursing programs experience more stress than any other college major (Goff, 2011; Harrison, 2009). Therefore, it is common for nursing students to experience both physiological and psychosocial manifestations in response to stress. The manner in which the student copes with the stress is what can affect his or her wellbeing and success in the program.

Coping strategies. In response to the physiological and psychosocial manifestations of stress and high-stakes testing, students described various positive and negative coping strategies they employed. Positive examples included physical activity, positive self-talk, rest and sleep, deep breathing relaxation techniques, and adequate preparation for tests. Interestingly, adequate preparation for testing as a healthy coping strategy stems from the values category, where students emphasized good study habits as a value of learning. However, some students relied on

medication, poor dietary choices, and alcohol as an alternative coping skill with stressors in preparation for high stakes tests, which is a significant concern. One student (Bob) stated, "some people have to take drugs. Seriously. There were several students in my cohort that literally had to go to the doctor and be prescribed something for that anxiety to use just when they were taking their exams." Based on the academic stressor of high-stakes testing on progression within the nursing program, students employed coping strategies that worked for them at the time. However, during the interviews, overall discussions with the students conveyed high-stakes testing more as a threat, rather than a challenge.

Program rigor. Students also described the unforeseen challenges and rigors necessary to be successful in undergraduate nursing education, especially with high-stakes tests as illustrated by the following comment:

> (Laura). "No one said it [nursing school] was easy. It's just I think I went into it kind of blinded. I didn't know. It's nothing like what I expected. I don't know necessarily what I expected, but it was not what I expected, but more so with the high stakes tests".

Therefore, students may not be adequately prepared, coming into the program, for the academic rigors and expectations required in nursing curricula.

Category 3: High Expectations

Student reflections described high-stakes tests regarding high expectations or demands surrounding the preparation, completion, and outcomes related to high-stakes testing. This category comprised three sub-categories of student descriptions that reflect the demands of added load to the student's existing academic workload, the high-stakes status of tests, and the effects of testing on student progression (Fig. 4.3).

Added load. Student accounts in this sub-category described high-stakes tests as an added load to an existing semester's rigorous academic load. For example, one student (Antonio)

stated, "there's just always a class that's, like, kind of tough and then you've got to worry about your ATI." The following student statement further reiterates this sentiment:

> (Patsy). "It's really hard when we have other classes. It's a full load. We have other classes that we can't forget about. Like, every class is important, and there's a lot of time we have to put forth for clinical. Not just going to clinical, but doing all our clinical paperwork was just… It was really difficult, you know?"

Also, students described added workload in reference to the excessive amount of information necessary to review in preparation for high-stakes testing. The following statement illustrated student accounts of this sentiment:

> (GiGi). " I feel like if I didn't have the high pressure of having to learn everything pass the test (ATI RN Comprehensive) and graduate, I feel like I would have learned and retained more, because especially with the comprehensive, you have, I think it's seven or nine books, that you have to be able to just recall something so quickly so that you can answer a question, and so if you either didn't read that sentence or you didn't retain it because you have so many pages to read, so much information that's critical and important".

Overall, students appeared to struggle in striving for balance with program coursework requirements and preparation for high-stakes tests. Since high-stakes testing is a requirement each semester, students viewed maintaining the balance of preparing for the tests with other academic expectations as a challenge.

High-stakes status. Students described experiences of what the status of high-stakes tests meant to them throughout the program. Reflections included the fairness and reliance on high-stakes tests to measure overall learning and competence, inexperience with high-stakes testing at the beginning of the program, and the negative stigma the term "high-stakes" resonates with students. One student (Margarita) actually stated, "don't use the word high-stakes. It's just a reminder that if I don't pass this class, I may not graduate from nursing school." Much contentment was expressed by students regarding the fact that one test out of an entire semester

of assessments and evaluations can determine progression in the nursing program. One student (Suzanne) stated, "that really frustrated me, though, because how could this one test prevent somebody from being a good nurse?" Another student (Marie) further reiterated this emotion "you could have a good grade in a course with an ATI test and then fail that test and still end up failing the course, even though technically you earned an A." Although students expressed value in high-stakes tests on learning, as described earlier in category one, they did not feel these tests should serve as the primary source to evaluate overall course learning outcomes as illustrated by the following student comment:

> (Haven). "I think that we should have high stakes tests, but I don't think they should be pass or fail. I don't think that if I fail an ATI test, that I should fail the course, but I do think that it should be worth part of the grade. It should be a significant part of the grade, so there's still a chance of passing the class, but it would have a very high impact."

In effect, student reflections were consistent with the nursing literature, which recommends multiple forms of assessments to evaluate student knowledge and competency (Benner, Sutphen, Leonard, & Day, 2010; Billings & Halstead, 2012; McDonald, 2014; NLN, 2010/2012; Spurlock, 2013).

Progression. Students described experiences related to course and program progression policies stemming from high-stakes test outcomes. Student expressions were similar to those from the high-stakes status sub-category since an unsuccessful outcome on any of the high-stakes tests blocked progression in the undergraduate nursing program. Student reflections suggested that high-stakes were viewed more of a barrier to progression, rather than an opportunity to evaluate and improve learning in the nursing program. The following comment illustrated this sentiment:

> (Nadia). "I didn't like the fact that it [medication calculations] would determine if we would go to the next – progress in the nursing program – because we had to make a hundred on it. I could understand if they gave us all semester to make a hundred on it, but

> it was only three times…I feel like ATI should be more of a 'okay, let's see where you stand in nursing school, and you can get that grade that you get', not that you can't make it to the next semester, or it could prevent you from graduating on time."

Accordingly, Spurlock (2013) argued that progression decisions based on high-stakes test outcomes address only the student component, not program or teaching quality. All three components are necessary to the overall success of the teaching and learning structure within nursing education (Spurlock, 2013).

Category 4: Inconsistency

Student reflections described various inconsistencies with high-stakes tests in the nursing program. This category of description comprised two sub-categories related to inconsistencies and integration of resources (Fig. 4.4). The first sub-category reflects student accounts of the various inconsistencies they believed hindered preparation for and completion of high-stakes tests. Subsequently, the second sub-category reflects student recommendations for integrating resources and learning strategies to reduce inconsistencies and promote student success with high-stakes tests.

Various inconsistencies. Students described various inconsistencies related to high-stakes tests, including test structure versus real-life application, faculty guidance with ATI study resources and remediation plans, faculty expectations for students, medication calculations instruction, standardized practice tests versus proctored tests, overall course success with ATI failure, and ATI content with a concept-based curriculum. Most interestingly, students described a sense of disconnect between the ATI content mastery exams and the concept-based nursing curriculum. For instance, one student (Sue) stated, "with Med-Surg [ATI content mastery], you have to have had all of Med-Surg and since we aren't using that type of curriculum that makes that very hard." Additionally, students expressed disconnect between the ATI content and course

resources. For example, one student (Kennedy) stated, "sometimes you will read something in ATI, and it says something different somewhere else." Students adamantly expressed that if the ATI test package were going to determine progression to the next level, then the nursing program should integrate the content into all courses. The following statement reflected this sentiment:

> (Kate). "If we're gonna take the ATI test I would want it to be taught the ATI way because sometimes our books or what we're taught in class may be different than what ATI tells us to do and if we're gonna pass ATI we have to do what ATI tells us to do."

For students in the study, it appeared these various inconsistencies conveyed a lack of support for success with their nursing education, which overall created feelings of frustration and contentment.

Integration of resources. Students described various recommendations for integrating resources into the curriculum that may enhance student success with high-stakes tests. Recommendations included incorporating the following: (a) ATI content and resources to course and clinical content, (b) ATI test grade as part of the overall course grade, (c) critical thinking resources at the beginning of the program, (d) a more formal remediation plan between faculty and student, (e) self-care strategies throughout the curriculum, and (f) integrating additional real-life clinical situations to the classroom. The majority of recommendations focused on integrating ATI content with course content, potentially easing issues of the semester's added load with ATI test preparation. The following statement reflected this sentiment:

> (Laura). "I think that [ATI content] would have really helped though, because it is tough to study something in class from different books [required curriculum book bundle] and then have to – you know, now you have this other test coming up and they want you to get these books [ATI content mastery series]."

In other words, students suggested the integration of ATI content with course text content would help reduce the amount of information necessary to review in preparation for standardized

content mastery testing each semester. Integrating ATI resources with course learning activities may also potentially compliment learning with content not covered in a specific course.

Category 5: Transfer of Learning

The National Science Foundation (2003) defined the transfer of learning as the ability to apply knowledge learned from one setting to another. In nursing education, transfer of learning occurs when students apply knowledge learned in the classroom to clinical and professional practice (Clark, 2008). Student reflections of their experiences either described high-stakes tests as positively or negative affecting transfer of learning. This category contained two sub-categories of student descriptions, including the application of learning and impairment of learning (Fig. 4.5).

Application of learning. Students describe accounts of the positive impact of high-stakes on learning in the nursing program, as illustrated in the following statement:

> (Ann). "The feelings you get about getting so anxious about performing for something that weights so much on all your hard work. How much that's been concerning over the past two years, but how it's also been an affirmation kind of – of 'okay, you are learning, and you are doing what's expected of you to not only pass but hopefully be proficient one day.' So it's been a love-hate relationship of – you don't like it while you're doing it, but you see that it's actually helpful…I've always been like 'I don't like ATI. I don't like those med calcs. I missed one little decimal point.' But then I see that I'm going to have to get that right one day because, you know. "

Even though students admitted to struggling with numerous aspects surrounding high-stakes tests, they did acknowledge that preparing for and completing the various high-stakes tests as a direct application of knowledge learned for future nursing practice.

Impairment of learning. In contrast, students also described accounts of the negative impact of high-stakes tests on learning in the nursing program, as illustrated by the following statement:

> (Suzanne). "The stress and everything that ATI puts on us, because all of them are pass or fail, I feel that ultimately, honestly it kind of hinders our learning a little bit because we're so focused on 'I need to know this! I need to know this now!' And we're kind of just remembering instead of actually learning, and so I feel like that's kind of where it hinders us a bit."

Throughout the interviews, students described that they perceived the nursing program overly depends on high-stakes tests each semester to measure overall student knowledge and competency. Therefore, students tended to focus more on content related to the tests, which may have deprived them of other meaningful learning experiences within the curriculum (David, 2011) necessary for nursing practice.

Discussion

Overview of Current Study with Past Literature

The purpose of this current study was to explore the different ways in which undergraduate nursing students describe their experiences with completing multiple high-stakes testing for progression in one BSN program. Most of the student descriptions applied to the various high-stakes ATI content mastery exams required for progression to the next semester or graduation from the program. However, allowing student autonomy to choose one aspect of the phenomena as the student is experiencing it, is fundamental to phenomenographic research (Bowden & Walsh, 2000; Marton, 1988). In addition, students may have focused their descriptions of experiences more towards the ATI content mastery exams since changes to medication calculation testing policy their senior year eliminated the high-status status of the tests. Interestingly, descriptive categories discovered in the current study shared a varying few similarities with the previous studies I reviewed; however, new discovery was also evident.

Similarities of Current Descriptions with Previous Studies

In the current study, student experiences of completing multiple forms of high-stakes tests for progression contained some similarities related to stress, high expectations/demands, and inconsistencies reported from two dissertation studies conducted by Challenger (2014), and Tagher and Robinson (2014), and one published study conducted by Roykenes, Smith, and Larsen (2014).

Category of stress. Stress was the most commonly described experience from students in the current research study. Physiological and psychosocial manifestations of stress described by students were very similar to student experiences reported by Roykenes et al. (2014) and Tagher and Robinson (2014). However, in the current study, students described additional experiences of stress related to perfectionism. Most students admitted to being self-proclaimed Type A personalities or overachievers who are used to making high marks, both in pre-nursing and nursing core courses. Therefore, the requirement to achieve a certain score on a high-stakes test to progress in the program posed a threat to the student's personal performance and success in the nursing program. Although healthy adaptation to perfectionism can motivate and drive ambition, unhealthy adaptation can lead to depression and emotional distress; therefore, healthy strategies are necessary to reduce the impact (Melrose, 2011). Interestingly, students in Challenger's (2014) study reported stress was not a factor with high-stakes testing; however, poor test-taking skills were considered a barrier to a successful outcome. As such, poor test-taking skills may potentially produce test anxiety (Silvestri & Silvestri, 2016).

The process of coping with stress occurs when individuals perceive threats from their environment (Singh, Sharma, & Sharma, 2011). Stressors based on the rigors of nursing education among undergraduate students have been reported to inhibit cognitive functioning

(Palmer, 2013), impede meaningful learning (Moscaritolo, 2009), interfere with clinical performance (Chernomas & Shapiro, 2012), and lead to high-risk behaviors, including alcohol abuse and poor dietary practices (Goff, 2011). Tagher and Robinson (2014) reported that students found it necessary to seek a prescription for anti-anxiety medication and made poor food choices because of stress related to high-stakes testing; yet, the students also reported the use of positive self-talk and adequate preparation for testing as measures to cope. These positive and negative coping strategies correlated with similar reports from students in the current study. However, students in the current study described additional healthy coping strategies, including rest and sleep, physical activity, and deep breathing relaxation techniques. Students in the study conducted by Roykenes et al. (2014) identified no coping strategies. To be successful not only in academic but also social environments, Singh et al. (2011) suggest nursing students need to have the ability to adjust and cope with the rigorous demands of program curricula. Faculty need to emphasize health promotion and education of self-care needs to students as they strive to balance academic demands of the nursing program with personal and social agendas.

Category of high expectations/demands. High expectations/demands discovered in the current study contained similar student experiences reported by Tagher and Robinson (2014). However, the only similarity linked to Tagher and Robinson's study were experiences related to added academic workload on top of preparing for high-stakes testing, suggesting teaching of time management skills early in a nursing program is essential. Findings related to high expectations also suggest faculty should collaborate to review exam schedules, assignments, and other projects to determine if the overall workload is indeed appropriate and realistic for students. Students in the current study also described experiences related to the high-stakes status of tests and the effect those tests have on progression in the nursing program. The

negative stigma of the term "high-stakes" and the fact that one or more tests each semester could block progression was described as a major source of conflict among the students. These findings suggested students view the landscape surrounding high-stakes tests as an obstacle, which may impede student success.

Category of inconsistencies. Students in the current study described an alarming number of inconsistencies. Similar experiences described by students related to unclear faculty expectations and test structure to real-life practice, which was consistent with findings reported by Tagher and Robinson (2014). However, students in this study also described inconsistencies with test remediation, medication calculations instruction, the simplicity of ATI practice tests versus more complex ATI proctored tests, faculty guidance with the use of ATI testing and study resources, and integration of ATI content with course content. More specifically, students voiced concerns about the amount of ATI content (medical conditions, procedures, pharmacology) not taught within the program's concept-based curriculum. Regardless, it is nearly impossible for any nursing program to teach, manage, and master the volume of content that could potentially be a test item on any standardized tests, including the NCLEX.

Based on the several inconsistencies described, students in the current study expressed several suggestions related to the integration of ATI resources that may support student success in the nursing program. First, students were adamant about integrating ATI content into various courses, since the nursing program requires successful completion of numerous ATI tests for progression and graduation. Also, students suggested that faculty reorient students each semester to available ATI study and testing resources, especially in those courses where high-stakes testing take place. For instance, some students indicated not knowing how to do a focused review of weak content areas, following an unsuccessful first attempt at an ATI test, until their

senior year in the program. For that reason, students suggested the integration of either a formal faculty-led remediation plan or remediation course. Students conveyed that a formal remediation plan with faculty was more likely to assure student understanding of weak content areas, rather than direction by faculty to complete an independent, focused review. Clear and defined structures associated with instruction, available resources, and formal remediation strategies in courses with high-stakes tests may need to be considered and implemented by nursing faculty across the curriculum.

New Discovery in the Current Study

The first three categories of stress, high expectations/demands, and inconsistency discovered in the current study shared similarities of student experiences from two of the three previous studies exploring experiences and perceptions of nursing students with high-stakes testing (Roykenes, Smith, & Larsen, 2014; Tagher & Robinson, 2014). Additional student experiences, categorized as values and transfer of learning, were unique only to the current study.

Values. Surprisingly, the category of values contained the most student descriptions in this research study. Overall, the students value learning and were supportive of the use of high-stakes tests to enhance knowledge and competency, critical thinking, and prepare for the most important high-stakes test, the NCLEX. However, students questioned the validity of high-stakes tests, specifically standardized tests in relation to various learning styles, ESL, and structure of the tests in relation to actual practice. Kaplan (2013) argued high-stakes tests may only measure the student's ability to test, rather than knowledge learned; thus, "weeding out" good students who are poor test takers (para. 3). As a result, programs run the risk of "narrowing" or reducing the curriculum in ways that again deprive students of meaningful

learning (David, 2011). Additionally, the fact that students described faculty as giving the impression that high-stakes testing is the best measurements of overall competency was a significant concern. Consequently, students admitted spending more time preparing for the high-stakes tests and less time on other coursework assignments. This sentiment was earlier reported in Kaplan's report, which indicated high-stakes testing makes a single test appear more important than other coursework and clinical experiences. Given these points, undergraduate program committee review of courses with high-stakes tests warrants examination of the potential to modify existing high-stakes testing policies to reflect a more balanced approach to student learning and progression.

Throughout the interviews in this study, students reported the value of caring for self and support from classmates as necessary ingredients for individual success on high-stakes tests. Students viewed one another as family, so the failure of a classmate to an unsuccessful high-stakes test outcome was often viewed as a personal loss. Interestingly, students also expressed a desire for faculty to be more understanding and aware of the increased stress students are under when preparing for a high-stakes test. Faculty support demonstrates caring and promotes nursing student success (McEnroe-Petitte, 2011) while also benefiting the student throughout all stages of the nursing education process (Jeffreys, 2012). Therefore, an evaluation of current innovative strategies to enhance faculty support of nursing students may be necessary for the undergraduate program.

Transfer of learning. Transfer of learning encompasses an overall indirect and direct relationship between the four previous identified categories of description, suggesting the various student experiences are dependent upon one another as a holistic relationship (Bowden & Walsh, 2000; Kahn, 2014; Marton & Booth, 1997). In other words, descriptions of students'

experiences reflected in the first four categories influenced how they transferred learning in the nursing program. For instance, students described high-stakes tests as helping in the preparation for NCLEX and professional practice, as well as face future challenges with persistence, commitment, confidence, and competence. However, students also described high-stakes tests as impairing their learning based on predictive validity for NCLEX and practice success, increased academic load, inconsistencies with curriculum resources and test structure, and the stress testing has on program progression and graduation. Therefore, undergraduate program committee review of strategies warrants examination of potential changes within the teaching and learning paradigm that creates an environment promoting student success.

Implications and Recommendations for Nursing Education

Findings from this study suggest that high-stakes tests themselves are not affecting student progression, but rather how the tests are being used in the nursing program. Therefore, there is a need to begin undergraduate faculty discussions for creating and implementing potential strategies that support student success with high-stakes testing in undergraduate nursing curricula. The intent of discussions is not to eliminate high-stakes testing; however, faculty have an ethical obligation to prepare students for testing throughout the nursing program. The findings further illustrate that students need to view high-stakes as an opportunity rather than a threat. Unexpectedly, one week after I collected the data for the study, the undergraduate program committee (UPC) faculty proposed and voted to integrate ATI scores as a percentage of the overall grade for each course an ATI test is required for progression. The update to the progression policy is certainly a start in the nursing program's effort to promote consistency, reduce student stress, and potentially lessen the demands placed on students with high-stakes testing throughout the curriculum. Although students in this study value and support the use of

high-stakes testing in the curriculum, integration of support measures to promote success on high-stakes tests needs to occur.

Based on student descriptions with high-stakes tests and progression in the current study, I created a five-phase structure of learning model (Fig. 4.7) from the student's recommendations derived from the subcategory of "integration of resources" within the Inconsistency category of description. Student recommendations were based on the study's fifth interview question, "As a nursing student, tell me your recommendations for nursing faculty and programs using high-stakes in nursing curricula". Structured learning environments provide both students and educators direction and control over what is being learned. Because recommendations are specific to each phase, it is possible for the educator to assess the student's achievement in a standardized, reliable, and fair manner (Brown, n.d.).

The model can serve as a useful tool to guide nursing faculty in developing program-specific strategies that promote student success with high-stakes testing throughout nursing curricula from admission to graduation. For example, during the orientation phase, faculty could develop a two- to three-day summer orientation for new admissions, introducing students to the expectations and rigor of nursing education and the curriculum format, critical thinking and communication skills, nursing exam architecture, remediation guidelines, civility, and support services, just to name a few. Additional recommendations provided by Benner, Sutphen, Leonard, and Day (2010), Heroff (2009), the NLN (2012), and Spurlock (2013) can also be integrated in the other phases for faculty in developing teaching and learning strategies to promote student success and maintain program consistency; faculty may also consider those recommendations in modifying or implementing current curriculum and testing policies associated with high-stakes tests.

Limitations

The main limitation of this research study is that it was time intensive for the researcher, especially during the data collection and analysis phases. Regardless, the broad range of student experiences to access variation was valuable in understanding how different individuals experience the same phenomenon. Another limitation was that the study was conducted at one university setting using a convenience sample of senior nursing students in their last semester of nursing school. Nonetheless, these findings may be representative of student experiences in other undergraduate nursing programs. Lastly, students may also have felt obligated to participate in the study since I served as one of their program faculty the semester before conducting the study. However, based on that semester's course/faculty evaluations, my belief that a caring and respectful relationship was established with students, allowing for open and honest dialogue during interviews (Marshall & Rossman, 2011).

Conclusion

There is no dispute that stakeholders, such as educational institutions, accrediting bodies, and healthcare systems are committed to educating and creating a competent nurse workforce for 21st-century healthcare (Benner, Sutphen, Leonard, & Day, 2010; IOM, 2010). However, nursing students are also key stakeholders who share in the commitment and responsibility to be prepared to provide safe, effective, and quality care to communities they will serve following their nursing education. Therefore, the student's viewpoint on key topics that affect their educational journey is imperative for education, research, and continuous quality improvement.

The purpose of the study was to explore various experiences of students completing multiple forms of high-stakes tests in one undergraduate BSN program. High-stakes testing has and will continue to be a useful and principal evaluation measure to evaluate student knowledge

and competency in undergraduate nursing education and preparation for the licensure examination. However, there is a clear gap in the literature regarding student's perspective of high-stakes testing, especially relating to program progression. Through the implementation of a qualitative research design using a phenomenographic approach, I was able to derive a rich understanding of the nursing students' experiences of high stakes tests lacking in nursing education research.

Outcomes using phenomenography research can improve educational development and practice not only from the lens of the student but also the educator (Bowden & Walsh, 2000). For example, the method mirrors to what Brookfield (2006) terms as "classroom assessment techniques" (CAT's). Brookfield defines CAT's as methods that assess student feedback or "snapshots" of their understanding of key concepts learned in the classroom. Accessing that understanding enables both student and educator to reflect and make sense of what is known and how it is known to provide insight of what is needed to generate new understanding and knowledge that improves the quality of education (Bowden & Walsh, 2000).

The overall goal of the study was not to generalize student experiences with high-stakes test related to progression, but rather to understand what high-stakes tests mean to students who are experiencing it. The student's descriptions of their experiences with high-stakes tests contribute new insight into the phenomenon under study. Awareness of student experiences with high-stakes tests and program progression has relevance to curriculum structure in not only undergraduate nursing programs but also other professional health science and discipline-specific undergraduate programs in higher education.

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Table 4.1
Phenomenography Data Analysis Process

Seven Steps of Analysis (Dahlgren & Fallsberg, 1991)	**Procedure in Current Study**
1) Familiarization: reading through the interview transcripts to become familiar with the contents and to ensure no omissions or errors were made in transcription.	• Transcripts read twice while listening to audio recordings • Student descriptions of experiences related to the research question were identified • Descriptions were coded from student statements and paragraph sections discovered in the transcript data • Insights and reflection were handwritten in the margins of the corresponding paper transcript pages • 534 student statements containing 162 coded descriptions related to the phenomenon initially emerged from the data. • All transcripts and coded descriptions were uploaded to ATLAS.ti software for data management
2) Condensation: selecting and further examining statements from the dialogue that are significant to the phenomena under study.	• Each transcript was read a third time in ATLAS.ti • New statements and coded descriptions highlighted and linked • Coded descriptions sorted, compared, and organized by similarities and differences using the code manager, memo, and analysis features in ATLAS.ti • Collective meanings expressed by the group identified • Coded descriptions condensed to 23 various descriptions
3) Comparison: comparing statements for similarities and differences.	• Additional comparison of coded descriptions reviewed in ATLAS.ti • Similarities and differences of coded descriptions identified and exported to a Word table spreadsheet using the code manager export feature in ATLAS.ti • Each coded description contained between two and 141 statements

	• Statements re-examined for proper placement in coded descriptions
4) Grouping: assigning statements that express similarities of understanding the phenomenon to preliminary categories of descriptions.	• Similar condensed and compared coded descriptions grouped together in preliminary categories on a separate Word table spreadsheet • Seven preliminary categories of description containing between one and three subcategories identified from the coded descriptions
5) Articulation: capturing the meaning of each category where variation between and within each category is taken into account.	• Preliminary categories with identified sub-categories written on a large white board to illustrate data (helped me view the "big picture" of the various descriptions experienced by the group of students as a whole) • Collaborated with mentor, an experienced qualitative researcher, who read through the transcripts and critiqued the data • Categories further condensed to five final categories of description • Final categories contained between two and three sub-categories
6) Labeling: naming the categories based on characteristics that distinguish each category. Steps 3-6 are repeated to validate similarities and differences among the categories.	• Read transcripts a fourth time to validate connection between the student's coded descriptions and the categories of descriptions • A fifth and final read done to validate student's coded descriptions related to sub-categories within each category • The five categories of description depicting collective meanings of student descriptions named: value, stress, high demands/expectations, inconsistency, and transfer of learning
7) Contrasting: describing the meaning of each category in relation to similarities and differences (results).	• Categories of description defined based on similarities and differences as an effort to identify a relationship between the categories • Structure of relationship illustrated as an outcome space in Fig. 6 • Figs. 1-5 illustrate each category with identified sub-categories

Figure 4.1 Values Category with Sub-Categories of Student Descriptions

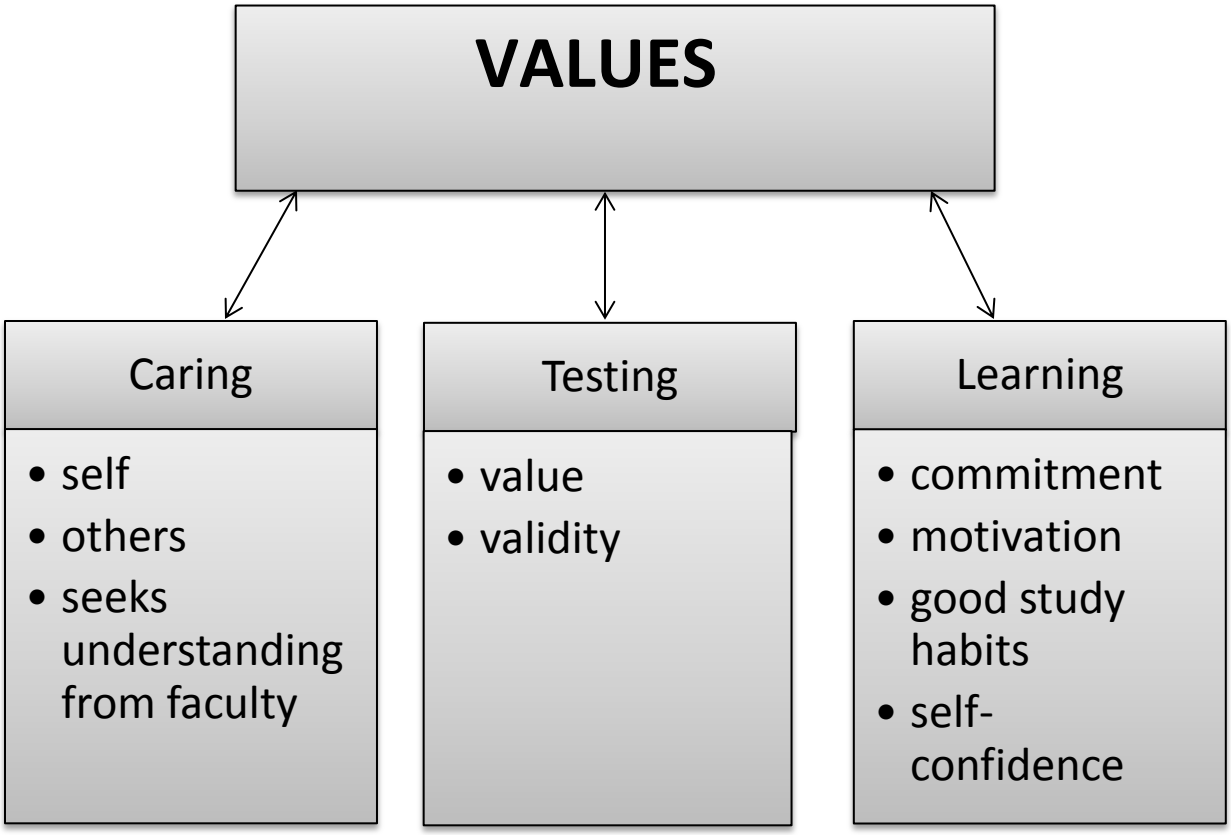


Figure 4.2. Stress Category with Sub-Categories of Student Descriptions

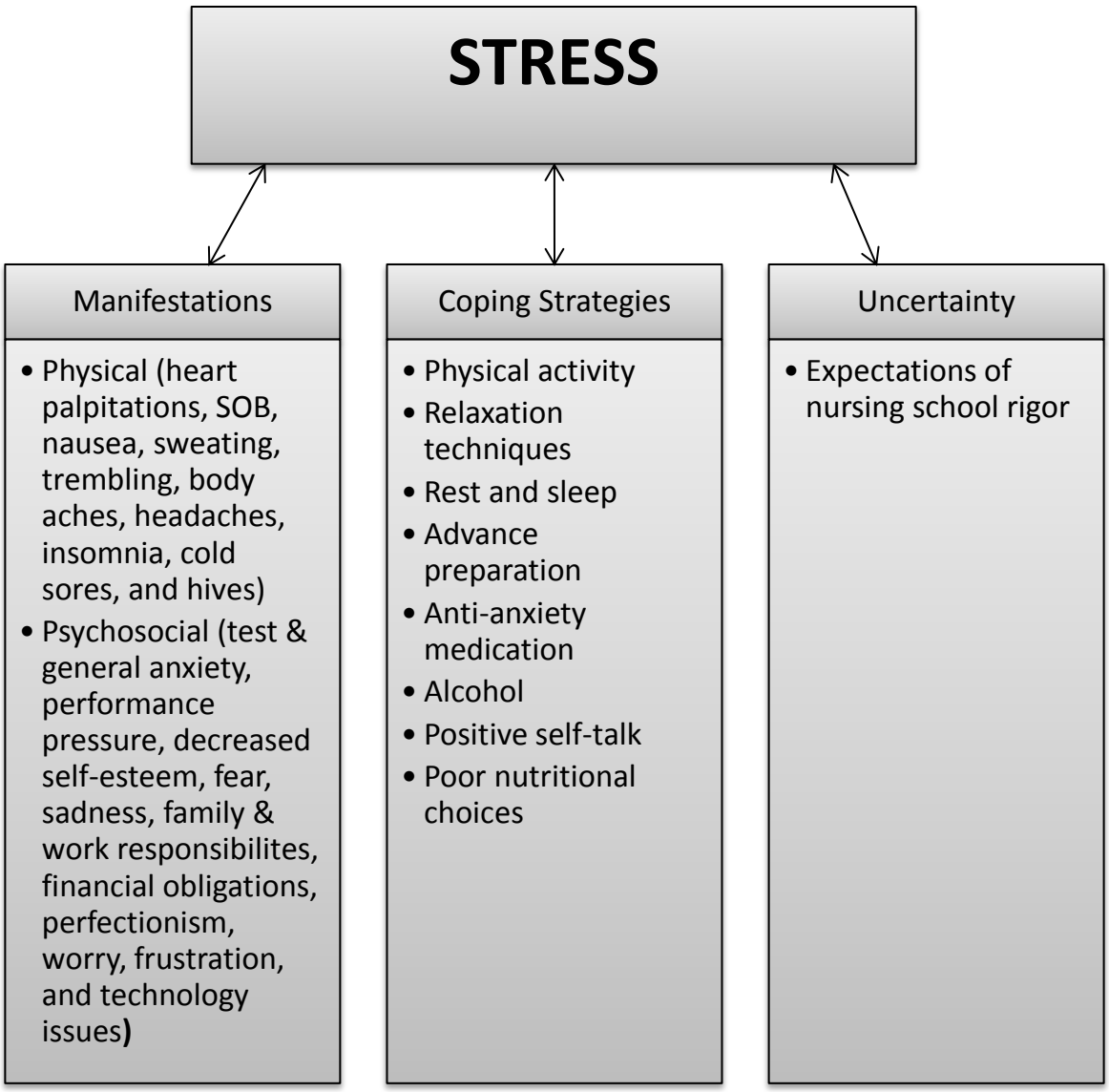


Figure 4.3 High Expectations Category with Sub-Categories of Student Descriptions

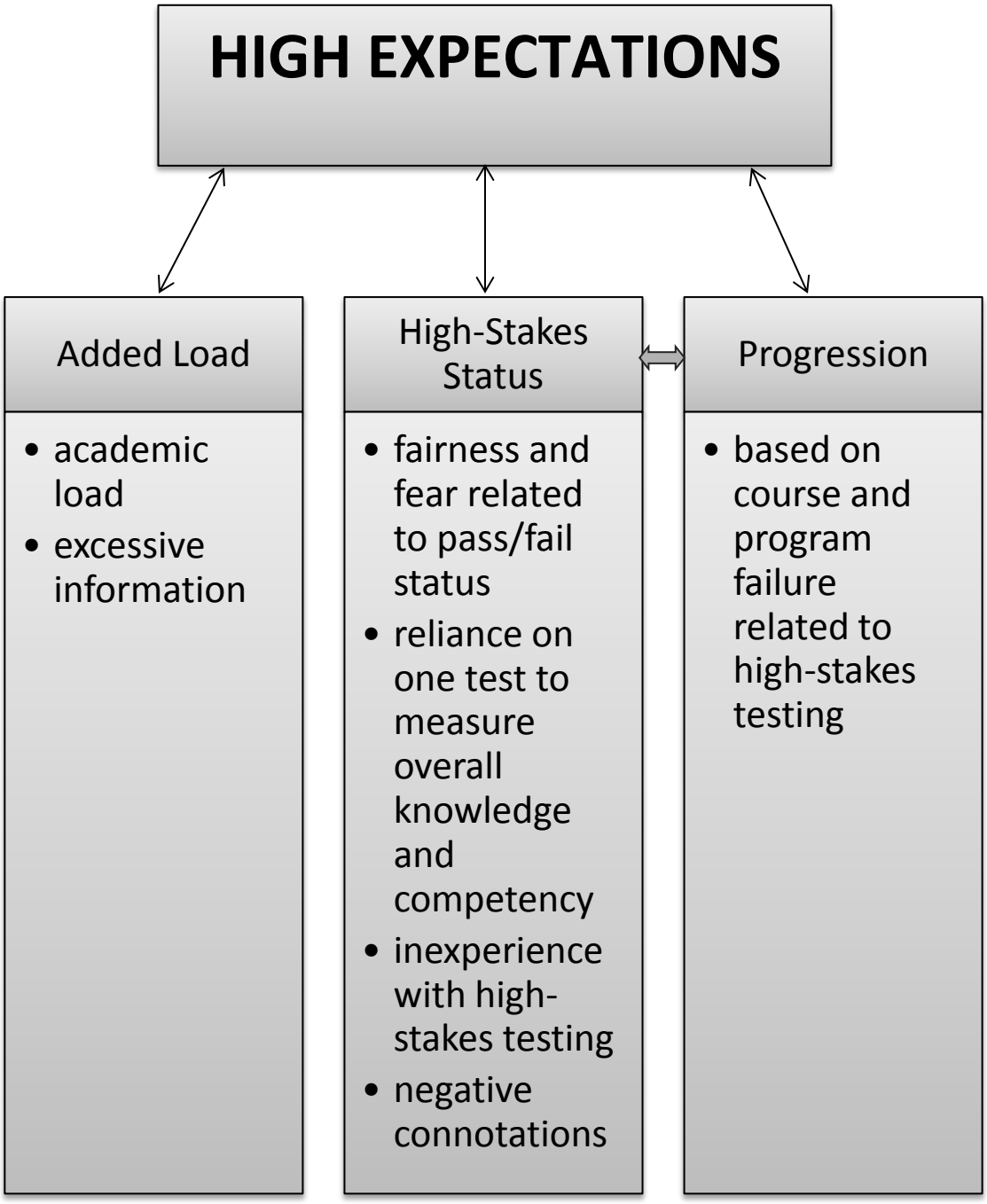


Figure 4.4 Inconsistency Category with Sub-categories of Student Descriptions

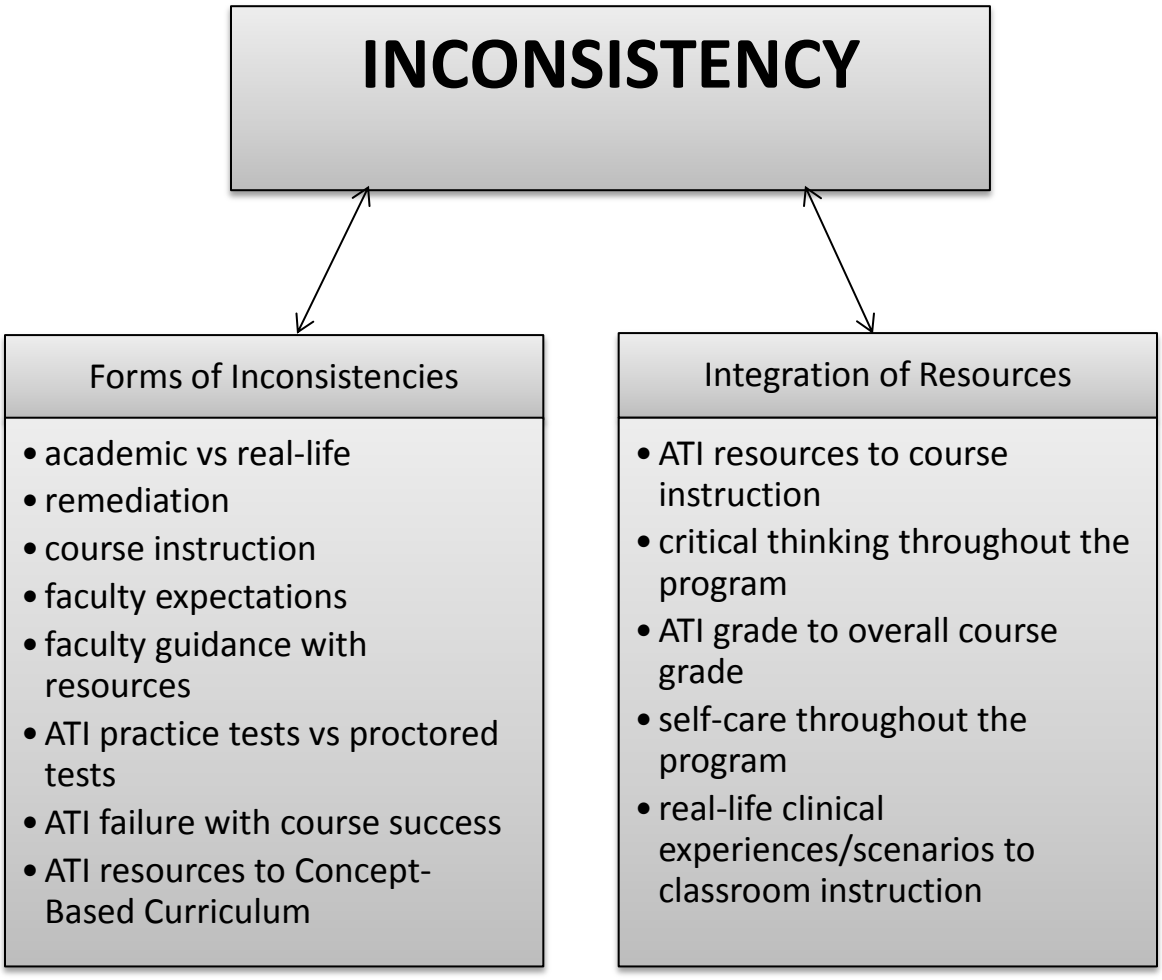


Figure 4.5 Transfer of Learning Category with Sub-Categories of Student Descriptions

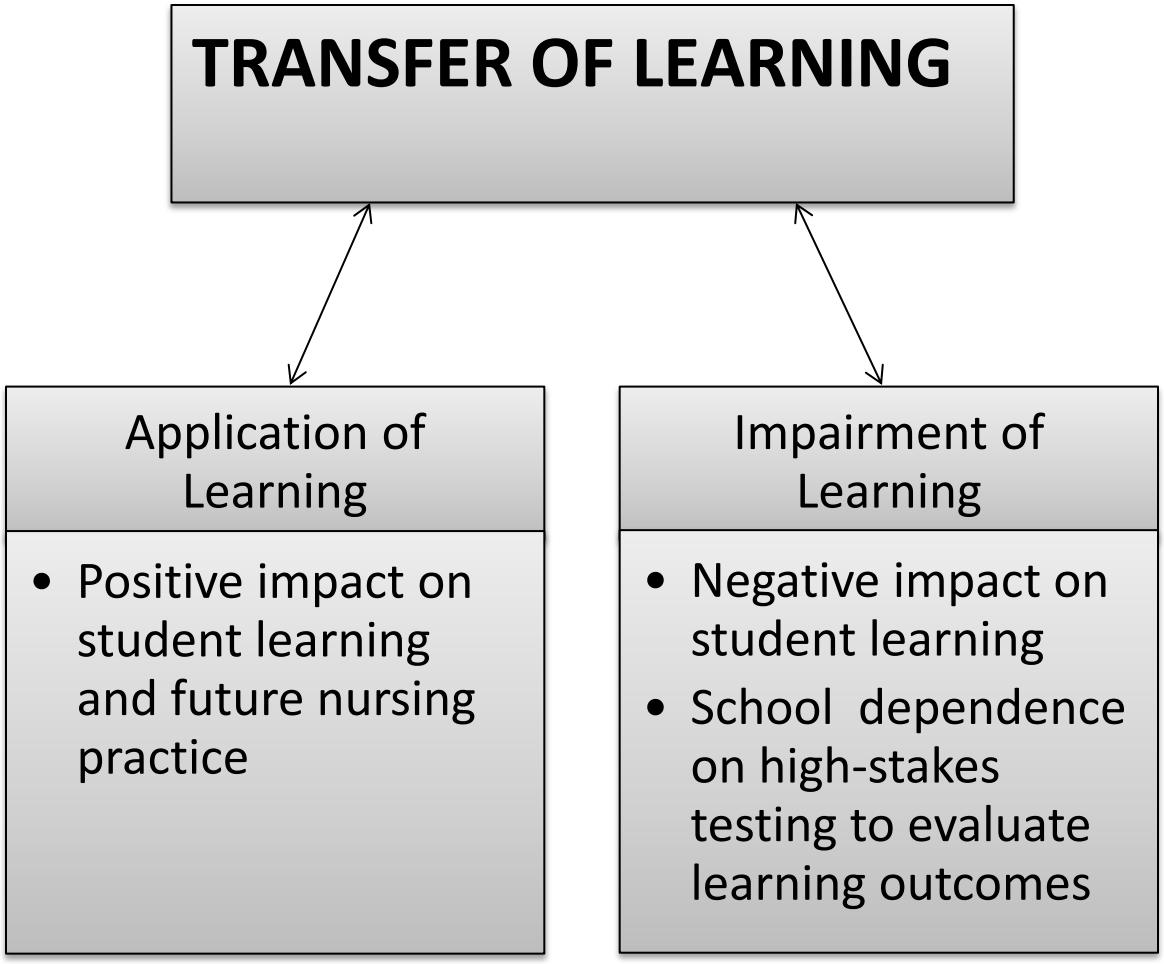


Figure 4.6. Outcome Space Representing the Relationship Among the Categories

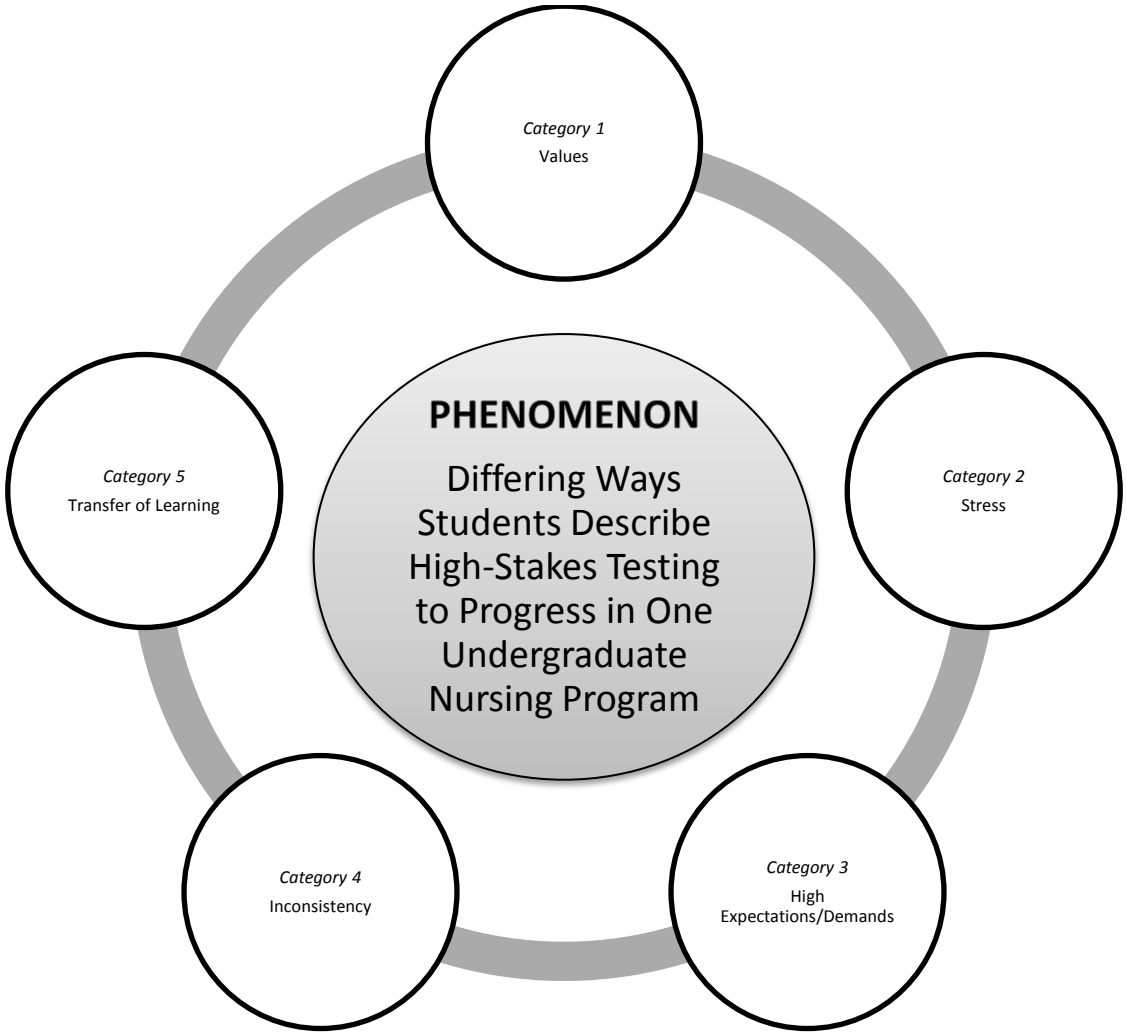
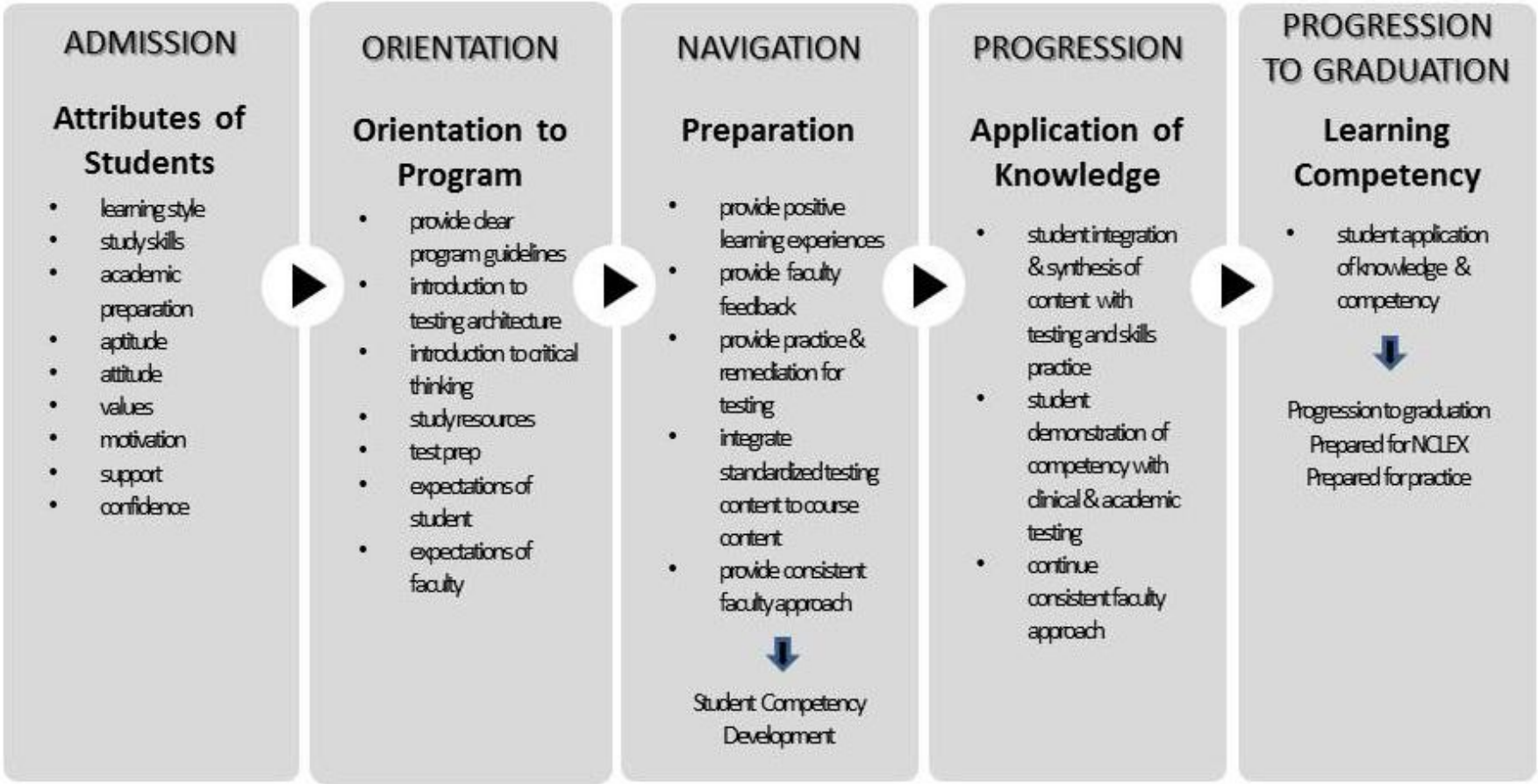


Figure 4.7. Student Structure of Learning Model (based on student recommendations from the Inconsistency category of description)



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Appendix A

Invitation to Participate

Appendix A

INVITATION TO PARTICIPATE

Student Experiences of High-Stakes Testing for Progression in One Undergraduate Nursing Program

You are invited to participate in a research study, *Student Experiences of High-Stakes Testing for Progression in One Undergraduate Nursing Program.* The following information is provided to help you make an informed decision about whether you wish to participate. You are eligible to participate in the research because you are currently a senior graduating BSN student who has completed multiple high-stakes tests over the course of your studies to progress in the undergraduate nursing program.

Purpose and Benefit of the Research:

Qualitative research seeks to gain subjective meaning of human experiences. The purpose of this research is to explore the different ways in which undergraduate Bachelor of Science in Nursing (BSN) students perceive and understand their experience completing multiple high-stakes tests (HST's) to progress within a concept-based BSN nursing curriculum at a rural university in the southeastern United States. The research will provide rich and meaningful data from the participant's viewpoint. If students are afforded the opportunity to express their experiences, then those experiences can be linked to student and faculty understanding of positive and negative consequences of high-pressure challenges students face to succeed in nursing education. Because the review of the literature lacks sufficient data on the issue, the findings will be significant for nursing education and research.

Participation and Setting:

Participation in the research is strictly **voluntary**. Participation will require approximately one to two hours of your time. First, you will be asked to participate in an individual audio-recorded interview that may last 60-90 minutes. You may also be asked to participate in an additional interview (30 minutes) following all participants' individual interview to clarify information for the credibility of the data. Both interviews will take place in a closed and private area (office or small classroom) at Tanner Health Systems School of Nursing Carrollton campus on a day and time that is convenient for each of you.

Ethical Considerations and Risks:

I ask permission to obtain information about your age, gender, GPA, ethnic background, marital/relationship/family status, previous degree/career, repeat student status, and current

employment. This information will be provided on a demographic data questionnaire that the researcher will provide to you. All data collected from the research will remain strictly confidential and protected. If you elect to participate, you will be asked to create a pseudonym (i.e. Tinkerbell). The pseudonym will be coded on the data to protect your identity.

During the interview, you may feel uncomfortable when answering questions about your experiences as an undergraduate BSN student completing multiple high-stakes tests to progress through the undergraduate nursing program; otherwise, there are no known risks associated with the research. If you become especially uncomfortable, the researcher will stop the interview. The researcher will resume the interview only if you feel comfortable and give permission to resume. The researcher will offer direct access to the UWG Counseling Services via telephone at 678-839-6428 or the researcher will accompany you to Counseling Services in Row Hall as necessary. You have the right to refuse to answer any question and may withdraw from the research at any time without penalty. You will not receive any compensation for your participation in the research. Participation in the research will not affect grades or academic standing in nursing courses currently enrolled. Please know that you are free to clarify and ask questions at any time before, during, and after the research.

Confidentiality:

As stated earlier in the letter, all data collected will remain strictly confidential. Audio recordings will be coded with a number and pseudonym so that no personally identifying information will appear on the transcripts. Pseudonyms will also be used on all written documentation. Both the audio recordings and written documents will be kept in a locked cabinet or desk, with only the researcher having access to the key. Any computer data will be password protected. All identifying materials will be destroyed after the research is completed. The findings will be used in the researcher's EdD dissertation, which will be sent to you, peer-reviewed journal articles, and at professional conferences.

If you are willing to participate in the research, please reply to this letter, via your Healthcare of the Client IV course email (subject: yes to research study), indicating your interest. The researcher will then contact you to arrange an interview on a day and time that is convenient for you. You will be asked to sign a consent form at the time of the first interview. If you choose not to participate, please reply to this letter, via the course email (subject: no to research study), and indicate that you do not wish to participate in the research. Please feel free to make contact if you have any questions or concerns.

Sincerely,

Tammy L. McClenny, MSN, RN
Primary Researcher/EdD in Nursing Education Student
University of West Georgia
Tanner Health Systems School of Nursing
Contact Information: tmcclenn@westga.edu (email) or 404-291-8988 (cell)

Appendix B

Informed Consent Form

Appendix B

INFORMED CONSENT FORM

CONSENT FOR AN INDIVIDUAL TO PARTICIPATE IN A QUALITATIVE RESEARCH STUDY

STUDY TITLE: Student Experiences of High-Stakes Testing for Progression in One Undergraduate Nursing Program

IRB Approval Number: 15_0197

PRINCIPAL INVESTIGATOR: Tammy McClenny, MSNEd, RN
UWG DEPARTMENT: Tanner Health Systems School of Nursing
PHONE: 567-839-5422 (office) or 404-291-8988 (cell)
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DEPARTMENT: Tanner Health Systems School of Nursing
PHONE: 678-839-2443
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Purpose of the study:
The purpose of the study is to explore the different ways in which prelicensure nursing students describe their experiences with multiple high-stakes tests for progression throughout one undergraduate BSN nursing program. The research will provide rich and meaningful data from the participant's viewpoint. If students are afforded the opportunity to express their experiences, then those experiences can be linked to student and faculty understanding of positive and negative consequences of high-pressure challenges students face to succeed in nursing education. Because the review of the literature lacks sufficient data on the issue, the findings will be significant for nursing education and research.

Procedures to be followed:
Participation in the research is strictly **voluntary**. Once the researcher has received your willingness to participate, you will be scheduled a day and time convenient for you to participate in an individual audio-recorded interview that may last 60-90 minutes. You may also be asked to participate in an additional interview (30 minutes) following all participants' individual interviews to clarify information for the credibility of the data. Both interviews will take place in a closed and private area (office or small classroom) at Tanner Health Systems School of Nursing Carrollton campus on a day and time that is convenient

Time and duration of the study:
Participation in the research will require approximately 60 to 90 minutes of your time for the individual interview and no more than 30 minutes if a follow-up interview is necessary.

Discomforts or risks:
"I believe there will be minimal to no risks associated with this study. There may be uncommon or previously unforeseen risks. You should report any problems to the researcher." Every effort will be made to protect the participants from any risk of emotional harm during the interviews, due to some of the information shared by participants may be sensitive in nature (Polit & Beck, 2012). As a 20 plus years experienced Registered Nurse, the researcher is competent in recognizing and responding to distress that may be displayed by any of the participants. If such a situation occurs, the interview will be stopped to allow composure of the participant. The participant will then be asked if he/she wishes to continue the interview session, as well as reminded that withdrawal from research without penalty is completely voluntary and acceptable.

Benefits of the study:
Research is designed to benefit society by gaining knowledge. You may also expect to benefit from participating in this study by having the opportunity to express your experiences. Those experiences can be linked to student and faculty understanding of positive and negative consequences of high-pressure challenges students face to succeed in nursing education.

Compensation:
You will not receive anything for taking part in this study.

How will your privacy be protected?
I ask permission to obtain information about your age, gender, GPA, ethnic background, marital/relationship/family status, previous degree/career, repeat student status, and current employment. This information will be provided on a demographic data questionnaire that the researcher will provide to you. All data collected from the research will remain strictly confidential and protected. If you elect to participate, you will be asked to create a pseudonym (i.e. Tinkerbell). The pseudonym will be coded on the data to protect your identity.

You are asked **not** to reveal any information you learn or share from the individual interview.

You should also know that while every effort will be made to keep research records private and information confidential, there may be times when federal or state law requires the disclosure of records. This is very unlikely, but if disclosure is required, UWG will take steps allowable to protect your personal information. In some cases, the University Institutional Review Board (IRB) may inspect study records as part of its auditing program. These reviews will only focus on the researchers and not on your responses or involvement.

When the records, data, tapes, or other documentation will be destroyed (if applicable):
All identifying materials will be destroyed after the research is completed.

Participation:
You are being asked to take part in this research study. To join the study is voluntary. You may refuse to join, or you may withdraw your consent to be in the study, for any reason, without

penalty. You have the right to ask, and have answered, any questions you may have about this research.

Questions about the research study:

If you have questions about this research study or any research-related problems, you may contact the researcher or faculty advisor listed above.

Questions about your rights as a research participant:

To contact the Office of Research and Sponsored Operations Compliance for answers to questions about the rights of research participants or privacy concerns, please email irb@westga.edu or contact the UWG Compliance Officer, Charla Campbell, at 678/839-4749 or charlac@westga.edu.

Participant Agreement:
I have read the information provided above. I have asked all the questions I have at this time. I have been given a copy of this informed consent statement to take with me. I voluntarily agree to participate in this research study.

_____ _____
Signature of Participant Date

_____
Printed Name of Participant

_____ _____
Signature of Research Team Member Obtaining Consent Date

_____
Printed Name of Researcher

Appendix C

Intent to Participate

Appendix C

INTENT TO PARTICIPATE

YES

NO

If you check "yes" to participate, please provide your name and best contact information to be notified by the primary researcher:

Name _____

Phone _____ Email _____

INTENT TO PARTICIPATE

YES

NO

If you check "yes" to participate, please provide your name and best contact information to be notified by the primary researcher:

Name _____

Phone _____ Email _____

Appendix D

Personal Profile Data Form

Appendix D

PERSONAL PROFILE DATA FORM

You are asked to provide the following data for information purposes. A summary of the demographic data, without any identifying markers, collected from all the participants in the research will be used in the research findings.

Please circle the letter that represents the appropriate response:

1. **Gender:**
   a. Male b. Female

2. **Age:**
   a. 18-24 b. 25-31 c. 32-38 d. 39-45 e. over 46

3. **Ethnic Background:**
   a. White b. African American c. Asian American d. American Indian

   e. Hispanic or Latino f. Other (please specify) _____

4. **Previous Degrees/Career:**

   a. AS (2 year degree) in _____ b. BS in _____ c. MS in _____

   d. Previous career/trade/occupation (please specify)_____

5. **Current Overall GPA:**

   a. 2.0-2.5 b. 2.6-3.0 c. 3.1-3.5 d. 3.6-4.0

6. **Marital/Relationship Status:**

   a. single b. married c. widowed d. engaged e. partner

7. **Do you have children?**

   a. Yes b. No

7. **Currently Employed?**

   a. Yes b. No How many hours per week do you work? _____

8. Have you repeated any of the BSN nursing program courses due to a high-stakes test?

   a. Yes b. No Specify the high-stakes tests and courses _____