2015

The Association Between Core Science Course Timing and Completion of an Associate Degree Nursing Program

Patricia Ann Pfeiffer
Walden University

Walden University

COLLEGE OF EDUCATION

This is to certify that the doctoral study by

Patricia Pfeiffer

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. James Valadez, Committee Chairperson, Education Faculty
Dr. Marianne Borja, Committee Member, Education Faculty
Dr. Jennifer Keeley, University Reviewer, Education Faculty

Chief Academic Officer

Eric Riedel, Ph.D.

Walden University
2015

Abstract

The Association Between Core Science Course Timing and Completion of an Associate

Degree Nursing Program

by

Patricia Ann Pfeiffer

MSN, East Carolina University, 2007

MSA, Central Michigan University, 1999

BSN, East Carolina University, 1992

AAS, Wayne Community College, 1988

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

September 2015

Abstract

The aging population in the United States has led to an increased demand for registered nurses. Nursing program administrators must examine ways to increase nursing program completion, which will increase the supply registered nurses. The purpose of this study was to determine the associations among length of time between core science course completion and nursing program admission, on-time completion, and National Council Licensure Examination for Registered Nurses (NCLEX-RN) success for students at a southeastern community college. A convenience sample of 288 community students admitted to an associate degree level nursing (ADN) program between 2007 and 2012 was selected. The guiding research questions examined if the length of time from completion of core science courses, Anatomy and Physiology, and admission to a selective admission nursing program was associated with on-time completion as well as passing the NCLEX-RN examination on first attempt. Using Karen's gatekeeping theory as the theoretical foundation, this nonexperimental, nonparametric, quantitative design tested for statistical significance. A Pearson chi square with phi coefficient was utilized for data analysis. The results indicated a statistically significant association between on-time completion and completion of core science courses (X^2 (4, $N = 288$) = 19.730, $p = .001$, ϕ .262); however, passing the NCLEX-RN on the first attempt was not significant (X^2 (4, $n = 178$) = 4.182, $p = .382$). The study contributes to positive social change by providing research-based findings on the association between core science course timing and program completion. This knowledge may impact course scheduling and increase the number of registered nurses, which will have a positive impact on meeting the healthcare needs of society.

The Association Between Core Science Course Timing and Completion of an Associate

Degree Nursing Program

by

Patricia Ann Pfeiffer

MSN, East Carolina University, 2007

MSA, Central Michigan University, 1999

BSN, East Carolina University, 1994

AAS, Wayne Community College, 1988

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

September 2015

Dedication

I dedicate this work to those that have encouraged and supported me during my educational journey. To my husband Tim; you have been the driving force for me to finish this degree. For this, I love and thank you. To my beautiful daughters Holly and April; you have always seen a book in your mother's hand. Thank you for being the wonderful daughters you are and supporting me on this journey. I love you both more than you will ever know. To my son-in-law Kevin, thank you for your support. To my sweet granddaughter Alyssa Grace; you gave me a reason to smile through it all every day. I love "me" you!

Acknowledgments

I would like to thank my Committee, Dr. James Valadez, Dr. Jennifer Lapin (original chair) and Dr. Marianne Borja, for their support, words of encouragement, and help along this journey. I would also like to thank Dr. Jennifer Keely, University Research Reviewer, for her support of my educational endeavors. In addition, I would like to thank Jennifer Sugg, a fellow student, co-worker, and friend who got me started on this journey and saw me through it. To each of you, thank you for inspiring me to want more!

Table of Contents

i

ii

List of Tables

Section 1: The Problem

Introduction

Despite the expected need, the field of nursing is facing a critical shortage of nurses. The needed registered nurse workforce is expected to grow by 26% or 1.2 million jobs by 2020 (American Association of Colleges of Nursing [AACN], 2012, U.S. Department of Labor, 2012). The aging U.S. population is intensifying this need. By 2030, 1 in 5 people will be over the age of 65 years (Federal Interagency Forum on Aging Related Statistics, 2010). The U.S. Department of Health and Human Services (HRSA) predicted a large deficit of registered nurses (HRSA, 2010). Therefore, a shortage of nurses threatens the healthcare system trying to meet the needs of aging Americans.

Nursing educational programs have the challenge of increasing the supply of registered nurses to meet future demands (AACN, 2011; Buchan, 2003). Retention of qualified students in selective admission nursing programs is a major challenge for nurse educators (Gilmore, 2008; Porter, 2008). Selective admission policies use predetermined admission criteria to admit students according to merit (Bissett, 1995). Colleges do not use uniform selective admission policies. The selective admission criteria are set by the nursing faculty based on experience and beliefs and not statistically validated variables (McNelis et al., 2010). Using statistical data to determine admission criteria that predict potential student success is imperative. Selective admission criteria may have a direct impact on program completion and NCLEX-RN success. The NCLEX-RN is a national standardized examination administered through the National Council of State Boards of

Nursing (NCSBN) that measures the competencies required to perform as an entry-level registered nurse (NCSBN, 2014).

While there is not established national benchmark for nursing program completion rates, the National League for Nursing Accrediting Commission recommended 80% (Brown & Marshall, 2008). National accreditation standards require nursing programs to report NCLEX-RN pass rates and graduation rates annually. A decline in NCLEX-RN pass rates and, or, completion rates require mandatory reporting of a substantive change (Accreditation Commission for Education in Nursing [ACEN], 2013). Accepting students into the ADN program who have the highest likelihood of succeeding in the program benefits the students, the nursing program, and society. Identifying variables that may predict student success in a nursing program is critical. This will allow nursing administrators to develop selective admission criteria that provide the best possible candidate for their programs. In turn, more nurses will be educated. Nursing students, nursing programs, and society's needs for registered nurses will benefit from this study. The purpose of this study was to determine the associations among length of time between core science course completion and nursing program admission, on-time completion, and NCLEX-RN success for students at a southeastern community college. This section of the project study will define the problem, its rationale and significance, review of the literature, and implications of findings.

Definition of the Problem

The Associate Degree Nursing (ADN) program in a southeastern community college has consistently low retention rates and National Council Licensure Examination for Registered Nurses (NCLEX-RN) pass rates, despite the use of limited admission procedures using selective admission criteria. The school of nursing's 3-year aggregate (2011-2013) on-time completion rate is 66.2% and 3-year aggregate NCLEX-RN pass rate is 87.7%. The school of nursing's NCLEX-RN pass rate is also showing an annual decreasing trend. The NCLEX-RN pass rates declined from 93% to 89% to 81% from 2011 to 2013. The national pass rate for NCLEX-RN first time test takers in 2012 was 90% (North Carolina Board of Nursing, n.d.). There may be many contributing variables to this problem, including the length of time between completion of core science courses such as, Anatomy and Physiology and admission to the nursing program. The community college accepts grades of C or better for all core sciences courses, regardless of the how long ago they were completed.

The local setting for this research is a community college located in the southeastern region of the United States offering an ADN program which allows the graduates to take the NCLEX-RN examination. The program is nationally accredited by the Accreditation Commission for Education in Nursing. The program also has full approval status by the North Carolina Board of Nursing. It is one of 55 community colleges offering ADN programs in the state. Selective admission criteria for each

program are set by the local college and use objective scoring criteria for each qualified applicant. Applicants can then be ranked based on the scoring criteria.

The college has an open door policy for admission, but the ADN program uses several factors to determine eligibility for a student to apply to the ADN program. The eligibility criteria include completion of a chemistry class either in high school or college level within the last 10 years; completion of the college placement tests in English, writing, pre-algebra, algebra, and computer skills at college level ability.

Once a student has met the eligibility criteria, additional selective admission criteria are used to rank the applicants. The criteria used to rank the applicants are the scores students receive on the ACT and grades earned in general education courses in the nursing program including Anatomy and Physiology. The community college accepts all grades of C or better regardless of the year they were completed. The college admits 48 students into the ADN program each fall, although the qualified application pool is twice as large as those accepted into the program annually.

The qualifications to enter a nursing program are widely debated. Individual institutions can set their own admission criteria. The question remains whether there variables that have a direct impact on student success. Colleges want to accept students into the ADN programs who have the highest likelihood of succeeding which not only benefits the students entering the program, but also the nursing program. National accreditation standards require the ADN program to report NCLEX-RN pass rates and

completion rates annually. A decline in NCLEX-RN pass rates and, or, completion rates require mandatory reporting of a substantive change (ACEN, 2013).

Rationale

Evidence of the Problem at the Local Level

Selective admission criteria are set by each college and nursing faculty (McNelis et al., 2010; Newton, Smith, & Moore, 2007; Ware 1996). The southeastern college in the study does not consider the length of time between completions of core science courses, Anatomy and Physiology, and acceptance into the program. Any Anatomy and Physiology taken at the college or transferred in is accepted with a grade of "C" or better. The nursing department chair believes, based on anecdotal evidence, those students who complete Anatomy and Physiology more than 5 years prior to entering the program have higher attrition rates and failure of the NCLEX-RN licensure examination (S. Beaman, personal communication, August 15, 2013). In a survey of allied health deans and directors in the southeastern state in this study with 62% of the schools reporting, 91% reported using a time limit between 5-10 years, prior to admission for required core science courses (Pfeiffer, 2013).

The failure to complete the nursing program or pass the licensure exam upon completion of the program has a negative impact on the students, the college, graduates, faculty, local community, and society (Poorman, Mastorovich, & Webb, 2009). The students are affected both financially and emotionally, including loss of career aspiration

and loss of time invested in their educational endeavors and society loses a future nurse (Johnson, Johnson, McKee & Kim, 2009).

Despite the increased need for registered nurses, retention rates in RN preparation programs are low. In one southeastern state, the combined 3-year aggregate (2010-2012) on-time completion rate for 55 ADN programs is 57% (North Carolina Board of Nursing, n.d.). Over 40% of students starting ADN programs have not completed their education. Schools of nursing limit enrollments using selective admission criteria for selection of students. Selection admission criteria identifying students most likely to graduate are not commonly utilized (Karen, 1990).

The local southeastern college is turning away 50% or more of qualified applicants annually (S. Beaman, personal communication, August 15, 2013). The National League for Nursing (2013) reported that 84.8% of all ADN programs were turning away qualified applicants between 2009 - 2012. Furthermore, the shortage of faculty and insufficient clinical sites contributed to 79,659 qualified nursing school applicants to be denied admission to baccalaureate and graduate nursing programs (AACN, 2014). To further complicate this issue, annual admissions to nursing programs declined by 2% in 2008, which was the first time in a 6 year period the nursing admission rates had dropped (Kaufman, 2008; Kaufman, 2010).

Evidence of the Problem from the Professional Literature

Performance in core science courses, Anatomy and Physiology, has been shown to be a predictor of success on the NCLEX-RN examinations (Beeman & Waterhouse,

2001; Beeson & Kissling, 2001; Roncoli, Lisanti, & Falcone, 2000; Yin & Burger, 2003). In a retrospective study using academic records and NCLEX-RN result, Beeman and Waterhouse (2001) found performance in biology courses as well as nursing courses to be significant predictor variable for passing the NCLEX-RN exam. In a similar study, of 280 generic nursing students admitted to a baccalaureate's of science in nursing program, performance in the pathophysiology course was a significant predictor of program withdrawal (Uyehara, Magmussen, Itanto, & Zhang, 2008). In a study of university nursing students in New Zealand, researchers found a significant correlation between entry criteria to nursing school and academic performance on year one bioscience papers (vanRooyen, Dixon, Dixon, & Wells, 2006). In contrast, Shirrell (2008) found that previous college level science course performance was not a significant predictor of success.

Correlation between time frame of completion of courses and success has been noted in other disciplines. In a study of college students in California, students who completed college level math within 2 years graduated at a higher rate (61%) in comparison to those who did not (22%) (Moore, Shulock, & Offenstein, 2009). The time factor between completion of core science courses and application to a nursing program is not widely studied. The purpose of this study was to determine the associations among length of time between core science course completion and nursing program admission, on-time completion, and NCLEX-RN success for students at a southeastern community college.

Definitions

To facilitate understanding of the topic, the following terms have been defined:

Core science courses: Anatomy and Physiology I & II is a requirement in the nursing curriculum and essential for understanding normal and altered functions enabling the nurse to provide safe and competent nursing care (Higgins, 2005).

Gatekeeping: Gatekeeping is the development and implementation of criteria and practices that yield access to scarce resources (Greene, 2007; Karen, 1990). The theoretical model of gatekeeping includes the following constructs: an organizational field, a classification struggle, standard operating procedures, and outcomes (Karen, 1990).

National Council Licensure Examination (NCLEX-RN): The NCLEX-RN is a national standardized examination administered through the NCSBN that measures the competencies required to perform as an entry-level registered nurse (NCSBN, 2014).

On-time completion: Specified length of time identified by the institution for completion of an academic program (Robertson, Canary, Orr, Herberg, & Rutledge, 2010). The ADN program being studied is a 5 semester program.

*Pass rates***:** Pass rates are calculated as the annual percentage of nursing students who successful pass the NCLEX-RN on their first attempt as reported by cohorts (Bernier, Helfert, Teich, & Viterito, 2005). The pass rates are reported as pass or fail for each student attempting the NCLEX-RN examination. Nursing programs quality is

measured by their NCLEX-RN pass rates by state boards of nursing and national accreditation agencies (Bernier et al.; McQueen, Shelton, & Zimmerman, 2004).

Registered nurse: The registered nurse provides patient care, coordinates care, educates patients and the public, and provides advice and emotional support to patients and their family members (United States Department of Labor, 2014). Registered nurses enter the profession through three educational tracks: associate degree, diploma in nursing, or baccalaureate degree.

*Selective admission criteria***:** Selective admission criteria use predetermined admission criteria used to admit students according to merit (Bissett, 1995).

Significance

Educating competent nurses to enter the workforce is the ultimate goal of any nursing program. Nursing programs are under pressure to produce competent, skilled graduates yet maintain acceptable program completion rates and NCLEX-RN pass rates based on accreditation standards and Board of Nursing reporting requirements. The continued nursing shortage will have an impact on society as a whole.

Due to the limited resources available to a nursing program, the selection of students who are highly likely to be successful is imperative. Understanding the variables that predict success, used in selective admission criteria for developing admission criteria, may have a positive impact in nursing. This in turn may create a positive impact for the students, faculty, college, local community, and society. Increasing the number of

registered nurses to meet the demand of the health care system can have direct impact on members of society relying on qualified healthcare providers to meet their health needs.

Nursing programs are also held accountable to college administrators, state boards of nursing, and national accreditation bodies. Accountability measures for on-time program completion and NCLEX-RN success are commonly reported and used in approval processes. Evaluating these variables at the local level may increase the nursing graduates as well as improve the graduates' likelihood to pass the NCLEX-RN the first time it is taken.

Guiding/Research Question

The purpose of this study was to determine the associations among length of time between core science course completion and nursing program admission, on-time completion, and NCLEX-RN success for students at a southeastern community college. Past researchers have identified multiple variables impacting students' successful completions of a nursing program or passing the NLEX-RN examination upon completing the nursing program. Despite the utilization of selective admission criteria, on-time completion and NCLEX-RN success remains low. The 3-year aggregate (2011-2013) on-time completion rate is 66.2% and 3-year aggregate NCLEX-RN pass rate is 87.7%. The following questions will guide this nonexperimental, nonparametric, quantitative research:

Research Question 1: Does the length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, provide a statistically significant means to predict on-time completion?

$H_0$1: The length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, does not provide a statistically significant means to predict on-time completion.

H_a1: The length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, does provide a statistically significant means to predict on-time completion.

Research Question 2: Does the length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, provide a statistically significant means to predict passing the NCLEX-RN?

$H_0$2: The length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, does not provide a statistically significant means to predict passing the NCLEX-RN.

H_a2: The length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, does provide a statistically significant means to predict passing the NCLEX-RN.

Review of the Literature

The purpose of this study was to determine the associations among length of time between core science course completion and nursing program admission, on-time completion, and NCLEX-RN success for students at a southeastern community college. A focused and comprehensive search of the literature was performed. The following databases were used: Cumulative Index to Nursing & Allied Health Literature, Education Research Complete, Education Resources Information Center, Google Scholar, Sage, and Proquest Dissertation and Thesis Database. The following keywords were used in the search: *admission criteria, completion rates, gatekeeping, NCLEX-RN, persistence, predicting success, and selective admissions.* The literature review is divided into four sections including Theoretical Framework, On-Time Completion, NCLEX-RN, and Success Variables. Success variables are further divided into Coursework, Academic Aptitude, Entrance Examinations, and Student Demographics.

Theoretical Framework

The theoretical construct that will guide the framework for this study is the gatekeeping theory. Gatekeeping theory involves development and implementation of criteria and practices that yield access to scarce resources (Greene, 2007; Karen, 1990). Karen (1990) described the practice of gatekeeping at elite universities. Karen (1990) studied admission practices at Harvard University, identified numerous factors that increased the likelihood of admission to the university and argued that no college or university was able truly to identify students who are most likely to graduate. An

examination of admission practices during a time of affirmative action was closely examined (Karen, 1990).

The theoretical concept of gatekeeping is not commonly found in the nursing literature. Social work education, private, and public education researchers commonly discuss the use of gatekeeping processes for admission (Gibbs & Blakely, 2000; Greene, 2007; Karen, 1990). Brear, Dorrian, and Luscri (2008) defined gatekeeping as "the evaluation of student suitability for professional practice. It is a mechanism that aims to ensure the health of the profession by controlling access to it" (p. 93). Gatekeeping protects society from dishonest, impaired, and incompetent students (Royse, 2000). Nursing programs utilize gatekeeping through implementation of selective admission criteria. This creates a competitive environment forcing students to compete for available spots in a nursing program. This process creates opportunities for some and limits access for others (Royse, 2000).

Selective admission criteria, as created through a gatekeeping processes, provide an opportunity for nursing programs to identify variables that lead to success in the program as well as entry into the profession. Nursing selective admission policies evolved out of attempts to allocate scarce resources (Bissett, 1995). Clinical sites and qualified faculty are limiting resources commonly found in nursing programs (Ware, 1996). Limitations set by regulatory agencies related to faculty-to-student clinical ratios and clinical site availability limit resources for nursing program (Bissett, 1995). The current selective admission criteria used by this southeastern college's ADN program are:

- Completion of high school diploma or general educational development (GED).

- Submit all college transcripts.

- Complete college placement tests in reading, writing, pre-algebra, algebra, and computer skills or submit SAT or ACT scores at or above published cut-off scores. Algebra and computer skills placement test can be replaced by college level equivalent course with a grade of "C" or better.

- Completion of a chemistry course either high school or college level within the last 10 years.

- Submit score for ACT college readiness assessment taken within 5 years of admission to nursing program.

- Optional points awarded for general education courses in the ADN curriculum based on grade earned in the course. Courses include BIO 168 Anatomy and Physiology I, BIO 168 Anatomy and Physiology II, BIO 175 General Microbiology, ENG 111 Expository Writing, ENG 113 Literature-Based Research, PSY 150 General Psychology, and PSY 241 Developmental Psychology.

- Complete official interview with a Student Development/Counseling Services counselor.

A primary challenge with selective admission criteria is identifying if the criteria used select the students most likely to succeed in the nursing program. Selective

admission criteria are commonly selected by the nursing faculty (McNelis et al., 2010; Newton, Smith, & Moore, 2007; Ware 1996). Ware (1996) recommended that selective admission policies be used for the development of admission criteria. In doing so, nursing programs need to identify through statistical methods variables that predict on-time completion and NCLEX-RN success.

On-Time Completion

Completing college is an aspiration of many high school students. Over 90% of high school students express a desire to attend college, yet only 62% enter college and less than 50% complete their first year (Bragg, Kim, & Barnett, 2006). College graduation and retention rates have received national attention with the implementation of The American Graduation Initiative by President Obama (Heiman, 2010). President Obama's challenge to community colleges is to double college graduates by 2020 (Heiman, 2010). The Community College Completion Agenda is in response to increasing attrition rates. The American Association for Community Colleges (AACC) in conjunction with five national organizations is committed to increasing college graduation by 50% by 2020 (McPhail, 2011).

College education is becoming even important as the demand for highly skilled employees increases. Data projections related to workforce needs and educational requirements needed by 2014 suggested that postsecondary education will be required for entry level positions (Carnevale, Smith, & Strohl, 2010). Community college leaders have focused on ways to address attrition rates yet attrition rates from academic programs

are growing (McGregor, 2010). Strategic changes in institutional policies and practices are needed for colleges to shorten the time to degree completion rates (McPhail, 2011). These policies and practices affect individual programs including nursing programs.

Program completion is a familiar issue and studied in multiple academic fields. Multiple studies have looked at different variables predicting student completion. Ali and Ali (2010) studied engineering students to examine the predictability of performance university-based engineering students in Pakistan. Evaluation of admission testing of 203 engineering students was conducted. A significant correlation between admission testing and academic achievement of engineering students was noted. In a retrospective study of 478 medical students in the first 4 years of a 6 year program in Saudi Arabia, high school grades were the most predictive variable of on-time program completion.

Using data to determine variables that predict success in highly competitive selective admission nursing programs is essential. Multiple researchers have identified different variables that have been linked to program completion and NCLEX-RN pass rates. Without the use of data, admission criteria used in selective admission programs is unsubstantiated. Nursing programs must critically examine their admission criteria to ensure the students most likely to complete the nursing program and pass the NCLEX-RN examination are selected.

NCLEX-RN

The National Council Licensing Exam for Registered Nurses (NCLEX-RN) is a national standardized examination administered to graduates of prelicensure nursing

programs. It is developed by the National Council of State Boards of Nursing (NCSBC).

It is a computerized examination administered in a controlled testing environment. It

measures a nurse's competency in delivering safe and effective nursing care (NCSBN,

2014). The exam focuses on competencies required in the first 6 months of practice

(Aucoin & Treas, 2005).

The NCLEX-RN uses a computer adaptive test format used to determine the

ability of the candidate in relationship to the established passing standard (NCSBN,

2014). The passing standard is measured in units of probability called logits (O'Neill,

2005). The candidate takes between 75 to 265 test items in a variety of formats,

depending on the level of difficulty as measured by the passing standard. Candidates who

perform above the passing standard with a 95% confidence level can take as few as 75

questions and as many as 265 questions to determine passage of the examination. Passing

the NCLEX-RN allows the candidate the privilege to apply for licensure in their state of

choice.

Annually, 163,000 nursing program graduates take the NCLEX-RN examination,

and approximately 31,800 fail the exam on their first attempt (NCSBN, 2013). Failure of

the NCLEX-RN produces economic and financial hardship on nursing graduates

(Trofino, 2013). Pass rates can affect nursing program. The programs' accreditation

status, funding, and reputation can be affected (Giddens, 2009). Quality of a nursing

program is often measured by the NCLEX-RN pass rates (Pennington & Spurlock, 2010).

Because passage of the national licensure examination is necessary to practice as a

registered nurse, understanding factors that predict successful passage of the NCLEX-RN is essential.

Success Variables

Identifying variables affecting nursing student success is varied in the literature. Numerous variables have been studied related to nursing student success as defined by completion of a nursing program and passage of the NCLEX-RN. This section of the literature review will be divided into four categories: Coursework, Academic Aptitude, Entrance Examinations, and Student Demographics.

Coursework

Researchers have documented the importance of coursework for predicting performance in nursing programs. Numerous researchers have indicated the importance of admission criteria and success in nursing programs. Researchers had found a positive correlation between performance in science courses, retention and program completion, and success on the NCLEX-RN examination (Ali & Naylor, 2010; Gilmore, 2008; Moseley & Mead, 2008; Roncoli, et al., 2000; Uyehara, et al., 2007).

Higgins (2005) studied two cohorts of nursing students ($n = 213$) admitted in one academic year at a community college associate degree program using quantitative and qualitative research methods. Higgins (2005) found higher grades in Anatomy and Physiology and Microbiology to be significant predictors of success for graduation rates and only Anatomy and Physiology to be predictive for NCLEX-RN pass rates. Themes identified in the qualitative interviews of program directors related to student success

included: preadmission testing, high GPA, prerequisite course requirements, limited

enrollment, counseling, college reading ability, limited readmissions, and remediation

(Higgins, 2005). In comparison, faculty interviews only identified microbiology as a

significant predictor of graduation but not NCLEX-RN pass rates. Student interviews did

not identify any themes related to admission into the nursing program. Higgins (2005)

recommended that science and mathematics courses be included in admission criteria.

In similar studies, course work was found to be predictive of student success on

the NCLEX-RN pass rates. McGahee, Gramling, and Reid (2010) found science GPA

prior to admission to a nursing program to be a good indicator of success on the NCLEX-

RN examination. Simon and Augustus (2009) compared both baccalaureate and associate

degree graduates over a 4-year period. They found grades earned in foundational science

courses and nursing clinical courses correlated with NCLEX-RN pass rates. Landry,

Davis, Alameida, Prive, and Renwanz-Boye (2010) found grades earned in

pathophysiology, medical/surgical nursing, and nursing theory predicted NCLEX-RN

success in three different types of nursing programs. Shaffer and McCabe (2013) found a

significant correlation between grades achieved in Anatomy and Physiology I ($p = .027$)

Anatomy and Physiology II ($p = .001$) and microbiology ($p = .000$) and NCLEX-PN pass

rates in a quantitative study of 335 ADN students. Preadmission science course grades

were not found to be predictive of passing the NCLEX-RN. A significant negative

correlation ($p = .000$) was found based on the number of science course attempts and

passing the NCLEX-RN (Shaffer & McCabe, 2013).

Jeffreys (2007) tracked students from program entry through licensure. The sample included students who reentered the program after withdrawal or academic sure. The study identified an inverse correlation between the numbers of withdrawals or failures and NCLEX-RN pass rates, indicating that students, who are not initially successful with their coursework, may not successfully complete the program or pass the licensure exam. Conversely, Anatomy and Physiology course grades correlated positively with program completion rates.

Data from five cohorts consisting of 1,006 nursing students enrolled in a college of nursing in Italy over a 5 year period were studied to determine which variables are best at predicting success or failure (Lancia, et al., 2013). The independent variables included upper secondary diploma grades and program admission test scores. The dependent variables were graduation within the legal duration of the program (on-time completion), final degree grades, and the average value of examination scores (Lancia et al., 2013). Researchers found that grades associated with upper secondary diploma courses were positively correlated with final degree grades. Students who failed had the lowest grades associated with upper secondary diploma course grades (Lancia et al., 2013).

Tipton et al. (2008) also found that grades earned in nursing courses correlated with NCLEX-RN success. In a study of 385 ADN students, variables including nursing course grades, stress management, test taking skills, and entrance examination were researched. Students who passed the NCLEX-RN had significantly higher grades in their

nursing courses, yet there was no significant relationship with other variables in the study.

Using a qualitative approach, Rogers (2010) explored variables contributing to student success. Using semistructured, open-ended, face-to-face interviews, participants agreed that no one factor guarantees success. Both faculty and student interviewed agreed that no single factor guarantees success, but rather a combination of different variables impact success (Rogers, 2010). Variables identified by both students and faculty included motivation, faculty involvement, and academic abilities (Rogers, 2010).

Peterson (2009) found a statistically significant correlation between past academic performance (GPA) and academic success in the first semester of a baccalaureate nursing program. In her descriptive correlational study of 66 first semester baccalaureate nursing school students, she also studied the nonacademic variables self-esteem and self-efficacy's relationship to academic success. She did not find a significant relationship between non-academic variables and academic success but did find a significant correlation between self-esteem and self-efficacy.

In an exploratory co-relational design, Ali & Naylor (2010) reviewed the records of 628 students in a Pakistan diploma nursing program. Similar results related to academic performance were noted. Academic and non-academic factors were studied to identify predictive factors related to nursing school success. Preadmission qualification, previous academic performance, and nursing school performance were all found to be significantly associated with academic performance (Ali & Naylor, 2010). The only

nonacademic factor found to be significant was gender. Female students were better performers than male students (Ali & Naylor, 2010).

Studies in other healthcare disciplines have described an inverse correlation between completions of science courses to student success. Researcher performed a retrospective study of 164 first year medical school students at a college in the United Kingdom. They studied student demographics and pre-admission variables related to student success. No significance between students who took a science class versus non-science as their third or fourth General Certificate Education Advanced level (GCE A-level) prior to admission was found. The GCE A-level is a post secondary examination commonly used in the United Kingdom (Yates, Smith, James, & Ferguson, 2009). Pre-clinical course performance was the strongest predictors of success in the 5-year program.

Whyte, Madigan, and Drinkwater (2011) studied 543 students enrolled as undergraduate nursing, paramedic, or nursing/paramedic double degree students. In differentiating traditional students, those entering college directly after high school and mature students defined as, those had at least a year's gap between high school and the start of college courses, the mature students performed better than traditional students in bioscience courses. The researcher speculated that mature students bring a greater intrinsic motivation to succeed as well as coping skills (Whyte et al., 2011).

Academic Aptitude

Academic aptitude includes past performance in secondary and higher education courses as well as grade point average (GPA). College GPA was the most commonly used admission criteria (Crow, Handley, Morrison, & Shelton, 2004). Raman (2013) studied factors that influenced student success in an ADN program. The study used a convenience sample of 104 second-year nursing students. Researchers found that GPA, faculty support, self-efficacy, commitment, and math self-concept played key roles in academic success. Gilmore (2008) also found that prenursing GPA was the strongest predictor of a student's success in the studied nursing programs and NCLEX-RN success (Gilmore, 2008).

Prenursing GPA and science GPA were studied by Seago, Keane, Chen, Spetz, and Grumbach (2012). In a descriptive, correlation study using a convenience sample, 738 students from both associate degree and baccalaureate degree nursing programs at 12 colleges in California were studied. The researchers found that previous academic achievement including prenursing GPA and science GPA were predictive of on-time and any-time completion rates (Seago et al., 2012).

Breckenridge, Wolf, and Roszkowski (2012) studied BSN prelicensure nursing students ($n = 255$). A comparison of those who passed the NCLEX-RN on the first attempt ($n = 133$) and those who failed ($n = 122$) was conducted. Thirteen predictors were analyzed. The single best predictor of success for both groups was science GPA.

Other variables found to be statistically significantly related to passing the NCLEX-RN the first time include undergraduate GPA, retaking science courses, and family income.

Shaffer and McCabe (2013) studied 335 nursing students in two cohorts to identify variables that were predictive of NCLEX-PN first attempt success. Using quantitative regression analysis, preadmission GPA ($P = .000$) showed a significant positive correlation with NCLEX-RN pass rates. In a similar study of 184 nursing students in two cohorts of a baccalaureate program admitted twice a year, students who received a GPA of less than 2.5 in their first semester of the nursing major were predictive of nursing attrition (Newton, Smith, & Moore, 2007). This provides evidence of the importance of academic aptitude as a predictor of success in a nursing program.

Cumulative GPA was not noted to be a good indicator of success on the NCLEX-RN in several studies. In a study of 368 students in a baccalaureate program over a 10 year period, transfer undergraduate GPA or cumulative undergraduate GPA was not statistically significant. The only statistical difference found was in the nursing cumulative GPA ($p < .000$). Those who passed NCLEX-RN had an approximately 0.3 point higher GPA than those who failed NCLEX-RN (Haas, Nugent, & Rule, 2004). Shirrell (2008) also found nursing GPA to be the best predictor on NCLEX-RN success.

In a similar study with data collected over a 5 year period for 280 nursing students, cumulative GPA was not a good predictor of NCLEX-RN pass rates for a baccalaureate program. A significant correlation was noted with nursing GPA ($p = .0059$)

and NLN Comprehensive Predictor tests in adult health (p = <.0001), maternal newborn (p = .0179), and pediatric nursing (p = .0025) (Uyehara et al., 2007).

Entrance Examinations

The selective admission process among allied health programs commonly use entrance exams, which vary by discipline. Entrance tests commonly used for nursing admissions include the American College Test (ACT), SAT, Health Education Systems, Inc. (HESI) predictor examination, Nurse Entrance Test (NET), and the Test of Essential Academic Skills (TEAS). Research has shown a significant relationship between performance on nursing entrance examinations used in selection admission criteria and student success (Hopkins, 2008; Gilmore, 2008; Grossbach & Kuncel, 2011; Marshall, 2006; Wolkowitz & Kelley, 2010).

Wolkowitz and Kelley (2010) studied a large cohort of nursing students (n = 4,105) from 49 different nursing program types to analyze student test scores and relationship of predicting early nursing school success. Multiple regression analysis was used to predict the best indicators of success on the Assessment Technologies Institute's (ATI) RN Fundamental assessment and the TEAS for the cohort RN students. The strongest predictor of success in a nursing program was the science subtest of the TEAS followed by reading, written/verbal, and mathematics (Wolkowitz & Kelley, 2010). The finding supported other research studies that found science courses to be a significant indicator of nursing student success (Higgins, 2005; Jeffreys, 2007). Trofino (2013) found math sub scores of either the SAT, ACT, or TEAS to be statistically significant (p

= .03) for the nursing student's probability of passing the NCLEX-RN on the first attempt.

Newton and Moore (2009) also found the TEAS to be a predictor of academic achievement in a nursing program. In contrast, Newton, Smith, and Moore (2007) did not find a correlation between the TEAS entrance examination and NCLEX-RN pass rates.

Gilmore (2008) conducted a descriptive correlational study using a convenience sample from two different ADN programs totaling 218 students. Admission criteria were studied to determine predictors of success correlating with student retention and passage of the NCLEX-RN examination. American College Test (ACT) composite scores showed a positive correlation for predicting a student's success in the nursing programs studied (Gilmore, 2008).

Grossbach and Kuncel (2011) conducted a meta-analysis of 31 independent samples. Using a singular dependent variable, NCLEX-RN passage, the researchers found that thirteen predictor variables correlated with NCLEX-RN licensure success. Admission test score and grades earned in nursing courses accounted for the highest amount of variability in success on the NCLEX-RN. ACT Social Studies and SAT Verbal scores had the strongest correlation, but all subscales of either the ACT or SAT accounted for a statistically significant amount of variability in NCLEX-RN scores. The researchers concluded that selective admission policies that included standardized tests and GPA tend to predict success on the national licensure examination (Grossbach &

Kuncel, 2011). This supports the use of standardized testing for selective admission criteria.

De Lima, London, and Manieri (2011) compared students who passed the NCLEX-RN to a group that did not pass. A sample of 38 students, 19 successful and 19 who failed NCLEX-RN were compared on multiple variables including preadmission GPA, nursing curriculum GPA, preadmission examination scores (PAX-RN), and National League for Nursing (NLN) examination scores. The groups differed significantly on standardized test results and the pass/fail rates in nursing courses. Those students who did not pass the NCLEX-RN had lower scores on those measures than did those students who passed the NCLEX-RN. In addition, terminal grades in parent-child and mental health nursing courses showed statistical significance for NCLEX-RN pass rates between the two groups (DeLima, London, & Manieri, 2011). In an ex facto study of 314 associate degree students, Marshall (2006) found ACT scores and GPA of five nursing courses to be predictors of success on the NCLEX-RN.

Hopkins (2008) studied first semester nursing student success in a nursing fundamentals course. Nineteen predictor variables including academic and nonacademic variables were analyzed for a sample of 383 associate degree students. SAT scores, high school GPA, and Nurse Entrance Test (NET) were generally significantly correlated with success. This research reinforced the need for early identification of at-risk students enrolled in first semester nursing fundamental courses.

In a study that compared an accelerated nursing program with a traditional program, using a convenience sample of 127 students, the researchers found that students who scored well on the HESI predictor examination had a significant correlation with passing the NCLEX-RN on their first attempt. In addition, students who entered the nursing programs having a previous baccalaureate degree in a science-related field had a higher predictability of passing the NCLEX-RN on their first attempt (Abbott et al., 2008). The HESI Admission Assessment Exam was found to be predictive of nursing program completion (Murray, Merriman, & Adamson, 2008).

Student Demographics

Student demographics are personal attributes such as age, gender, and ethnicity. Timer and Clauson (2010) used a retrospective study design to correlate student success with demographic characteristics, interview scores, admission GPA, and supplemental application materials. The sample consisted of 249 students from an accelerated baccalaureate nursing program admitted over a 4-year time frame. Variables found to be predictive of student success included age, ethnicity, and admission GPA (Timer & Clauson, 2010). Kostecki and Bers (2008) found a direct correlation between age in community college students and course success rates. Older students had a higher probability course success and returning to college from fall to spring than did younger students (Kostecki & Bers, 2008). Trofino (2013) found age to be marginally statistically significant ($p = .08$) for NCLEX-RN first time pass rates.

A retrospective cohort study of 1259 students who started their studies between 2002 and 2003 and completed by the end of 2006 was conducted by Pryjmachuk, Easton, and Littlewood (2008) at an English university in the United Kingdom. Age was found to be statistically significant for completers versus non-completers. In addition, students who entered the nursing program with minimum educational qualifications statistically had a higher prediction of being non-completers (Prymachuk et al., 2008).

Jeffreys (2007) compared graduates and nongraduates for a cohort ($n = 112$) of ADN students. The mean age for the cohort was 29 years with a range from 19 to 56 years. Age was found to be a significant factor between the 2 cohorts, although inferential statistical analysis was not utilized to correlate age with other student characteristics. This could have provided a richer analysis. Younger students often underestimated the rigor of the nursing program and their support systems (Jeffreys, 2007). In a similar study Pence (2011) found a statistically significant relationship between age and first semester nursing course retention. Younger students showed a more significant correlation with first semester nursing course retention. Older students may have greater responsibilities that interfere with their educational process (Pence, 2011).

In contrast, Higgins (2005) did not find student demographic variables of age, gender, or race to be statistically significant for completion of a nursing program or NCLEX-RN success. Age was not found to be a predictor of success on NCLEX-RN pass rates (Landry et al., 2010; Peterson, 2009).

Implications

It is imperative that college administrators and nursing programs understand admission variables used in selective admission nursing program that impact program completion and NCLEX-RN success. Nationally and locally qualified students are being turned away (AACN, 2009). The findings of the project study showed a statistically significant association between the time frame for completion of core science courses, Anatomy and Physiology and on-time completion of a nursing program. The phi coefficient indicated a weak association for on-time completion. However, the association between the time frame for completion of core science courses, Anatomy and Physiology and NCLEX-RN success on first attempt was statistically nonsignificant. The project developed was a course titled Academic Student Success for the Nursing Student. The purpose of this study was to determine the associations among length of time between core science course completion and nursing program admission, on-time completion, and NCLEX-RN success for students at a southeastern community college.

Summary

In this section, discussion centered on issues related the selection of nursing students to be admitted an ADN program located in the southeastern region of the United States. Due to the current nursing shortage, it is imperative that nursing programs produce competent graduates. The gatekeeping practice of utilizing selective admission criteria has a direct impact on the selection of students admitted to the program. The question remains as to whether the selective admission criteria aids in choosing students

who can be successful in the program and on the required licensure examination NCLEX-RN. The nursing department chair of the associate degree program is concerned that the practice of accepting grades for core science courses, Anatomy and Physiology, regardless of year it was taken, has a negative impact on on-time completion and passing the NCLEX-RN on first attempt.

Section 1 addresses the problem, rationale and significance of the problem, including evidence from the local level and professional literature, guiding research question, review of the literature, and implications of the study. Section 2 focuses on research methodology and design.

Section 2: The Methodology

Introduction

The purpose of this study was to determine the associations among length of time between core science course completion and nursing program admission, on-time completion, and NCLEX-RN success for students at a southeastern community college. Nursing programs are under a great deal of pressure to produce safe and competent nurses to meet the projected nursing shortage. Despite the use of selective admission criteria, nursing programs historically have low completion rates. NCLEX-RN pass rates are 80.5% nationally (NCSBN, 2013). Admission criteria should identify the students most likely to succeed in the nursing program and pass the NCLEX-RN examination. Using Karen's (1990) theory of gatekeeping, as utilized by the nursing program using selective admission criteria, a study was conducted to determine if the length of time between core science course completion and nursing program admission provides a statistically significant means to predict on-time completion and NCLEX-RN success.

Section 1 provided a review of the current literature of variables that have been identified to affect on-time completion and NCLEX-RN success for nursing graduates. The finding may be used to improve nursing student success, which could increase on-time completion and pass rates for the NCLEX-RN licensure exam.

The implication for positive social change includes increasing the supply of registered nurses to meet the growing societal demand. As the nursing program implements strategies to enhance student success based on research supported data,

students selected will have a better probability of completing the program of study as well as passing the NCLEX-RN examination on their first attempt. This will allow for the best utilization of limited slots in nursing program as well increase the production of licensed registered nurses. This section will describe the research design, setting, sampling procedures, participants, as well as a plan for data collection and data analysis.

Research Design and Approach

This quantitative, nonexperimental, nonparametric study, used retrospective data analysis, investigated the association between the independent variable: time frame, defined as the number of months prior to nursing program acceptance, of completion of core science courses, Anatomy and Physiology, and dependent variables: on-time completion of an ADN program and passing the NCLEX-RN examination on the first attempt. This research design was appropriate for the purpose of this study, which determined the associations among length of time between core science course completion and nursing program admission, on-time completion, and NCLEX-RN success for students at a southeastern community college. Data from six cohorts of students admitted between 2007 and 2012 were collected.

Setting and Sample

The setting for this study was an ADN program in a community college in the southeastern region of the United States. This community college is one of 58 community colleges located in the state. Fifty-five of the 58 colleges offer an ADN program. A purposeful, nonprobability, convenience sampling was used that involved collecting

retrospective data from college admission records and departmental NCLEX-RN results. The sample consisted of six cohorts of nursing students ($N = 288$) admitted to one ADN program in a southeastern community college between 2007 and 2012. Using a convenience sampe limits the abilities to generalize the study's results to a large population (Lodico et al., 2010).

A power analysis using Raosoft software was used to determine minimum sample size using a statistical confidence level of 95% with a 5% margin of error. According to the power analysis, a minimum sample size of 165 was required to reach a 95% confidence level (Raosoft, Inc., 2004). The population characteristics included both male and female students. Age and racial diversity was noted upon identification of the cohort's demographics.

Instrumentation and Materials

The purpose of this study was to determine the associations among length of time between core science course completion and nursing program admission, on-time completion, and NCLEX-RN success for students at a southeastern community college. Retrospective demographic and program data were gathered from institutional and program records. Confidentiality of the records was maintained by the removal of all identifying information. Data were collected on an excel spreadsheet an uploaded into the Statistical Product and Service Solutions (SPSS) software package. The data are presented in tables for clear presentation.

The independent variable was measured by determining the number of months from completion of core science courses, Anatomy and Physiology, prior to admission into the ADN program. The dependent variables were measured by determination of whether student's completes the nursing program in 5 semesters and passed the NCLEX-RN examination on the first attempt.

Data Collection and Analysis

Prior to data collection, permission was requested and received from the community college's department of institutional research to collect student data. This permission was included in the formal submission to the Walden University Institutional Review Board requesting approval to begin research. Once approval was confirmed from the Walden University Institutional Review Board, the researcher met with the department chair for institutional research at the community college. A process to collect the information related to the year students completed their Anatomy and Physiology courses and NCLEX-RN results for the sample nursing cohorts was identified. The researcher requested that all student identifiers be removed. This protected the privacy of the students.

This retrospective study involved an analysis of data from institutional and program records. The research was collected and analyzed to answer the following research questions:

Research Question 1: Does the length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, provide a statistically significant means to predict on-time completion?

$H_0$1: The length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, does not provide a statistically significant means to predict on-time completion.

H_a1: The length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, does provide a statistically significant means to predict on-time completion.

Research Question 2: Does the length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, provide a statistically significant means to predict passing the NCLEX-RN?

$H_0$2: The length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, does not provide a statistically significant means to predict passing the NCLEX-RN.

H_a2: The length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, does provide a statistically significant means to predict passing the NCLEX-RN.

The first dependent or criterion variable was on-time completion of the nursing program. It is operationalized as a dichotomous, nominal variable. The students were categorized as 1 = on-time completion and 0 = delayed progress. Students who complete the program within five semesters were categorized as on-time completion. Students who leave the program either by academic failure or withdrew from the program were considered delayed. Academic failure was defined as a grade less than a C in any course in the nursing curriculum.

The second dependent variable in this study was NCLEX-RN first time test results. Upon completion of the ADN program, students are eligible to take the NCLEX-RN licensure examination. It was operationalized as a dichotomous, nominal variable. The students were categorized as 1 = successful for passing the NCLEX-RN the first time it is taken and 0 = unsuccessful for not passing the NCLEX-RN the first time it is taken.

The independent or predictor variable in this study was the time frame from completion of core science courses, Anatomy and Physiology, prior to admission in the ADN program. The independent variable was a categorical measuring time frame. The time frame utilized was 0-36 months, 37-60 months, 61-120 months, and greater than 120 months for completion of Anatomy and Physiology, prior to admission into the ADN program.

Statistical Product and Service Solutions (SPSS) software was used to perform both descriptive and inferential statistical analysis. Descriptive statistics included frequencies, means, and standard deviations. Demographic information included gender

and age on admission to the ADN program. Based on the level of measurements for both the independent variable and dependent variables, the inferential statistical analysis used was a Pearson chi square. Chi-square test of independence is an inferential statistical analysis that looks at the significance association between categorical variables (Creswell, 2012). This analysis requires the independent and dependent variables both are categorical. It works with both normal and non-normal distribution. Accordingly, this study reported Pearson chi square test of independence and phi coefficients to determine if there was a statistically significant association between core science course completion prior to program admission and on-time program completion and passing the NCLEX-RN examination. Both visual and narrative reporting of the correlation was reported in the project study.

Assumptions, Limitations, Scope, and Delimitations

There are various assumptions for this study. It was assumed that the length of time between completion of core science courses, Anatomy and Physiology, has an impact on the student's on-time completion and NCLEX-RN success. Another assumption was that institutional files and departmental records would be factual and accurate. An additional assumption was that confidentiality of these records was maintained. It was also assumed that the findings for this study utilizing the six cohorts would be representative for other nursing cohorts admitted to the nursing program. A final assumption was that external factors did not influence on-time completion and NCLEX-RN success.

Each ADN class admitted was selected based on predetermined admission criteria, which is a limitation. Because the pool of qualified applicants changes from year to year, differences in demographics among classes admitted each cohort cannot be controlled. Another limitation is the inability to control the quality of college courses not taught at the study site, yet the students received transfer credit. Another external factor included nationally-normed, logit-based scoring of the NCLEX-RN examination cannot be controlled.

The scope of the study examined the association the independent and dependent variable selected for this study. The independent variable was the time frame, defined as the number of months prior to nursing program acceptance, of completion of core science courses, Anatomy and Physiology. The dependent variables were on-time completion of an ADN program and passing the NCLEX-RN examination on the first attempt.

The delimitations are the boundaries of the study. Variables outside the scope of this research could not be controlled. Chi-square tests for an association between the research variables using a convenience sampling. An association between two variables does not imply a causal relationship (Creswell, 2012). The sampling size limits the generalization of these findings to cohorts with similar characteristics and attributes.

Ethical Protection of Participants

Ethical protection of participants in any research study is of critical importance (Creswell, 2012). It is the responsibility of the researcher to maintain the confidentiality of all records. All student identifiers were removed from the six nursing cohorts being

studied and a random number assigned to each student. All data were entered onto an

Excel spreadsheet for organizational purposes. The data were then entered into SPSS

software to be analyzed. Only the researcher and the Research Coordinator in the

Institutional Advancement-Planning and Research Department had access to the data.

The Research Coordinator was asked to sign a confidentiality statement. To maintain

confidentiality, the data were stored in a locked, fireproof file cabinet in an undisclosed

location, and also on an encrypted jump drive.

Results

Descriptive Analysis of the Sample

The study sample ($N = 288$) was students admitted to an ADN program between

the years 2007-2012. Results of the descriptive analysis of the study sample revealed that

88.5% were female; 11.5% were males; 91.3% were Caucasian/white; and the minorities

were 4.9% or less. These findings support recent research that females are predominantly

entering the nursing profession (Landivar, 2013). On-time completion of the program

was achieved by 62.2% ($n = 179$) of the students admitted to the associate degree

program. Of the students that completed the nursing program, 178 took the NCLEX-RN

examination after graduation. Passing the NCLEX-RN examination on the first attempt

was achieved by 90% of the students. The descriptive analysis of the demographic

makeup of the sample in this study is presented in Table 1.

Table 1

Results of the Descriptive Analysis of Study Sample

Demographics		Frequency	Percent
Gender	Female	255	88.5
	Male	33	11.5
	Total	288	100.0
Ethnicity	White	263	91.3
	Black	14	4.9
	Asian	3	1.0
	Hispanic	4	1.4
	Other	4	1.4
	Total	288	100.0
Program	On Time	179	62.2
Completion	Delayed	109	37.8
	Total	288	100.0
NCLEX-RN	Did not Pass	17	10.0
Pass Rate	Pass	161	90.0
	Total	178	100.0

Study Findings Related to Research Questions/Hypotheses

This quantitative, nonexperimental, nonparametric study answered two research questions by investigating the association between the variables that may predict success for on-time completion and passage of the NCLEX-RN examination the first time. The research questions addressed in this study were:

Research Question 1

Research Question 1: Does the length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, provide a statistically significant means to predict on-time completion?

H_o1: The length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, does not provide a statistically significant means to predict on-time completion.

H_a1: The length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, does provide a statistically significant means to predict on-time completion.

Using a chi-square test for independence to analyze the data, I found a significant association between the completion of the core science courses, Anatomy and Physiology, and on-time completion, thus rejecting the null hypothesis. In Table 2, the results of the chi-square test for independence are displayed. In Table 3, the phi coefficient is displayed. The results are statistically significant, X^2 (4, $N = 288$) =19.730, $p = .001$, ϕ .262. The test for independence between the completion of core science courses and on-time completion had a statistically significant association. In this case, the null hypothesis is rejected because the p value is .001 and the phi coefficient indicates a weak association between the variables. The results of this analysis indicated a statistically significant association between the independent and dependent variable.

Table 2

Chi-Square Test of Independence between Completion of Core Science Courses and On-Time Completion

	Value	df	Asymp. Sig. (2-sided)
Person Chi-Square	19.730[a]	4	.001
N of Valid Cases	288		

Note: 6 cells (60.0%) have expected count less than 5. The minimum expected count is 1.14

Table 3

Phi Coefficient between Completion of Core Science Courses and On-Time Completion

		Value	Approx. Sig.
Nominal by Nominal	Phi	.262	.001
N of Valid Cases		288	

Research Question 2

Research Question 2: Does the length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, provide a statistically significant means to predict passing the NCLEX-RN?

H_o2: The length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, does not provide a statistically significant means to predict passing the NCLEX-RN.

H_a2: The length of time between the completion of the core science courses, Anatomy and Physiology, and admission to a selective admission nursing program, does provide a statistically significant means to predict passing the NCLEX-RN.

Using chi-square test for independence to analyze the data, I found no statistically significant association between the completion of the core science courses, Anatomy and Physiology, and passing the NCLEX-RN examination, thus not rejecting the null hypothesis.

In Table 4, the results of the chi-square test for independence are displayed. The results are statistically nonsignificant, X^2 (4, $n = 178$) =4.182, $p = .382$. The test for independence between the completion of core science courses and passing the NCLEX-RN examination did not show a statistically significant association. The null hypothesis was not rejected because the p value was .382. Although previous research has shown that time frame for completion of core science courses, Anatomy and Physiology, and passing the NCLEX-RN examination is significantly related, an association was not noted for the sample used in this study (Ali & Naylor, 2010; Gilmore, 2008; Higgins, 2005; Moseley & Mead, 2008; Roncoli et al., 2000; Uyehara et al., 2007).

Table 4

Chi-Square Test of Independence between Completion of Core Science Courses and Passing NCLEX-RN

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.182	4	.382
N of Valid Cases	178		

Note: 6 cells (60.0%) have expected count less than 5. The minimum expected count is .29

Conclusion

Section 2 discussed the quantitative research design in this nonexperimental, nonparametric study, using retrospective data analysis from six cohorts of students admitted to an ADN program. The purpose of this study was to determine the associations among length of time between core science course completion and nursing program admission, on-time completion, and NCLEX-RN success for students at a southeastern community college. This quantitative design was appropriate for this study because the independent variables could not be manipulated or controlled.

An in-depth description of the setting and sample, data collection, assumptions and limitations, and ethical consideration was presented. The data analysis identified a statistically significant association for on-time completion and the length of time between completion of core science courses, Anatomy and Physiology, prior to admission an ADN program. Although a statistically significant association was noted, the phi coefficient showed a weak association for on-time completion. There was no statistically significant association identified for passing the NCLEX-RN examination and the length

of time between completion of core science courses, Anatomy and Physiology, prior to admission an associate degree nursing program.

Section 3 addresses the project based on the solutions informed by the research findings. The project and a review of the literature to support the project are presented. The project developed was a course titled Academic Student Success for the Nursing Student. The purpose of this course is to provide tools for the students to promote their success in the ADN program. The goal of course is to increase on-time completion and first time passage of the NCLEX examination for the students accepted into a limited admission ADN program.

Section 3: The Project

Introduction

Meeting the growing demand for registered nurses is an ongoing challenge for nursing programs. The projected shortage of registered nurses is affecting 80% of the states in the United States including the southeastern state used in this doctoral study (HRSA, 2010). Reducing attrition rates from nursing programs will increase the number of graduates and add registered nurses to the workforce. This will have a direct impact on societal needs for registered nurses. The purpose of this study was to determine the associations among length of time between core science course completion and nursing program admission, on-time completion, and NCLEX-RN success for students at a southeastern community college. Although the null hypothesis was rejected for on-time completion, the phi coefficient noted a weak association. The null hypothesis was not rejected for NCLEX-RN success. In addition, the students taking Anatomy and Physiology while enrolled in the ADN program did not complete the nursing program at a greater than 50% rate.

Based on the results of the completed research, the researcher developed a course titled Academic Student Success for the Nursing Student. The goals of this course is to increase on-time completion and first time passing of the NCLEX-RN examination for the students accepted into a limited admission ADN program.

Description and Goals

Finding ways to increase student completion and success is intuitive to nursing education. Increasing the number of graduating nurses who successfully enter the profession will positively impact the nursing shortage. Section 1 of this study documented the multiple factors that can affect nursing student success and in turn effect on-time completion and NCLEX-RN pass rates. These factors include academic, coursework, admission procedures, and student demographics.

The project that resulted from data analysis and evidence from the literature was a one credit hour Academic Student Success for the Nursing Student created to address the academic and coursework factors that potentially could be impeding the success of a nursing student. The course will provide the nursing student with tools to increase their chances of completing the nursing program as well as passing the NCLEX-RN a examination on their first attempt. Curriculum content includes time management, study habits and test taking strategies, knowledge of resources available to them including academic tutoring, and a basic review of Anatomy and Physiology. Many students are not aware of the support services on college campuses available to help them (Markey, 2012). The curriculum content was intended to help the students handle the academic rigor of the nursing program hopefully enhance their chance of success with completing the program as well as passing the NCLEX-RN examination upon completion of the program. Increasing retention is imperative to meet the nursing shortage (Williams, 2010).

This project had several goals to address retention and successful passage of the NCLEX-RN examination on the first attempt. The first goal of this course is to increase on-time completion by 10% the first year after implementation of the Academic Student Success for the Nursing Student. The second goal is to improve first time passing of the NCLEX-RN examination for the students accepted into a limited admission ADN program to greater than 95% for first time test takers. The third goal is to prepare the nursing student for the rigorous nursing program. Fourth goal, it will provide active student engagement strategies to encourage the nursing student to reach their goal of becoming a registered nurse. This in turn will increase the supply of registered nurses.

Rationale

Meeting the increasing demand for registered nursing is a national concern (HRSA, 2010). Nursing programs of all types are faced with identifying strategies to decrease attrition and increase the outflow of nurses who can pass the NCLEX-RN examination and enter the workforce. Attrition affects all types of nursing programs (AACN, 2011; Buchan, 2003; Gilmore, 2008; Porter, 2008). The rationale for the project is to provide tools for student success. Based the data analysis of this study, I concluded that the incoming students are at risk for failure to complete the ADN program on-time. Essentially it is a disservice to not provide them tools to enhance their success. Integration of strategies for successful completion of the ADN program and NCLEX-RN testing introduced early in the curriculum increases student's performance (Bonis, Taft & Wendler, 2007; Davenport, 2007). I designed a one credit hour course named Academic

Student Success for the Nursing Student based on the study results and literature review related to curriculum development, student engagement, and retention.

Analysis of quantitative data in Section 2 collected from 288 students identified a statistically significant association for on-time completion and the length of time between completion of core science courses, Anatomy and Physiology, prior to admission to an ADN program. Although a statistically significant association was noted, the phi coefficient showed a weak association for on-time completion. When looking at the data, the majority of the nursing students (59.4%) had taken their Anatomy and Physiology course within 3 years of entering the program. The second highest percentage (35.1%) had taken the course while enrolled in the nursing courses their first and second semester in the ADN program. Of those students, greater than 50% do not complete the nursing program on time. Taking Anatomy and Physiology while in the nursing programs added six additional contact hours to the 19 required contact hours for nursing courses in the first semester of the program. The time frame for completion of Anatomy and Physiology prior to entering the ADN program is presented in Table 5.

Table 5

2007-2012 Cohort Anatomy and Physiology Completion Time

Time Frame	Frequency	Percent
0-36 Months	171	59.4
37-60 Months	11	3.8
61-120 Months	5	1.7
Took in Program	101	35.1
Total		100.0

The Academic Student Success for the Nursing Student was developed to provide tools and strategies for those students already admitted to the nursing program to enhance their successful completion of the program and preparation for the NCLEX-RN examination. The content of the course will include: identifying campus resources, study habits, test taking strategies including NCLEX-RN style test question, time management strategies, critical thinking, simulation orientation, and basic review of Anatomy and Physiology. The curriculum content was intended to help the students handle the academic rigor of the nursing program.

Review of the Literature

The literature review in Section 1 focused on Theoretical Framework, On-Time Completion, NCLEX-RN, and Success Variables. This literature review focused on research to support curriculum development and expanded on retaining and engaging a nursing student which is an essential part of the project. The evidence from the literature guided the development of the project. The following databases were used: Cumulative Index to Nursing & Allied Health Literature, Education Research Complete, Education Resources Information Center, Google Scholar, Sage, and Proquest Dissertation and Thesis Database. The following keywords were used in the search: *Andragogy*, *attrition, constructivism, curriculum development, curriculum evaluation, nursing student attrition, scaffolding of learning, student engagement, student success, persistence, predicting success, and retention.* The literature review is divided into three sections including

Curriculum Development, Student Engagement, and Retention which supports the development of the project.

The theoretical framework for this project will be guided by Knowles's (1984) Andragogy and scaffolding of learning, which is founded in constructivism (Heroff, 2009; Knowles, Holton, & Swanson, 2012; Merriam, Caffarella, & Baumgartner, 2007). Knowles's andragogy is based on several assumptions regarding the adult learner:

1. Need to know

2. Self concept

3. Adult learner experiences

4. Readiness to learn

5. Orientation to learning

6. Motivation to learn

Understanding how and what motivates an adult to learn is an important consideration in developing curricula and learning activities. Scaffolding the learning process to incorporate previously learned concepts that will assist the learner to retain and apply information is a process that is imperative in nursing education (Heroff, 2009; Knowles, Holton, & Swanson, 2012; Merriam, et al., 2007). The Academic Student Success for the Nursing Student course will incorporate this scaffolding process and provide the learner with motivation and ownership of the process (Knowles et al., 2012).

Curriculum Development

Academic success is required to achieve successful outcomes for stakeholders. Facilitating academic success begins with curriculum development. Curriculum must be presented in a way that engages students and provides them with tools to utilize to support their educational endeavors. Due to the statistically significant results of this study, Academic Student Success for the Nursing Student was created to provide strategies for success in a rigorous program, achieve on-time completion, and to assist students to pass the NCLEX-RN on first attempt. Many programs have implemented seminars to acclimate nursing students to the rigor of nursing school and to address what students should expect (Mennenga & Tschetter, 2012; Harding, 2012; Upcraft, Gardner, & Barefoot, 2005).

Students have a preconceived notion of nursing school. Once students enter the program, they may be overwhelmed by the demands and expectations, as well as the instructional strategies. Elder (2015) discussed the use of problem based learning (PBL) as an active engagement strategy which is consistent with the use of simulation in the nursing program. There are many benefits to PBL such as the importance placed on students' reflection and self-directed ability to learn, increased levels of engagement, study effort, and concentration (Wijnia, Loyens, & Derous, 2011). The criticism surrounding PBL involves the difficulty associated with novice learners including lack of knowledge and inability to determine or judge what information is pertinent to the situation. Phillips et al. (2013) discussed the complexities involved with developing innovative nursing curricula. The researchers indicated that allowing students to actively

engage in their learning will increase their learning accountability and may lead them to be more skilled in meeting the complex demands of the health care system.

Fahey (2012) discussed the challenges that face institutions of higher education, including the importance of multidisciplinary thinking to prepare future leaders. Critical thinking is required in nursing and the management of patients' care. The case study Fahey performed addressed curricula revisions with ongoing evaluation and alignment with internal goals and external directives (Fahey, 2012). The nursing profession uses an interdisciplinary approach to patient care and continuous evaluation. Nurse educators participate in ongoing curriculum evaluation, as do nursing students. Nduna (2012) analyzed evaluation reports and found in some programs there was no preparatory stage to introduce students. The clinical component or workplace learning can be an eye-opening and stressful experience for nursing students. Aligning the expectations of the workplace with academic learning will assist in preparing the students to use critical thinking and time management skills (Nduna, 2012). The course developed for nursing students' success aligns clinical and simulation lab expectations for the student. This decreases the students' anxiety related the clinical and laboratory components of the ADN program.

Engagement

Student engagement is a concept addressed in the literature and is integral to this project. Student engagement is a complex topic that incorporates many facets of learning that contributes to student success that include behavioral, psychological, socio-cultural,

and holistic perspectives (Kahu, 2013). Associate degree nursing programs incorporate a broad range of students, ranging from the traditional 18-year old through the 45- or 50-year old non-traditional student. In light of the technology that students have access to and use on a daily basis, it is essential for nurse educators to keep up to date the newest technologies and to be aware of the broad age groups and learning styles that are evident in the group. Hodge (2014) discussed various approaches to learning that may lead to a lasting change in a student's academic behavior. Study skills programs, coaching, and adventure education were explored and the researcher found that a combination of these approaches may lead to a substantial shift in behavior. Applying this information to the nursing student success course, it is important to consider the change in behavior that must occur. Instead of using memorization to study for a test, students in the nursing program must apply, analyze, evaluate, and synthesize patient information to make decisions. In addition, the information learned in nursing builds or scaffolds, and students must retain information and pull the concepts learned forward. Incorporation of study, test-taking and time management skills into the nursing student success course will provide positive direction for the students. Hodge indicated that learning new skills is more difficult and takes considerable effort. Both Hodge (2014) and Kahu (2013) offered insights into the complexities of student engagement and behaviors that can be applied in the Academic Student Success for the Nursing Student course.

There is research supporting the use of online tools to promote student engagement such as blogs, Facebook, and Twitter (Dougherty & Andercheck, 2014; Hurt

et al., 2012; McKenzie, 2014; Wang, 2013). Abdelaziz, Kamel, Karam, and Abdelrahman (2011) evaluated e-learning versus traditional lecture for undergraduate nursing students and recommended a blended or hybrid environment for the most efficient and effective method of instruction. Johnson and Palmer (2015) investigated student perceptions of online and face-to-face versions of an introductory linguistics course. The data from five semesters show students enrolled in face-to-face courses had GPAs that were 0.312 points higher than those of their peers in online courses. In this particular study, students who were more likely to succeed are more likely to enroll in face-to-face courses. Although this is one study promoting the use of a face-to-face course, it is expected that face-to-face contact will promote student engagement within the nursing program.

Retention

Based on the data analysis, retention in this ADN program is an issue. Admission into the ADN program is based upon selective admission criteria. The assumption is that students who are admitted are equipped for success in the nursing program, yet the aggregated on-time completion rate is 66.2%. Nationwide nursing program struggling with low retention rates and are developing numerous retention related interventions to address the problem (McDonough, 2012). McDonough (2012) found that nursing programs that develop and implement retention related program had a positive impact on retention rates.

Mennenga and Tschetter (2013) implemented a first-year seminar to introduce nursing. Students became aware of the high expectations and requirements for success early in their academic career, which lead to choosing alternate career paths in some cases. Fontaine (2014) evaluated the effects of a retention program using seven different retention strategies. The correlational analyses showed a statistically significant improvement in retention ($p = 0.048$), but no correlation with any specific strategy or combination of strategies (p. 98).

Implementation

The course entitled Academic Student Success for the Nursing Student was developed to help students learn tools and strategies to increase their chance of success in their nursing educational pursuit. This one credit hours course is designed to address campus resources, study skills, test taking strategies, critical thinking, time management, simulation orientation, and Anatomy and Physiology overview. Best practices in education will be utilized during the development phase.

This course will be offered the fall semester of each academic year. All newly accepted nursing students will take the course the fall semester of their freshman year in the nursing program. The course will be offered the first nine weeks of a 16-week semester. It will be taught in conjunction with the other nursing education and general education courses in the degree plan for the nursing program. All incoming, newly accepted students will be required to take the course. The course will be taught in a traditional classroom setting to foster student engagement and participation.

The researcher will seek approval for the implementation of the course from the nursing department chair and college's curriculum committee. The college's curriculum committee consists of the Vice President for Academic and Student Services, Associate Vice President of Academic and Student Services; Director of Admissions and Records or designee; Director of College Transfer Advising Center; Director of Financial Aid; Academic Division Chairs; Director of Library Services or designee; Distance Education Coordinator; Coordinator, High School Cooperative Programs; and the Director of Planning and Research, and at least one faculty representative from all academic divisions.

Once the Academic Student Success for the Nursing Student course is approved implementation will begin the following fall semester. The content of the course will include: identifying campus resources, study habits, test taking strategies including NCLEX-RN style test question, time management strategies, critical thinking, simulation orientation, and basic review of Anatomy and Physiology. The content of the course will be shared with the faculty in the ADN. Input from the nursing faculty will be sought to ensure the course is providing the students the tools needed to be successful in their educational endeavors.

Potential Resources and Existing Supports

Potential resources for this project and existing supports are the Vice President of Academic and Student services, the Nursing Department Chair, and the nursing faculty. The southeastern college used for this study has a college-wide goal to improve student

success and completion rate. The college wants to increase the number of students ready to enter the workforce with job-ready credentials. With this goal in mind, resources for this project are readily available on campus including the Office of Institutional Effective and Innovation and the Academic Skills Center. As stakeholders vested in the success of their students, the nursing faculty have a commitment in their students' overall success in the program and NCLEX-RN examination results. As part of the nursing faculty, I will be able to develop and teach the course. Feedback to the nursing faculty strategies implemented in the course can be provided through monthly faculty meetings.

Potential Barriers

Due to the content of the course being specific to nursing students, the course will be taught by nursing faculty. Previously, the college student success course could be taught by any faculty member on campus regardless of their teaching discipline. Some nursing faculty may be resistant to this change as well as the increase in teaching hours the first semester of the nursing curriculum. Modification to an existing course will require faculty preparation time and acquisition of knowledge to teach the course. Faculty will need to become comfortable with the course content to teach the content. Students may complain about being required to complete the course in their first semester of the ADN program. Despite these potential barriers, the Academic Student Success for the Nursing Student course is designed to present tools that will assist the nursing student in completing the program and passing the NCLEX-RN examination to be able to practice as a registered nurse.

Proposal for Implementation and Timetable

I propose to get college approval for the Academic Student Success for the Nursing Student course in fall 2015. The course will be presented to the college-wide curriculum committee for approval. The course content and infrastructure of the course will be development with input from the nursing department chair and nursing faculty. Implementation for the incoming cohort of ADN students will be fall 2016. Formative and summative evaluation will occur once the first cohort of students has completed the course October 2016. The on-time completion rates and passage of the NCLEX-RN examination will be collected upon the cohort's graduation from the program in spring 2018.

Roles and Responsibilities of Student and Others

The goals of the Academic Student Success for the Nursing Student course is to increase on-time completion and first time passing of the NCLEX-RN examination for the students accepted into a limited admission ADN program. Therefore, the primary responsibility falls upon the student to be actively engaged and focused on success. The students are expected to come prepared for class, participate in discussions, and complete all assignments in the course. A student's level of engagement is directly linked to likelihood of graduating from college (Casuso-Holgado et al., 2013; Kraska, 2008). The students will be responsible for assigned course work as well as completing a final course evaluation that will be used future course improvement.

The instructor will be responsible for ensuring that the course content meets the course objectives. The instructor will be expected to utilize best practices based on evidence based research. Formative and summative evaluation of student work will be the responsibility of the instructor. Analysis of student course evaluations will be the responsibility of the instructor. The instructor will be expected to use this analysis for course improvement.

Project Evaluation

Project evaluation is used to determine if the objectives have been obtained (Caffarella, 2010). The evaluation process is initiated in the planning phase and discussed throughout the project planning implementation. The information obtained from the different evaluation methods can be used for project improvement.

The evaluation plan for this project will be multi-faceted. Outcome-based evaluations will be used. The evaluation plan will provide feedback to stakeholders. The evaluation data gathered will provide feedback related to the effectiveness of the project as well as the course content. The analysis of the data will help in making decisions for project improvement (Caffarella, 2010). The key stakeholders include the nursing students, the nursing faculty, the college, nursing employers, and society.

Formative evaluation will be used throughout the nine-week course. Formative evaluation will be used to assess the student's acquisition of knowledge for individual units. Methods will include testing, quizzes, and graded written assignments. Analysis of formative evaluations can be used to improve the content during the course and provide

prompt feedback to students related to their strengths and weaknesses (Suskie & Banta, 2009). A summative evaluation will be done at the end of the nine-week course. The summative evaluation will focus on attainment of the course objectives.

Overall the goal of the Academic Student Success for the Nursing Student course is to increase on-time complete rates and NCLEX-RN examination first time pass rates. Data pertaining to on-time completion rates and NCLEX-RN examination first time pass rates will need to be gathered starting fall 2016 for the first cohort of ADN students admitted to the nursing program and required to complete the Academic Student Success for the Nursing Student course. Analysis of the data will occur once the fall 2016 cohort graduates from the nursing program. A comparison of on-time completion rates and NCLEX-RN examination first time pass rates with nursing cohort admitted prior to nursing program prior to fall 2016, which were not required to complete the Academic Student Success for the Nursing Student course, will be compared to nursing cohorts who were required to complete the Academic Student Success for Nursing Student course.

Student evaluations of the course will be conducted each fall the course is taught. Course participants will be done using a Likert scale course evaluation tool. Input received and analyzed from the course evaluations could lead to individual unit improvement as well as overall course improvement. The findings of the summative and course evaluations will be shared with the stakeholders to evaluate if the goals of the project are being met. Evaluation of the project will be ongoing and reviewed on an annual basis.

Implications Including Social Change

Local Community

The project was developed to improve on-time completion rates and passage of

the NCLEX-RN examination required to practice as a registered nurse. The nursing

students accepted into the ADN program anticipate completing the nursing program on

time as well as passing their NCLEX-RN examination. The Academic Student Success

for the Nursing Student course will provide the nursing students with tools during the

first semester of the nursing program. These tools were developed to address challenges

nursing students face while enrolled in the nursing program. The college will benefit

from the increased retention of nursing students as the college is paid based on student

membership hours in curriculum courses (NCCCS, 2015). The program will benefit by

meeting required benchmarks established Board of Nursing and accreditation

requirements. The local and surrounding communities will benefit from having nursing to

care for their members.

Far-Reaching

In the larger context, nursing programs across the nation have identified similar

issues with on-time completion and first-time NCLEX-RN pass rates (AACN, 2011;

Buchan, 2003; Gilmore, 2008; Porter, 2008). Increasing the on-time completion rate and

NCLEX-RN pass rates will increase the supply of registered nurses to meet the increased

demand of 1.2 million jobs by 2020 (AACN, 2012; U.S. Department of Labor, 2012).

Society as a whole benefits from the increased supply of registered nurses. The context of

the Academic Student Success for the Nursing Student course could be implemented in other nursing programs. In addition, the content could be tailored for the other healthcare disciplines that have similar accreditation and licensure requirements.

Conclusion

Section 3 discussed the goals, development, and implementation of the project developed to meet low on-time completion rates and decreasing NCLEX-RN first time pass rates. The purpose of this course is to provide tools for the students to promote their success in the ADN program. An evaluation plan was discussed to ensure the objectives of the course are being met. Key stakeholders were identified. The overall impact of the project for key stakeholders was identified. Section 4 provides my reflection of the doctoral project.

Section 4: Reflections and Conclusions

Introduction

As the dynamics of the healthcare system change in the United States, nursing educational programs are challenged with addressing the nursing shortage by increasing graduates who enter the profession (AACN, 2011, Buchan, 2003, HRSA, 2010). One mechanism nursing education programs can utilize is to strengthen their efforts with student retention. Retention is a major challenge for nurse educators (Gilmore, 2008, Porter, 2008). Promoting retention and improving graduation rates is a national initiative (AACN, 2011). In section 4, the project strengths and limitations are discussed, along with recommendation for remediation of limitations. A reflection of what I have learned about myself as a scholar, practitioner, and project developer is included. The project's potential impact on social change and future research are presented.

Project Strengths

The strength of this project was that data was used to identify the need for the project. Through communication with the nurse administrator and review of the quantitative data, a course structured to incorporate success building interventions in a nursing program was created. The Academic Student Success for the Nursing Student course was a one credit hour course taken by newly admitted ADN student their first semester in the program. The project provides the student tools that can enhance their opportunity to be successful in the program thus increasing on-time completion of the nursing program and improvement of first time passage on the NCLEX-RN examination.

Tracking on-time completion rates and NCLEX-RN examination passage for those student cohorts admitted starting fall 2016 is strength for program evaluation. In addition, comparison to the cohorts used in this study will provide a means for evaluating effective of the course created. This provides an opportunity for continuous improvement of the Academic Student Success for the Nursing Student course.

Recommendations for Remediation of Limitations

Despite the use of limited admission procedures using selective admission criteria, the ADN program in ADN program's 3-year aggregate (2011-2013) on-time completion rate is 66.2% and the NCLEX-RN first time pass rate is also showing an annual decreasing trend for the same time period. One contributing factor the department chair for nursing felt might be affecting on-time completion and NCLEX-RN first time pass rates was the college's policy to accept all Anatomy and Physiology course credits regardless of the year they were completed. The literature review supported this assumption (Ali & Naylor, 2010; Gilmore, 2008; Moseley & Mead, 2008; Roncoli et al., 2000; Uyehara et al., 2007).

The findings of this study indicated that the time frame from completion of core science courses, Anatomy and Physiology, prior to admission to an ADN program were statistically significant for on-time completion of the nursing program for the six cohorts used in this study. Although a statistically significant association was noted, the phi coefficient showed a weak association for on-time completion. In addition, 35.1% of the newly admitted nursing students took the Anatomy and Physiology courses while

enrolled in the nursing courses their first and second semester in the ADN program. Of those students, greater than 50% do not complete the nursing program on time.

The first limitation of this project was the specific time frames used for completion of core science courses. There are several ways a researcher could address this limitation. In the sample used for this study, 59.4% of the students entering the ADN program completed their Anatomy and Physiology course work within 0-36 months of starting the program. Shorter time frames could be utilized to gather more specificity related to completion of core science courses and on-time completion rates and first time NCLEX-RN examination passage.

This project only looked at completion of the Anatomy and Physiology courses either prior to entering the ADN program or during the ADN program. The quantitative data gathered could also look at the number of times core science courses are repeated and that relationship to on-time completion rates and first time NCLEX-RN examination passage. Phillips, Spurling, and Armstrong (2002) did find the number of times core biology courses including Anatomy and Physiology were repeated was a predictor of success in a nursing program. In addition, a mixed method research model could be utilized to gather qualitative data from both nursing students and faculty on their opinion of completion of core science courses and on-time completion rates and first time NCLEX-RN examination passage.

Another limitation of the project was the inability to generalize the results to other nursing programs. Each nursing program has the autonomy to set their individual

selective admission criteria for nursing programs. This limits the ability to transfer the knowledge learned from this study to other nursing programs. In addition, the changing demographics of each nursing cohort cannot be controlled. External factors including changes in selective admission criteria, logit based scoring of the NCLEX-RN examination, and quality of college course not taught at the southeastern community college cannot be controlled.

The Academic Student Success for the Nursing Student course proposed provides tools to assist those selected into the ADN programs regardless of external factors. The ADN student will be required to take the Academic Student Success for the Nursing Student course their first semester. Schools of nursing are held to similar on-time completion rates and first time NCLEX-RN pass rates. Individual nursing programs would need to study their own populations to identify critical factors affecting student success in their programs.

This study defined the problem on the local level as the falling NCLEX-RN first time examination pass rates and low on-time completion rates for a selective admission ADN program. An alternative definition would be appropriate selection of students with highest probability of success in any selective admission allied health program. A broader research of admission criteria would need to be studied using different variables. Variables could include overall GPA and GPA in general education courses beyond core science courses. Admission criteria could be changed to include overall GPA and science GPA. Changes to the current selective admission criteria could be implemented based on

further research. This may provide stronger qualified applicants with a higher probability of completing the program and passing the NCLEX-RN licensure examination the first time.

Scholarship

Scholarship is an intricate part of nursing and nursing education. The AACN defined nursing scholarship as "activities that advance the teaching, research, and nursing practice" (Sheetz, 2000, p, 49). The community college used for this doctoral study used Boyer's definition for nursing practice. Boyer (1990) proposed scholarship involved four areas: discovery, integration, application, and teaching. These areas are salient to nursing education support the values of a profession committed to both social relevance and scientific advancement (AACN, 1999). I have used scholarship throughout my 26 years as a nurse and nurse educator as defined by Boyer but not to the degree this doctoral study has introduced me to. Completing the doctoral study at Walden University heightened my knowledge and application of research. My confidence in conducting and understanding the application of research and looking at the larger picture has increased significantly. I plan to continue to use research and conduct scholarly activities in the future.

Project Development and Evaluation

Having been in nursing education over 20 years, I have experience with project development and evaluation. The extent of this doctoral project has been overwhelming though. The use of data to inform decision making is not a foreign topic, but backing up

the data with extensive literature reviews was a daunting task. My initial thoughts related to the time and money required to complete this degree were not realistic at the time I started. It took a much greater effort and financial investment than I had anticipated.

This project forced me to become more knowledgeable in quantitative research techniques as well as data analysis. A greater appreciation for direct application of the data analysis for outcomes improvement was learned. Upon application of the proposed project and project evaluation, a sense of accomplishment will be achieved. The project is the culmination of 4 years of work and dedication.

Leadership and Change

Nursing education is changing to meet the healthcare needs of society. Nursing leaders must be prepared to meet the challenge brought about by change. Nursing leadership is an art and science cultivated through education and experience (Scott & Yoder-Wise, 2013). As a current nurse leader in my present position, it is imperative that I promote change that will advance the profession. This project study allowed me to focus on research, data analysis, and projective development. I was able to take a leadership role in the development of the Academic Student Success for the Nursing Student course. I was able to be a change agent who promoted one strategy that can impact on-time completion of the nursing program and NCLEX-RN pass rates. This research and the project it produced can promote a positive change related to increasing both program on-time completion and first-time NCLEX-RN pass rates. Increasing the

number of registered nurses entering the profession will help meet the nursing shortage projected. This will promote a positive change for the profession as well as society.

Change is not always an easy process, but after discussing this doctoral study and project, others allied health program leaders are discussing the benefit of implementing a similar project for their allied health programs. This doctoral study promoted both professional and personal change.

Analysis of Self as Scholar

Analysis of self for this doctoral project was critical to success. Self-reflection involves an inward focus of one's thoughts and behaviors (Macpherson, 2009). Self-reflection is essential for professional growth. My growth as a researcher and scholar has grown over the last 4 years at Walden University. I embarked on a journey with an understanding of research and scholarship, but this program has pushed me beyond my comfort level. I have broadened my knowledge and moved towards direct application of research and scholarship. I felt challenged throughout the entire program. I now find myself analyzing and evaluating situations in my professional life differently. I often ask myself, "What evidence is there to support that decision?" I am grateful for the academic growths I have received while completing the doctoral program.

Analysis of Self as Practitioner

I have been a practitioner of nursing for 26 years which over 20 years have been sent in nursing education. I entered the nursing profession to help others. As a nurse educator, I came to realize that by educating others, I had an even greater impact on the

nursing profession and society as a whole. I have always encouraged my students to be lifelong learners and pursue higher degrees. The journey to complete my doctoral degree has always been an ultimate goal for me. Completing this doctoral project only deepened my passion to help others learn and further the nursing profession. I feel that I am a positive example for my students. I always want to be an example others can follow.

Analysis of Self as Project Developer

As a nurse educator and administrator, I am familiar with project development. A project developer must be a very organized and dedicated individual. Projects need to be developed based on a need for the transfer of knowledge. This knowledge must be evidence-based and purposefully delivered so that learning outcomes are accomplished. The foundation and principles I have learned in this program strengthen my abilities to produce a meaningful project that is supported by research. The project study refined my project development skills and ability to project a meaningful project. Due to the extent of time and perseverance needed to complete a terminal degree, I have also learned patience and persistence when reaching goals.

The importance of the work produced by this study can be applied to other selective admission allied health programs. At the southeastern community college used for this study, eight selective admissions allied health program exist including the ADN program used for this study. The similar goals used for the Academic Student Success for the Nursing Student course can be tailored for each allied health program. Increasing on-

time completion rates and licensure pass rate for each allied health program also will have a positive impact on the healthcare needs of society.

The Project's Potential Impact on Social Change

The largest potential impact on society is increasing the output of registered nursing to meet the growing demand of healthcare providers. Since registered nurse licensure is a national licensure can be used nationwide once state endorsement is obtained, our graduates have the potential to practice anywhere in the United States. The project involved development of a course entitled Academic Student Success for the Nursing Student. The results indicated that there was a statistically significant association between on-time completion and the length of time between completion of core science courses, Anatomy and Physiology, prior to admission to an ADN program. Although a statistically significant association was noted, the phi coefficient showed a weak association. In addition, 35.1% of the newly admitted nursing students took the Anatomy and Physiology courses while enrolled in the nursing courses their first and second semester in the ADN program. Of those students, greater than 50% do not complete the nursing program on-time.

The project had the potential to improve on-time completion rates and first time NCLEX-RN pass rates for nursing students by providing the ADN student with tools to enhance their success in the ADN program. This in turn increases the number registered nurses entering the workforce. The college and nursing program benefit from increased on-time completion rates and first time NCLEX-RN pass rates that are reported and

measured as indicators of quality of a nursing program as measured by accreditation

agencies. The model for this project could be utilized for any healthcare discipline

requiring licensure examination to practice. As a researcher, my small project developed

from research at the local level could be far reaching since just one registered nurse

touches many lives on a daily basis.

Implications, Applications, and Directions for Future Research

As a nursing educator, I have seen many students over the last 20 years leaving

the ADN program for a variety of reasons. Some leave for personal reasons but many

leave for academic reasons related to the rigors of the ADN program. Core science course

like Anatomy and Physiology provide a fundamental understand of the human body and

how it functions. Research has indicated that Anatomy and Physiology does have a

significant graduation rates and NCLEX-RN pass rates (Higgins, 2005; Schaffer &

McCabe, 2013).

From my research, I learned that a small, local study can identify factors needing

to be addressed. The data indicated a statistically significant association between on-time

completion and the length of time between completion of core science courses, Anatomy

and Physiology, prior to admission to an ADN program for the six cohort sample used in

this study. The phi coefficient indicated a weak association for on-time completion. A

statistically nonsignificant association was noted for NCLEX-RN success. In addition,

greater than 50% of the students taking Anatomy and Physiology while in the program

did not complete the ADN program on-time. The data supported for the nursing

department chair's assumption related to on-time completion. Applying sound research techniques provides evidence to make informed decisions. This study forced me to think like a researcher, support assumptions with data, and produce a project that will benefit nursing students, the college, and society. I grew as a researcher and a nurse educator.

Applications from this study can be applied to other field in education. Educators, regardless of their teaching discipline, should make decisions based on sound, evidence-based research. Analysis of the length of time between core science course completion and nursing program admission in relationship to on-time completion and NCLEX-RN examination passage as researched in this study can be applied to other disciplines especially those in healthcare using selective admission criteria.

Future research needs to focus other admission criteria used in the selective admission process. Do the other criteria used like placement test scores, QPA, and grades in other general education courses have an impact on on-time completion rates and first time NCLEX-RN pass rates? Further research could be done to identify these variables affecting student success. The fundamental principles of the research used for this doctoral study could be applied to the other healthcare programs using selective admission criteria at the same institution.

Conclusion

Section 4 discussed the strengths of the project. The primary strength of the Academic Student Success for the Nursing Student course was the tools the students were provided in the course to enhance their opportunity to be successful in the program. This

in turn can increase on-time completion of the nursing program and improve of first time passage on the NCLEX-RN examination. The project produced from this research will support all nursing students admitted to the ADN program. The end result will increase the number of registered nurses entering the profession addressing the forecasted nursing shortage. The project produced from this research will support all nursing students admitted to the ADN program. Limitation, ways this project may affect social change, implications of the project, academic application, and future research were discussed.

This study was designed to require practical application of the knowledge and skills learned in the doctoral program. The end result was a broadening of the knowledge for the researcher and the development of a course which would prepare nursing students for the rigors of the nursing program. A personal reflection and introspective analysis was shared. I have grown from the experience. As a result of this process, I believe I have created project that will benefit the nursing department, the college, and society.

References

Abbott, A., Schwartz, M., Hercinger, M., Miller, C., & Foyt, M. (2008). Predictors of

    success on National Council Licensure Examination for Registered Nurses for

    accelerated baccalaureate nursing graduates. *Nurse Educator, 33*(1), 5-6.

    doi:10.1097/01.NNE.0000299489.07872.b0

Abdelaziz, M., Kamel, S. S., Karam, O., & Abdelrahman, A. (2011). Evaluation of e-

    learning program versus traditional lecture instruction for undergraduate nursing

    students in a faculty of nursing. *Teaching and Learning in Nursing, 6*(2), 50-58.

    doi: Http://dx.doi.org/10.1016/j.teln.2010.10.003

Accreditation Commission for Education in Nursing. (2013). Accreditation manual.

    Retrieved from http://acenursing.org/accreditation-manual/

Alicias, E. R. (2005). Toward an objective evaluation of teacher

    performance: The use of variance partitioning analysis, VPA. *Education Policy*

    Analysis Archives, *13*(30), 1-15. Retrieved from http://epaa.asu.edu/epaa/v13n30/

American Association of Colleges in Nursing. (1999). Defining scholarship for the

    discipline of nursing. Retrieved from

    http://www.aacn.nche.edu/publications/position/defining-scholarship

American Association of Colleges in Nursing. (2011). Nursing shortage fact sheet.

    Retrieved from http://www.aacn.nche.edu/media-relations/fact-sheets/nursing-

    fact-sheet

American Association of Colleges in Nursing. (2012). Nursing workforce development

    programs: Title VIII of the public health services act. Retrieved from

    http://www.aacn.nche.edu/government-affairs/TitleVIII.pdf

American Association of Colleges of Nursing. (2014). Nursing shortage facts sheet.

    Retrieved from http://www.aacn.nche.edu/media-relations/fact-sheets/nursing-

    shortage

American Association of Colleges of Nursing. (2009). Student enrollment expands at

    U.S. nursing colleges and universities for the 9th year despite financial challenges

    and capacity restraints**.** Retrieved from

    http://www.aacn.nche.edu/news/articles/2009/09enrolldata

Ali, P. A., & Naylor, P. B. (2010). Association between academic and non-academic

    variables and academic success of diploma students in Pakistan. *Nurse Education*

    Today 30(2), 157-162.

Aucoin, J. & Treas, L. (2005). Assumptions and realities of the NCLEX-RN. *Nursing*

    Education Perspectives, 26(5), 268-71.

Beeman, P. B., & Waterhouse, J. K. (2001). NCLEX-RN performance: Predicting

    success on the computerized examination. *Journal of Professional Nursing, 17*(4),

    158−165.

Beeson, S. A., & Kissling, G. (2001). Predicting success for baccalaureate graduates on

    the NCLEX-RN. *Journal of Professional Nursing, 17*(3), 121−127.

Bernier, S. L., Helfert, K., Teich, C. R., & Viterito, A. (2005). Nursing program
    success. *Community College Journal, 76(1),* 36-40.

Bissett, H. G. (1995). Selective admissions in community college nursing programs:
    Ethical considerations. *Community College Review*, *22*(4), 35-46.

Bonis, S., Taft, L., & Wendler, C. (2007). Strategies to promote success on the NCLEX-
    RN: An evidence-based approach using the ACE Star Model of knowledge
    transformation. *Nursing Education Perspectives, 28*(2), 82-87.

Boyer, E. L. (1990). Scholarship reconsidered: Priorities of the professoriate. Princeton,
    N.J: Carnegie Foundation for the Advancement of Teaching.

Bragg, D. D., Kim, E., & Barnett, E. A. (2006). Creating access and success: Academic
    pathways reaching underserved students. *New Directions for Community Colleges
    2006,* (135), 5-19.

Brear, P., Dorrian, J., & Luscri, G. (2008). Preparing our future counselling
    professionals: Gatekeeping and the implications for research. *Counselling &
    Psychotherapy Research, 8*(2), 93-101. doi:10.1080/14733140802007855

Breckenridge, D. M., Wolf, Z. R., & Roszkowski, M. J. (2012). Risk assessment profile
    and strategies for success instrument: Determining prelicensure nursing students'
    risk for academic success. *Journal of Nursing Education, 51*(3), 160-166. doi:
    10.3928/014848834-20120113-03

Buchan, J. (2003). Commentary: Challenges of recruiting and retaining: Some thoughts

   for policy-makers. *Journal of Research in Nursing, 8*, 291–292.

   doi:10.1177/136140960300800406

Cafarella, R. S. (2010). Planning programs for adults: What's it all about? In *Designing*

   and assessing learning experiences (pp. 1-20). Hoboken, NJ: John Wiley & Sons,

   Inc.

Carnevale, A.P, Smith, N. & Strohl, J. (2010). Help wanted: Projections of jobs and

   education requirements through 2018. Retrieved

   http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/ExecutiveSummary-web.pdf

Casuso-Holgado, M. J., Cuesta-Vargas, A. I., Moreno-Morales, N., Labajos-Manzanares,

   M. T., Barón-López, F. J., & Vega-Cuesta, M. (2013). The association between

   academic engagement and achievement in health sciences students. *BMC medical*

   education, 13(33), 1-7. doi:10.1186/1472-6920-13-33

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating*

   quantitative and qualitative research (4th ed.). Boston, MA: Pearson Education,

   Inc.

Crow, C. S., Handley, M., Morrison, R.S., & Shelton, M. M. (2004). Requirements and

   interventions used by BSN programs to promote and predict NCLEX-RN success:

   A national study. *Journal of Professional Nursing, 20*(3), 174-186.

Davenport, N. (2007). Comprehensive approach to NCLEX-RN success. *Nursing*

   Education Perspectives, 28(1), 30-33.

De Lima, M., London, L., & Manieri, E. (2011). Looking at the past to change the future: A retrospective study of associate degree in nursing graduates' national council licensure examination scores. *Teaching and Learning in Nursing 6*, 119-123. doi: 10.1016/j.teln.2011.01.001

Dougherty, K. D., & Andercheck, B. (2014). Using facebook to engage learners in a large introductory course. *Teaching Sociology, 42*(2), 95-104. doi: 10.1177/0092055X14521022

Elder, A. D. (2015). Using a brief form of problem-based learning in a research methods class: Perspectives of instructors and students. *Journal of University Teaching & Learning Practice, 12*(1). Retrieved from http://ro.uow.edu.au/jutlp/vol12/iss1/8

Fahey, S. J. (2012). Curriculum change and climate change: Inside outside pressures in higher education. *Journal of Curriculum Studies, 44*(5), 703-722. doi: 10.1080.00220272.2012.679011

Federal Interagency Forum on Aging Related Statistics. (2010). Older americans 2010: Key indicators of well-being. Retrieved from http://agingstats.gov/agingstatsdotnet/Main_Site/Data/2010_Documents/Docs/OA _2010.pdf.

Fontaine, K. (2014). Effects of a retention intervention program for associate degree nursing students. *Nursing Education Perspectives, 35*(2), 94-99. doi: 10.5480/12-815.1

Gazza, E. A., & Hunker, D. F. (2014). Facilitating student retention in online graduate nursing education programs: A review of the literature. *Nurse Education Today*, *34*(7), 1125-1129.

Gibbs, P., & Blakely, E. H. (Eds.). (2000). *Gatekeeping in BSW programs*. New York, NY: Columbia University Press.

Giddens, J. F. (2009). Changing paradigms and challenging assumptions: Redefining quality and NCLEX-RN pass rates. *Journal of Nursing Education, 48*(2), 123-124.

Gilmore, M. (2008). Predictors of success in associate degree nursing programs. *Teaching and Learning in Nursing, 3*(4), 121-124. doi: 10.1016/j.teln.2008.04.004

Greene, D. (2007). Gatekeepers: The role of adult education practitioners and programs in social control. *Journal for Critical Education Policy Studies, 5*(2), 411-437. Retrieved from http://www.jceps.com/?pageID=article&articleID=107

Grossbach, A., & Kuncel, N. R. (2011). The predictive validity of nursing admission measures for performance on the national council licensure examination: A meta-analysis. *Journal of Professional Nursing, 27*(2), 124-128. doi: 10.1016/j.profnurs.2010.09.010

Haas, R. E., Nugent, K. E., & Rule, R. A. (2004). The use of discriminant function analysis to predict student success on the NCLEX-RN. *The Journal of Nursing Education, 43*(10), 440-446.

Harding, M. (2012). Efficacy of supplemental instruction to enhance student success. *Teaching and Learning in Nursing, 7*(1), 27-31. doi:10.1016/j.teln.2011.07.002

Heiman, M. (2010). Solving the problem: Improving retention in higher education. *Academic Leadership, 8*(1), 1-8.

Heroff, K. (2009). Guidelines for a progression and remediation policy using standardized tests to prepare associate degree nursing students for the NCLEX-RN at a rural community college. *Teaching and Learning in Nursing, 4*(3), 79-86. doi:10.1016/j.teln.2008.12.002

Higgins, B. (2005). Strategies for lowering attrition rates and raising NCLEX-RN pass rates. *Journal of Nursing Education, 44*(12), 541-547.

Henry, G. T., Campbell, S. L., Thompson, C. L., Patriarca, L. A., Luterbach, K. J., Lys, D. B., & Covington, V. M. (2013) The Predictive Validity of Measures of Teacher Candidate Programs and Performance: Toward an Evidence-Based Approach to Teacher Preparation. *Journal of Teacher Education*, *64,* 439-453.

Hodge, B. (2014). Training programs that facilitate lasting change in student academic behavior. *International Journal of Training Research, 12*(3), 203-212.

Hopkins, T. (2008). Early identification of at-risk students: A student support model. *Journal of Nursing Education, 47*(6), 254-259.

Hurt, N. E., Moss, G. S., Bradley, C. L., Larson, L. R., Lovelace, M. D., Prevost, L. B., Camus, M. S. (2012). The 'facebook' effect: College students' perceptions of online discussions in the age of social networking. *International Journal for the Scholarship of Teaching and Learning, 6*(2). Retrieved from http://academics.georgiasouthern.edu/ijsotl/v6n2.html

Institute of Medicine. (2010). *The Future of Nursing: Focus on Education*. Washington, DC: The National Academies Press.

Jeffreys, M. (2007). Tracking students through program entry, progression, graduation, and licensure: Assessing undergraduate nursing student retention and success. *Nurse Educator, 27,* 406-419. doi: 10.1016/j.nedt.2006.07.003

Johnson, C. W., Johnson, R., Kim, M., & Mckee, J. C. (2009). Personal background preparation survey for early identification of nursing students at risk for attrition. *Journal of Nursing Education, 48*(11), 606-613. doi:10.3928/01484834-20090716-06

Johnson, D., & Palmer, C. C. (2015). Comparing student assessments and perceptions of online and face-to-face versions of an introductory linguistics course. *Online Learning, 19*(2), 33-50.

Kahu, E. (2013). Framing student engagement in higher education. *Studies in Higher Education, 38*(5), 758-773. doi: 10.1080/03075079.2011.598505

Karen, D. (1990). Toward a political-organizational model of gatekeeping: The case of elite colleges. *Sociology of Education, 63*(4), 227-240.

Kaufman, K. (2008). Headlines from NLN. Executive summary from the nursing data

    review, academic year 2005-2006, baccalaureate, associate degree, and diploma

    programs. Nursing Education Perspectives, 29(3), 182-184.

Kaufman, K. (2010). Findings from the annual survey and of schools of nursing academic

    year 2007-2007. *Nursing Education Perspective, 31*(1), 62-65.

Kirkpatrick, L. A., & Feeney, B. C. (2013). *A simple guide to IBM SPSS statistics: For*

    version 20.0 (12th ed.). Belmont, CA: Wadsworth Cengage Learning.

Knowles, M. (1980). My farewell address…andragogy − no panacea, no ideology.

    Training & Development Journal, 34(8), 48-50.

Knowles, M. S., Holton, E. F., & Swanson, R. A. (2012). *The adult learner: The*

definitive classic in adult education and human resource development (7th ed.). New

    York, NY: Routledge.

Kostecki, J., & Bers, T. (2008). The effect of tutoring on student success. *Journal of*

    Applied Research in the Community College, 16(1), 6-12.

Kraska, M. (2008). Retention of graduate students through learning communities. *Journal*

    of Industrial Teacher Education, *45*(2), 54-70.

Lancia, L., Petrucci, C., Giorgi, F., Dante, A. & Cifone, M. G. (2013). Academic success

    and failure in nursing students: Results of a retrospective observational study.

    Nurse Education Today. doi: org/10.1016/j.nedt.2013.05

Landivar, L. C. (2013). Men in nursing occupations: American community survey

    highlight report. Retrieved from

    http://www.census.gov/people/io/files/Men_in_Nursing_Occupations.pdf

Landry, L. G., Davis, H., Alameida, M. D., Prive, A., & Renwanz-Boye, A. (2010).

    Predictors of NCLEX-RN success across 3 prelicensure program types.

    NurseEducator, 35(6), 259-263. doi:10.1097/NNE.0b013e3181f7f1c9

Lodico, M. G., Spaulding, D. T., & Voegtle, K. H. (2010). *Methods in educational*

    research: From theory to practice. San Francisco, CA: Jossey-Bass.

Macpherson, M. (2009). Self-reflection: A primer for leadership coaches. American

    Society for Training and Development, 63(12), 46-49.

Markey, D. C. (2012, Spring). Addressing mental health on college campuses. NAMI

    Beginnings, p. 5-6. Retrieved from

    http://www.nami.org/Content/Microsites343/NAMI_Hamilton_County/Home340/

    Library9/NAMI_Beginnings_Spring_2012_Supporting_Students_Addressing_Me

    ntal_Health_on_College_Campuses.pdf

Marshall, D. D. (2006). *Admission predictors of success on the computerized adaptive*

    NCLEX-RN® among associate degree nursing students at a Maryland rural

    community college. (Doctoral dissertation). Available from ProQuest

    Dissertations and Theses database. (UMI No. 3199841).

McDonough, D. S. (2012). *Promoting student retention in a baccalaureate nursing program* (Doctoral dissertation). Available from Dissertations & Theses @ Walden University. Retrieved from http://search.proquest.com/docview/1012121542?accountid=14872

McGahee, T. W., Gramling, L., & Reid, T. F. (2010). NCLEX-RN Success: Are there predictors. *Southern Online Journal of Nursing Research, 10*(4), 1-14.

McGregor, D. (2010). The staff functions in human relations. *Journal of Social Issues, 4*, 5–22.

McNelis, A. M., Wellman, D. S., Krothe, J. S., Hrisomalos, D. D., McElveen, J. L., & South, R. J. (2010). Revision and evaluation of the Indiana University school of nursing baccalaureate admission process. *Journal of Professional Nursing, 26*(3), 188-194. doi:10.1016/j.profnurs.2010.01.003

McPhail, C. J. (2011). *The Completion Agenda: A Call to Action.* Retrieved from American Association of Community Colleges website: http://www.aacc.nche.edu/Publications/Reports/Documents/CompletionAgenda_report.pdf

McQueen, L., Shelton, P., Zimmerman, L. (2004). A collective community approach to preparing nursing students for the NCLEX RN examination. *The ABNF Journal, 15*(3), 55-58.

Mennenga, H. A., & Tschetter, L. (2013). Using a first-year seminar to introduce nursing. *Nurse Educator, 38*(5), 218-222. doi: 10.1097/NNE.0b013e3182a0e5d0

Moore, C., Shulock, N., & Offenstein, J. (2009). Steps to success: Analyzing milestone achievement to improve community college student outcomes. Sacramento, CA: Institute for Higher Education Leadership & Policy.

Moseley, L., & Mead, L. (2008). Predicting who will drop out of nursing courses: A machine learning exercise. *Nursing Education Today, 28,* 469-475. doi: 10.1016/j.nedt.2007.07.012

Murray, K. T., Merriman, C. S., & Adamson, C. (2008). Use of the HESI admission assessment to predict student success. *Computers, Informatics, Nursing, 26*(3), 61-66.

National Center for Educational Statistics, Institute of Educational Sciences. (2013). AB College fall 2013 total enrollment. Retrieved from http://nces.ed.gov/collegenavigator/?q=A+B+college&s=all&id=199892#enrolmt

National Council of State Boards of Nursing. (2013). 2013 *NCSBN fact sheet.* Retrieved from http://www.ncsbn.org/NCSBN_Stats _2013.pdf.

National Council of State Boards of Nursing. (2014). 2014 NCLEX examination candidate bulletin. Retrieved from http://www.ncsbn.org/2014_NCLEX_Candidate_Bulletin.pdf.

National League for Nursing. (2013). *Annual Survey of Schools of Nursing: Fall 2012.* Retrieved from www.nln.org/research/slided/index.htm

Nduna, N. J. (2012). The relevance of workplace learning in guiding student and

curriculum development. *South African Journal of Higher Education, 26*(2), 232-

248

Newton, S. E., & Moore, G. (2009). Use of aptitude to understand bachelor of science in

nursing student attrition and readiness for the National Council Licensure

Examination-Registered Nurse. *Journal of Professional Nursing, 25*(5), 273-

278.doi:10.1016/j.profnurs.2009.01.016

Newton, S. E., Smith, L. H., & Moore, G. (2007). Baccalaureate nursing program

admission policies: Promoting success or facilitating failure? *Journal of Nursing

Education, 46*(10)*,* 439-444.

Newton, S. E., Smith, L. H., Moore, G., & Magnan, M. (2007). Predicting early academic

achievement in a baccalaureate nursing program. *Journal of Professional

Nursing, 23,*144-149.

North Carolina Board of Nursing (n.d.). *NCBON On-time completion rates for nursing

education programs: Registered nurse 2010-2012.* Retrieved from

http://www.ncbon.com/myfiles/downloads/1012-on-time-completion-rn-

revised.pdf

North Carolina Board of Nursing (n.d.). *NCLEX Pass Rate 2010-2012 RN.* Retrieved

from http://www.ncbon.com/myfiles/downloads/3-year-rn-pass-rate-2010-

2012.pdf

North Carolina Community College System (2015). *1G SBCCC 100.99 Budget FTE Funding.* Retrieved from http://www.nccommunitycolleges.edu/sbcccode/1g-sbccc-10099-budget-fte-funding-0

O'Neill, T. (2005, February). Definition of a logit. *NCLEX Psychometric Technical Brief, 2, 1-3.* Retrieved from ww.ncsbn.org/02_18_05_brief.pdf

Pence, P. L. (2011). Predictors of retention among undergraduate students attending associate degree nursing programs in Illinois. *Teaching and Learning in Nursing, 6*(3), 131-138. doi: 10.1016/j.teln.2011.01.004

Pennington, T. & Spurlock, D. (2010). A systematic review of the effectiveness of remediation interventions to improve NCLEX-RN pass rates. *Journal of Nursing Education, 49*(9), 485-492.

Peterson, V. M. (2009). Predictors of academic success in the first semester baccalaureate nursing students. *Social Behavior and Personality 37*(3), 411-418. doi: 10.2224/sbp.2009.37.3.411

Phillips, J., Resnick, J., Boni, M. S., Bradley, P., Grady, J. L., Ruland, J. P., & Stuever, N. L. (2013). Voices of innovation: Building a model for curriculum transformation. *International Journal of Nursing Education Scholarship, 10*(1), 91-97. doi: 10.1515/ijnes-2012-0008

Poorman, S. G., Mastorovich, M. L., & Webb, C. A. (2009). When a GN doesn't become an RN: How the staff educator can help. *Journal for Nurses in Staff Development, 18*(1), 14-19. doi:10.1097/00124645-200201000-00003

Porter, K. (2008). Current trends in student retention: A literature review. *Teaching and Learning in Nursing*, 3, 3–5. doi:10.1016/j.teln.2007.09.001

Pryjmachuk, S., Easton, K., & Littlewood, A. (2008). Nursing education: factors associated with attrition. *Journal of Advanced Nursing, 65*(1), 149-160.

Raman, J. (2013). Nursing student success in an associate degree program. *Teaching and Learning in Nursing, 8*(2), 50-58. doi: org/10.1016/j.teln.2012.12.001

Raosoft, Inc. (2004). Sample size calculator. Retrieved from http://www.raosoft.com/samplesize.html

Robbins, S., Lauver, K., Le, H., Davis, D., Langley, R., & Carlstrom, A. (2004). Do psychosocial and study skill factors predict college outcomes? A metaanalysis. *Psychological Bulletin, 130*(2), 261-288. doi:10.1037/0033-2909.130.2.261

Robertson, S., Canary, C. W., Orr, M., Herberg, P., & Rutledge, D. N. (2010). Factors related to progression and graduation rates for RN-to-bachelor of science in nursing programs: searching for realistic benchmarks. *Journal of Professional Nursing, 26*(2), 99-107.

Rogers, T. L. (2010). Prescription for success in an associate degree nursing program. *Journal of Nursing Education, 49*(2), 96-100. doi: 10.3928/01484834-20091022-03

Roncoli, M., Lisanti, P., & Falcone, A. (2000). Characteristics of baccalaureate graduates and NCLEX-RN performance. *Journal of the New York State Nurses Association, 31*(1), 17−19.

Royse, D. (2000). The ethics of gatekeeping. In P. Gibbs and E. H. Blakely (Eds.), *Gatekeeping in BSW programs.* (pp. 22-44). New York, NY: Columbia University Press.

Scheetz, L. J. (2000). Nursing faculty secrets. Philadelphia, PA: Hanley & Belfus, Inc.

Scott, E. S., & Yoder-Wise, P. S. (2013). Increasing the intensity of nursing leadership: Graduate preparation for nurse leaders. Journal of Nursing Administration, 43(1), 1-3. doi:10.1097/NNA.0b013e318278607c

Seago, J. A., Keane, D., Chen, E., Spetz, J., & Grumbach, K. (2012). Predictors of students' success in community college nursing programs. *Journal of Nursing Education, 51*(9), 489-495. doi: 10.3928/01484834-20120730-03

Shaffer, C., & McCabe, S. (2013). Evaluating the predictive validity of preadmission academic criteria: High-stakes assessment. *Teaching and Learning in Nursing*, 8(4), 157-161.

Shirrell, D. (2008). Critical thinking as a predictor of success in an associate degree nursing program. *Teaching and Learning in Nursing. 3*(4), 131-136. doi:10.1016/j.teln.2008.05.001

Simon, E., & Augustus, L. (2009). Comparative analysis of NLN NCLEX-RN readiness

 exam performance: BSN versus ADN. *Journal of Research in Nursing, 14*(5),

 451-462. doi: 10.1177/1744987109106817

Phillips, B. C., Spurling, M. A., & Armstrong, W. A. (2002). Associate degree nursing:

 Model prerequisites validation study California community college associate

 degree nursing programs. San Francisco: The Center for Student Success.

Suskie, L., & Banta, T. W. (2009). *Assessing student learning: A common sense guide*

 (2nd ed.). San Francisco, CA: Jossey-Bass.

Timer, J. E., & Clauson, M. I. (2010). The use of selective admissions tools to predict

 students' success in an advanced standing baccalaureate nursing program. *Nurse*

 Education Today, 31(6), 601-606. doi: 10.1016/j.nedt.2010.10.015

Tipton, P., Pulliam, M., Beckworth, C., Illich, P., Griffin, R., & Tibbit, A. (2008).

 Predictors of associate degree nursing students' success students. *Southern Online*

 Journal of Nursing Research, 8(1), 1-9.

Triola, M. F. (2012). *Elementary statistics technology update.* (11th ed.). Boston, MA:

 Pearson Education, Inc.

Trofino, R. M., (2013). Relationship of associate degree nursing program criteria with

 NCLEX-RN success: What are the best indicators in a nursing program of passing

 the NCLEX_RN the first time? *Teaching and Learning in Nursing (8),* 4-12. doi:

 10.1016/j.teln.2012.08.001

United States Department of Labor, Bureau of Labor Statistics (2012). *Employment Projections 2010-2012.* Retrieved from http://bls.gov/news.release/ecopro.t06.htm.

United States Department of Health Resources and Services Administration (2010). The registered nurse population: Findings from 2008 national sample survey of registered nurses. Retrieved from http://bhpr.hrsa.gov/healthworkforce/rnsurveys/rnsurveyfinal.pdf

United States Department of Labor, Bureau of Labor Statistics (2014). *Employment Projections Occupational Outlook Handbook, 2014-15 Edition*, *Registered Nurses.* Retrieved from http://www.bls.gov/ooh/healthcare/registered-nurses.htm.

Upcraft, M., Gardner, J., & Barefoot, B. (2005). *Challenging and supporting the first year student: A handbook for improving the first year of college.* San Francisco, CA: Jossey-Bass

Uyehara, J., Magnussen, L., Itano, J., & Zhang, S. (2007). Facilitating program and NCLEX-RN success in a generic BSN program. *Nursing Forum 42*(1), 31-38. doi: 10.1111/j.1744-6198.2007.00063

van Rooyen P., Dixon A., Dixon G., Wells C. (2006). Entry criteria as predictor of performance in an undergraduate nursing degree programme. *Nurse Education Today*, *26*(7) , 593-600. doi:10.1016/j.nedt.2006.02.002

Wang, J. (2013). What higher educational professionals need to know about today's

    students: Online social networks. *The Turkish Online Journal of Educational*

    Technology, 12(3), 180-193.

Ware, M. A. (1996). *A study of the relationship between pre-admission data and level of*

    completion in a baccalaureate nursing program. (Doctoral dissertation).

    Retrieved from ProQuest Dissertation and Thesis database. (UMI No.

    PUZ9716051).

Whyte, D. G., Madigan, V., & Drinkwater, E. J. (2011). Predictors of academic

    performance of nursing and paramedic students in first year bioscience. *Nursing*

    Education Today, 31, 849-854. doi: 10.1016/j.net.2010.12.021

Wijnia, L., Loyens, S. M., & Derous, E. (2011). Investigating effects of problem-based

    versus lecture-based learning environments on student motivation. *Contemporary*

    Educational Psychology, 36(2), 101-113. doi:10.1016/j.cedpsych.2010.11.003

Williams, M. (2010). Attrition and retention in the nursing major: understanding

    persistence in beginning nursing students. *Nursing Education Perspectives, 31*(6),

    362-367. doi:10.1043/1536-5026-31.6.362

Wolkowitz, A. A., & Kelley, J. A. (2010). Academic predictors of success in a nursing

    program. *Journal of Nursing Education, 49*(9), 498-503. doi: 10.3928/01484834-

    20100524-09

Yates, J., Smith, J., James, D., & Ferguson, E., (2009). Should applicants to Nottingham University Medical School study a non-science A-level? A cohort study. *BMC Medical Education, 9*(5), 1-9. doi: 10.1186/1472-6920-9-5

Yin, T., & Burger, C. (2003). Predictors of NCLEX-RN success of associate degree nursing graduates. *Nurse Educator, 28*(5), 232-236.

Appendix A: Project

The purpose of this study was to determine the associations among length of time between core science course completion and nursing program admission, on-time completion, and NCLEX-RN success for students at a southeastern community college. The finding of this study did identify a statistically significant association between on-time completion and the length of time between completion of core science courses, Anatomy and Physiology, prior to admission to an ADN program. Additionally, it was noted that greater than 50% of the students who took Anatomy and Physiology while enrolled in the nursing program are not completing the nursing program. This course will provide the nursing student with tools to increase their chances of completing the nursing program as well as passing the NCLEX-RN examination on their first attempt.

SYLLABUS
Academic Student Success for the Nursing Student
Fall 2016

Course Description (CCL)   Class: 1   Lab: 0   Clinical: 0   Semester Hours: 1

This course introduces the college's physical and academic resources that promote the personal development essential for success in the nursing program. Topics include identifying campus resources, study habits, test taking strategies including NCLEX-RN style test question, time management strategies, critical thinking, simulation orientation, and anatomy and physiology overview. Upon completion, nursing students should be able to acquire skills to meet their educational objectives.

Prerequisite/Co-requisite

None

Course Learning Outcomes

Upon completion of this course, you should be able to do the following:

1. Identify and describe the resources and facilities available on campus to help you reach your educational and professional objectives.
2. Apply knowledge of study skills and time management techniques.
3. Apply knowledge related to test taking strategies for NCLEX.
4. Define the characteristics of critical thinking and critical thinkers.
5. Describe the critical thinking process.
6. Demonstrative basic utilization of clinical simulators.
7. Review basic anatomy and physiology.

Required Textbooks

None

Learning/Teaching Methods

Assignments could include: written assignments, library and online research activities, quizzes, and a final exam.

Course Requirements / Methods of Evaluation

To demonstrate attainment of learning outcomes, you must successfully complete the following:

1. Unit quizzes 40%
2. Graded written assignments 40%
3. Final Exam 20%

Grading Policy/Criteria

This course is a Pass/Fail class. To pass you must submit ALL assignments and adhere to the attendance policy.

Academic Integrity / Student Rights and Responsibilities

Any student caught violating the Student Academic Integrity Policy (i.e., cheating, plagiarizing, or other dishonorable acts), in academic work is subject to disciplinary action.

Students with Disabilities

The College is committed to seeing that students with disabilities have equal access to and participation in all programs of study. For further explanation, please note the Students with Disabilities policy on the college website. Students with disabilities can contact the Disability Coordinator, in the Student Development office.

Non-Discriminatory Statement

The College is committed to a policy of providing educational opportunities to all students regardless of economic or social status, beliefs, sexual orientation, national origin, or physical or mental disability.

Student Attendance Policy

Students should familiarize themselves with the attendance policy as stated in the college catalog and student handbook.

College Policy: The College expects students to gain skills, competencies and an awareness of a workplace ethic, which emphasizes responsibility and commitment. The College believes students demonstrate responsibility for and commitment to their educational goals through regular attendance; therefore, students must attend 80% of the total hours of any class to receive a passing grade. Instructors will excuse no absences under this policy. If students miss more than 20 percent of the class meetings before the last date for dropping a

course will receive a grade of "W." If students miss more 20 percent after the last date to drop, instructors will assign the grade of "WF." Instructors expect students to make up missed work, but students cannot make up absences.

Instructor Information

Instructor:

Office Location:

Telephone Numbers:

Office Hours:

E-Mail Address:

FAX Number:

Course Topics:

1. Campus Resources
   a. Academic Skills Center
   b. Library
   c. Counseling Services
   d. Financial Aid
   e. Admissions & Records
   f. Student Activities
   g. Campus Police
2. Study Skills
3. Test Taking Strategies
4. Critical Thinking
5. Time Management
6. Simulation Orientation
7. Anatomy and Physiology Overview
8. Final Exam

Unit 1: Campus Resources

Objectives:

- Discuss overall course requirements

- Demonstrate an awareness of services available on campus

- Locate buildings on campus using a campus map

Activities:

Campus Resources Tour
    a. Academic Skills Center
    b. Library
    c. Counseling Services
    d. Financial Aid
    e. Admissions & Records
    f. Student Activities
    g. Campus Police

Teachers Notes:

- Review syllabus, course calendar, attendance requirements, and grading scale in

  detail with class.

- Tour each site listed above and provide contact information for students to obtain

  assistance.

- Review the college home page in class, review links.

Homework:

After class:

- Email instructor from school email prior to week 2.

- Obtain library code to access online databases prior to week 2.

Evaluation Plan:

- Multiple choice quiz (10 questions, 80% is passing)

- Receipt of email assignment

- Verification of library code to access online databases

Unit 2: Study Skills

Objectives:

- Understand the importance of studying

- Identify three different study strategies

- Determine your learning style

Activities:

- Discuss various learning styles: auditory, kinesthetic, and visual

- Group activity: Share study habits and list top 3 habits used in group

Homework:

Prior to class:

Complete the following Practice Assessment

- Assessment Technologies Institute (ATI) Self-Assessment Inventory online

  (Learning Style Self-Assessment)

Teachers Notes:

- Discuss organizational strategies and use of planner to dedicate study time, best

  time of the day to study, and limiting distractions

  o Designate study time, read assignments, take good notes, and utilize

    college resources

- Define each type of learner for students and ask class to share what has worked

  for them in the past

  o Auditory

- Learner is stimulated by the use of hearing and learns by verbal repetition, lecture, sounds, and auditory memory.

    o Kinesthetic

    - Learner is stimulated by the use of touch or manipulation of an object to internalize memory.

    o Visual

    - Learner is stimulated by the use of vision and learns by seeing the written word, pictures, graphs, videos, etc.

    o Individual

    - Learner feels most comfortable in control of own learning, independent.

    o Group

    - Learner thrives around others and learns better in group activities or by those around them.

- Discuss Bloom's Taxonomy and the difference in knowledge, comprehension, application, analysis, evaluation, and synthesis

    o Nursing course use application and higher level questioning which requires more than memorization. Information must be retained and pulled forward.

    o Provide examples of each type of question for better understanding

Evaluation Plan:

- Participation in class discussion and group activities

- Multiple choice quiz (10 questions, 80% is passing)

- Disseminate group and individual learning style assessment information to all

  nursing faculty for student engagement and counseling purposes

Unit 3: Test Taking Strategies for NCLEX

Objectives:

- Review and apply test taking strategies

- Examine the construction of the NCLEX-RN detailed Test Plan

- Discuss priority setting frameworks

- Gain knowledge to assist in decreasing test taking anxiety

- Apply previously reviewed strategies that can be used to aid in successful studying

Activities:

- Lecture

- Group Discussion

- Discuss test taking strategies

- Review NCSBN website and how to locate the NCLEX-RN detailed test plan

- Review each component of the NCLEX-RN detailed test plan

- Review Maslow's Hierarchy of Needs, Priority setting, Airway, Breathing, Circulation, Safety, and Pain

- Discuss strategies to decrease test taking anxiety

- Discuss strategies that have been used to aid in successful studying

Homework:

Prior to class:

Complete the Assessment Technologies Institute (ATI) Nurse Logic 2.0

- Knowledge and Clinical Judgment (Module and Beginner Test)

- Nursing Concepts (Module and Beginner Test)

- Priority Setting Frameworks (Module and Beginner Test)

- Testing and Remediation (Module and Beginner Test)

Teachers Notes:

- Review anxiety reducing and test taking strategies

    o Ask students what has worked for them (facilitate group discussion)

    o Gather all supplies needed for testing the night before: calculator (basic), #2 pencils, tissues, earplugs (if needed).

    o Thorough preparation, avoid cramming for tests

    o Physical comfort: plan ahead to get adequate sleep, eat a good meal (complex carbohydrates and protein versus a heavy, fatty meal), dress comfortably, and wear a power color to stimulate your brain.

    o Emotional comfort: relax, use imagery, deep breathing techniques, and positive self-affirmations.

    o Listen carefully to instructions; ask questions if you are unsure.

    o Read each question carefully, covering the answers:

        ▪ Determine what the question is asking

        ▪ Review the stem of the question and key words

            - Be alert to words such as: never, always, except, not, first, but, too, most, and least.

- ▪ Formulate the answer in your mind

- ▪ Review all the distractors (answers)

    - • Make sure the answer you select answers the material being

        tested in the stem (question).

- ▪ Approach questions carefully and thoughtfully. Keep in mind

    priority setting frameworks.

o Have students find the NCSBN website and the NCLEX-RN Detailed Test

Plan

o Review the distribution of content and percentages of the NCLEX-RN

Detailed Test Plan with examples of related content (directly from test

plan).

- ▪ Safe Effective Care Environment

    - • Management of Care 16-22%

        - o Providing and directing nursing care that enhances

            the care delivery setting to protect clients,

            family/significant others, and health care personnel.

    - • Safety and Infection Control 8-14%

        - o Protecting clients, family/significant others and

            health care personnel from health and

            environmental hazards.

- ▪ Health Promotion and Maintenance 6-12%

- The nurse provides and directs nursing care of the client and family/significant others that incorporate the knowledge of expected growth and development principles, prevention and/or early detection of health problems, and strategies to achieve optimal health.

  - Psychosocial Integrity 6-12%

    - The nurse provides and directs nursing care that promotes and supports the emotional, mental, and social well-being of the client and family/significant others experiencing stressful events, as well as clients with acute or chronic mental illness.

  - Physiological Integrity

    - The nurse promotes physical health and wellness by providing care and comfort, reducing client risk potential, and managing health alterations.

    - Basic Care and Comfort 6-12%

      - Providing comfort and assistance in the performance of activities of daily living.

    - Pharmacological and Parenteral Therapies 13-19%

- Providing care related to the administration of medications and parenteral therapies.

  - Reduction of Risk Potential 10-16%
    - Reducing the likelihood that clients will develop complications or health problems related to existing conditions, treatments, or procedures.
  - Physiological Adaptation 11-17%
    - Managing and providing care for clients with acute, chronic, or life threatening physical health conditions.

- Review Maslow's Hierarchy of Needs
  - Biological and physiological needs
    - Air, food, drink, shelter, warmth, sleep
  - Safety needs
    - Protection from the elements, security, order, law, stability, freedom from fear
  - Love and belonging needs
    - Friendship, intimacy, affection and love from work group, family, friends, and significant other
  - Esteem needs

- ▪ Achievement, mastery, independence, status, prestige, self-respect, respect from others
    - o Self-actualization needs
        - ▪ Realizing personal potential, self-fulfillment, seeking personal growth and experience
- Airway, Breathing, Circulation, Safety, and Pain
    - o Discuss and provide examples of questions
    - o Discuss acute and chronic, stable and unstable examples
- Review studying strategies
    - o Ask students what they have been using and how it has worked (facilitate group discussion)

<u>Evaluation Plan:</u>

- Submit ATI transcript demonstrating completion of homework assignments
- Multiple choice quiz (10 questions, 80% is passing)

Unit 4: Critical Thinking

Objectives:

- Define the characteristics of critical thinking and critical thinkers

- Relate critical thinking to the nursing process

- Discuss concept mapping as a strategy for clinical reasoning

- Examine the role of critical thinking in gathering information from clients and health care providers

- Review the Situation Background Assessment Recommendation (SBAR) tool as a critical thinking tool for communicating within the healthcare setting

Assessments:

Complete ATI Proctored Critical Thinking Entrance Assessment

Activities:

- Complete ATI Proctored Assessment

- Group discussion

- Lecture

Teachers Notes:

- Define critical thinking

    o Analytical thinking

    o Reflective thinking

- Discuss the benefits of critical thinking

- Discuss how critical thinking different from problem solving

- o Problem-focused and outcome-focused thinking

- Novice versus expert thinking

- Nursing Process

  - o Assessment

    - Gathering information

    - Subjective and objective information

  - o Analysis

    - An educated judgment about an actual or potential health problem

    - Nursing diagnoses

  - o Planning

    - Determination of a measureable, reasonable goal

    - Plan of action to assist client in meeting that goal

  - o Implementation

    - Action phase

    - Actions taken independently or collaboratively to assist in meeting the predetermined goal

  - o Evaluation

    - Determining if the goal has been met, partially met, or not met

- Moral and ethical reasoning

  - o Moral

- - Standards of goodness by which we judge human behavior: fairness, tolerance, truthfulness

  - o Ethics

    - - Moral standards that are appropriate to specific occupations

- Evidence-based practice

- Concept mapping

- SBAR

Evaluation Plan:

- Completion of ATI Proctored Assessment

- Multiple choice quiz (10 questions, 80% is passing)

Unit 5: Time Management

Objectives:

- Analyze the use of personal time

- Identify ways to create balance

- Examine resources to assist better use of time

Activities:

- Complete Time Budget Worksheet in class

- Group discussion of findings and strategies

Teachers Notes:

- Provide students with the Time Budget Worksheet to complete

- Group discussion of findings

  - o Determine where procrastination occurs

- Have each student provide a time management tip on the dry erase board

- Provide additional tips to help create balance for traditional and non-traditional

  students

  - o Discuss social media and time consumption related to social media

  - o Discuss the use of rewards, breaks, and time for relaxation

  - o Discuss available college resources

Evaluation Plan:

- Completion of Time Budget Worksheet

- Multiple choice quiz (10 questions, 80% is passing)

Unit 6: Simulation Orientation

Objectives:

- Define simulation

- Differentiate between low-, mid-, and high-fidelity simulators

- Identify specific simulation rules for the nursing student

- Discuss the rational for using simulation in the ADN program

Activities:

- Orientation

- Explore each type of simulator (hands-on exploration)

    o Low-Fidelity

    o Med-Fidelity

    o High-Fidelity

Teachers Notes:

➢ Simulation is used in a variety of settings to increase learner's skill development, practice skills in a safe environment, and facilitate learning. Simulation reinforces the development of skills in assessment, kinesthetic/visual activities, critical thinking, problem-solving, collaboration and clinical decision making (Rothgeb, 2008). In addition, simulation contributes to experiential and reflective learning styles by incorporating interactive experiences through participation, observation, and debriefing (Ravert, 2008; Rothgeb, 2008).

➢ Low-fidelity simulators are static, without motion and may be used to learn and practice designated skills. Mid-fidelity simulators provide more realism such as breath, heart, and bowel sounds. High-fidelity simulators are dynamic and depending upon the model can respond physically and physiologically to promote critical thinking (Ravert, 2008; Rothgeb 2008).

➢ **Low-Fidelity Simulation**

Examples: Anatomical models, Blood pressure (BP) arms, Breath and Heart Sound Boards, Laerdal Sound Kits (breath/heart sounds), Intravenous arms, etc.

➢ **Mid-Fidelity Simulation**

Examples: Laerdal Vital Sim/Manikins (Adult/Child): Blood pressure (BP) measurement; Breath Heart, and Bowel sounds; Pulses, Skin and Wound assessment, etc. Scenarios may be used with this model.

➢ **High-Fidelity Simulation**

Example: Laerdal SimMan Essential: Scenarios may be used with this model.

      o **Orientation:**

           o The Nursing faculty members will provide a demonstration and/or orientation to the simulation equipment that will be utilized in the laboratory.

In the laboratory, the following should always be performed:

• Simulators should be treated as a real client.

- Students will utilize infection control procedures and professional communication when simulators are in use.

- Scenario based simulation experiences will include a debriefing period to reflect on the scenario and student performance.

During simulation scenarios provided by nursing faculty the student will:

- Introduce self, identify client (utilizing appropriate client identifiers)

- Practice documenting assessments/procedures as directed

- Maintain academic integrity and hold in confidence simulation procedures and/or scenarios

- Evaluate simulation experiences at the end of this course

  During the orientation period the student will:

  Low-Fidelity Simulation:

  - Become familiar with the anatomical models

    - o Demonstration will be provided with each piece of equipment

  - Inspect and touch equipment

  - Seek clarification as needed (ask questions)

  - Practice hands-on skills as directed

  Mid-Fidelity Simulation:

  - Become familiar with the mid-fidelity Laerdal Vital Sim Manikins/Simulators

  - Listen to various verbal phrases/sounds

- o Respiratory sounds (audible wheezes, stridor, etc.)

- Inspect and touch equipment

    - o Blood pressure measurement Right Upper Extremity only

        - ▪ Calibration of blood pressure must be performed

    - o Simulators *are not always* anatomically correct for auscultation

    - o Limbs and parts can be changed depending on concept/skill

- Utilize hand held device to change settings, enhancing learning

    - o Function keys

    - o Operations

    - o Volume

    - o Settings

- Seek clarification as needed (ask questions)

- Practice hands-on skills as directed

High-Fidelity Simulation:

- Become familiar with SimMan

    - o Typically faculty member will be present when SimMan is in use
      (either inside or directly outside client room)

- Inspect and touch equipment

    - o Blood pressure measurement in Left Upper Extremity only

    - o Over bed monitor

    - o Pulse oximeter

- Observe Pupils

  o Pupil size may vary

- Observe/Touch oral cavity

  o Tongue may swell

  o Jaw may clench

  o Teeth may be removed

- Listen to various verbal phrases/sounds

  o Respiratory sounds (audible wheezes/stridor, etc.)

- Observe/Touch chest rise and fall

- Palpate pulses

- Seek clarification as needed (ask questions)

- Practice hands-on skills as directed

Evaluation Plan:

- Participation in hands-on exploration of simulators

- Multiple choice quiz (10 questions, 80% is passing)

References:

Ravert, P. (2008). Patient simulator sessions and critical thinking. *Journal of Nursing Education,47*(12), 557-562.

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

Unit 7: Anatomy & Physiology Overview

Objectives:

- Review the major organ systems

- Explain the physiological functions of major organ systems

- Identify the interrelationship between anatomical and physiological systems of the human body

- Develop basic understanding of interrelationship of health on major organ systems

Activities:

- Complete anatomy coloring sheets for each organ system

- Complete anatomy and physiology crossword puzzle for each organ system

- Participate in class discuss related to human anatomy and physiology and health

Teachers Notes:

- Identify and state the function of each major organ system

- Review the interrelationship between structure and function of major organ systems

- Review vocabulary of appropriate terminology

- Jig Saw Activity

- Completion of anatomy and physiology crossword activities

- Class discussion of health and illness as it related to human anatomy and physiology

<u>Evaluation Plan:</u>

- Completion of Assigned Activities

- Final Exam (50 questions, 80% is passing)

Course Evaluation:

The course evaluation will be available on Survey Monkey 1-week prior to the end of the course.

The Nursing faculty is sincerely interested in your comments. You can assist the faculty and future students by giving thoughtful responses to the items below.

Please read the prompts carefully and respond with professional and respectful consideration.

1. Course Content

	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Applicable
Course learning outcomes and unit tasks were clearly stated					
Class content was consistent with course learning outcomes.					
Content was organized and followed course outline.					
Methods of evaluation were clearly stated on the course syllabus.					

2. Course Assignment and Activities

	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Applicable
Assigned learning activities for this course were appropriate to meet course learning outcomes.					
Course assignment(s) contributed to my understanding of the course material.					
Students were encouraged to participate in class discussion.					

3. Course Learning Outcomes

	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Applicable
This course increased my awareness of campus resources.					
This course increased my knowledge related to study skills.					
This course increased my understanding of time management techniques.					
This course increased my knowledge related to test taking strategies for NCLEX style questions.					
This course increased my knowledge and made me more confident in my ability to critically think.					
This course increased my knowledge of clinical simulators.					
This course review basic anatomy and physiology as it related to health and illness.					

The faculty would like your comments on the following items. Your responses are very important in assisting faculty and future students. If additional space is needed, please use the reverse side of the survey.

Please read the prompts carefully and respond with professional and respectful consideration.

4. Describe the strengths of this course.

5. Are there any units of study that you feel need to be explored further? (Please specify)

6. What specific suggestions do you have for enhancing comprehension of this content?

7. Describe any suggestions for change(s) that you would recommend.