2019

Nursing Program Progression Requirements and Student Success at a U.S. Community College

Deborah Joleen Cipale
Walden University

Walden University

College of Education

This is to certify that the doctoral study by

Deborah J. Cipale

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. John Johnson, Committee Chairperson, Education Faculty
Dr. Stephanie Bowlin, Committee Member, Education Faculty
Dr. Dan Cernusca, University Reviewer, Education Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2019

Abstract

Nursing Program Progression Requirements and Student Success at a U.S. Community College

by

Deborah J. Cipale

MSN, Nebraska Methodist College, 2006

BSN, Grandview University, 2003

RN, Iowa Methodist School of Nursing, 1990

Project Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

August 2019

Abstract

Although licensed registered nurses (RNs) comprise a significant percentage of the U.S. health care workforce, there is a lack of qualified nurses to meet patient needs. This shortage is expected to intensify as practicing nurses leave the profession. The problem that prompted this study was that an attrition-reduction program implemented in the nursing program at a U.S. midwestern community college did not show a reduction in the average attrition rate. The academic integration construct of Tinto's theory of student departure was used to examine archival academic performance records of 145 students enrolled in the local program from 2010 to 2012. The central research question focused on the correlations between academic progression requirements to student attrition rates in 1st-semester associate degree in nursing (ADN) courses. The correlation was computed using the point-biserial calculation. Findings from the data analysis indicated a statistically significant correlation between 2nd-semester licensed practical nurse (LPN) courses and success in 1st-semester ADN courses, but at a higher benchmark than the current requirement. There was no statistically significant correlation between the standardized exit examination and success in 1st-semester ADN courses. The resulting project was a white paper policy recommendation for the institutional and community stakeholders. The project was evaluated with an outcomes-based evaluation method to measure the effectiveness of the revised progression requirements by measuring attrition rates in the 1st cohort of nursing students who were held to the revised progression requirements. The project contributes to positive social change by providing recommendations to decrease student attrition rates, which, in turn, may help to reduce the global nursing shortage.

Nursing Program Progression Requirements and Student Success at a U.S. Community College

by

Deborah J. Cipale

MSN, Nebraska Methodist College, 2006

BSN, Grandview University, 2003

RN, Iowa Methodist School of Nursing, 1990

Project Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

August 2019

Table of Contents

List of Tables

Section 1: The Problem

Introduction

Currently numbering more than 2.9 million, licensed RNs comprise a significant percentage of the health care workforce in the United States (U.S. Department of Labor, 2018c), and it is estimated that their number will grow to more than 3.4 million by 2026 (U.S. Department of Labor, 2018c). Researchers anticipate that the projected need for RNs will rise by 15% by 2026 (American Nurses Association [ANA], 2017; U.S. Department of Labor, 2018c). This shortage is expected to intensify as currently practicing nurses leave the profession due to retirement (American Association of Colleges of Nursing [AACN], 2019) and the supply of new practitioners fails to meet demand. In 2014, the Health Resources and Services Administration (HRSA) in the U.S. Department of Health and Human Services identified "population growth and the aging of the nation's population, overall economic conditions, aging of the nursing workforce, and changes in health care reimbursement" (p. 4) as factors contributing to the nursing shortage in the United States.

There are three educational pathways to becoming an RN. One pathway is for students to earn the Diploma in Nursing through a hospital-based nursing program (ANA, 2017). While this was once the most common route to RN licensure, according to the National League for Nursing (NLN; 2015b), there were only 67 nursing programs in the United States in 2015. The Associate Degree in Nursing (ADN) is a 2-year degree that is typically offered by community colleges and prepares individuals for a defined technical scope of practice (ANA, 2017). According to the NLN (2015b), there were 1,092 ADN

programs in the United States in 2014. The ADN pathway is most common accounting for approximately 58% of the total programs (NLN, 2015b). Finally, the Bachelor of Science in Nursing (BSN) is a 4-year degree offered at colleges and universities (ANA, 2017). The NLN (2015b) reported that 710 BSN programs in the United States enrolled nursing students in 2014.

No matter the pathway, the goal of each type of program is clear: to prepare students to pass the licensure examination. For nurses to enter professional practice, they must pass the National Council of State Boards of Nursing Licensing Examination for Registered Nurses (NCLEX-RN) after completing a state-approved curriculum (National Council of State Boards of Nursing [NCSBN], 2016). Only graduates of state-approved programs are qualified to sit for this nationally standardized examination. The NCLEX-RN "is designed to test knowledge, skills, and abilities essential to the safe and effective practice of nursing at the entry level" (NCSBN, 2016, p. 2). Enrollment restrictions for qualified applicants, the nurse educator shortage, and student attrition rates limit the contributions that nursing programs can make to the alleviation of the nursing shortage (AACN, 2019, 2015; Hughes, 2013; NLN, 2017).

The Local Problem

The nursing profession requires a consistent supply of new graduate nurses to replenish dwindling numbers as practicing nurses retire or leave the profession. Nursing program attrition contributes to the nursing shortage by providing fewer nurses than necessary to maintain the status quo and perpetuate the professional nursing workforce. The need for nurses has grown past the ability of nursing schools to provide enough new

graduates (AACN, 2019, 2015; Hughes, 2013; NLN, 2017). While acknowledging the seriousness of the nursing shortage as influenced by the students enrolled, a potential solution to the nursing shortage problem is to graduate a greater percentage of students enrolled. Reducing nursing program attrition brings students to graduation, to the licensure examination, and into the professional nursing workforce.

Midwest Community College's (MWCC; pseudonym) nursing programs consist of a licensed practical nursing (LPN) program and an Associate's Degree in Nursing (ADN) program. The LPN program, which enrolls approximately 240 students per academic year, is two semesters in length and prepares the students to sit for the National Council Licensing Examination for LPNs (NCLEX-PN). Students may leave the program following their LPN education or progress to the ADN program. Students may only proceed to the ADN program when they meet or exceed academic progression requirements. The ADN program requires an additional two semesters of academic and clinical study. Following graduation from the ADN program, graduates are prepared to sit the NCLEX-RN.

During the three years before implementing current progression requirements in 2009, attrition rates for the ADN program ranged from 28 to 44%. The attrition rates were 28% for the 2004-2005 academic year, 44% for the 2005-2006 academic year, and 21% for the 2006-2007 academic year, according to internal documentation from the program's advisory committee. (The academic year runs from July to June.) Administrators and faculty implemented current academic progression requirements in 2009 under the assumption that students with better academic performance in second-

semester LPN courses and higher scores on the standardized exit examination would be more successful in first-semester ADN courses and thereby reduce attrition in that term of the curriculum. Academic performance in the second semester of the LPN program at or above 80% and benchmark scores on a standardized exit examination determine whether or not a student progresses from the LPN to the ADN program, according to the program's 2013 nursing student policy manual. During the time frame of this project, 145 LPN graduates met academic progression requirements and continued into the ADN program.

I defined attrition for the study as continuous movement through the program. Students who are not successful in the first semester of the ADN program do not progress through the program as required and contribute to the perpetuation of attrition, thus also perpetuating the nursing shortage. The attrition rate immediately following the implementation of academic progression requirements was approximately 24% for the 2009-2010 academic year and 29% for the 2010-2011 academic year. The average attrition rate for the 2011-2012 academic year was approximately 33%, according to internal documentation. The lack of improvement to the attrition rate, despite the program requirement changes, drove the need to analyze the relationship between academic progression requirements and the rate of attrition in this program. A correlational design was necessary to analyze the potential relationship between academic integration to student attrition rates in first-semester ADN courses.

Rationale

Evidence of the Problem at the Local Level

MWCC is a six-campus institution with an ADN program on four of those campuses. The fifth campus offers only the LPN program. Students on that campus who want to advance to the ADN program transfer to alternative campuses when seats are available. The sixth campus does not have a nursing program.

Additionally, LPNs with diplomas received at other community colleges or who graduated from this community college more than one year previously may step into the ADN program for Advanced Standing students. The Iowa Board of Nursing (IBON) and the National League for Nursing Accrediting Commission (NLNAC) accredit both nursing programs. The Accreditation from the state and national organizations indicates the quality of the program (National League for Nursing Commission for Nursing Accreditation [NLN CENA], 2016). Halstead (2017) noted numerous benefits to accreditation. Specifically, Halstead identified public acknowledgment of program quality, eligibility for state and federal funding, marketability of graduates, academic credit transfer, and facilitation of higher education for graduates as benefits to students and programs. The NLNAC accredits both nursing programs at MWCC. At the time of data collection, the NLNAC used the NLNAC 2008 Standards and Criteria to evaluate programs of nursing seeking accreditation. In 2013, the NLNAC became the Accreditation Commission for Education in Nursing (ACEN; ACEN, 2013b). The only provisional, numerical requirement included in those standards indicates that the

NCLEX-RN pass rates be at or above the national mean. Attrition requirements are left open to interpretation and justification by individual programs.

In continued support of that standard, the 2013 revised standards evaluate program outcomes based on several criteria, one of which is program completion. As with the 2008 standards, the faculty determine specific measures of program completion. NCLEX-RN success rates are expected to be above the national average (ACEN, 2013a). The 2011 and 2012 national mean pass rates for the NCLEX-RN were 87.9% and 90.3%, respectively (NCSBN, 2012, 2013). The nursing students who graduated from the study site's program were passing the NCLEX-RN at a rate consistent with or above the national mean, specifically 90% in both 2011 and 2012. However, only 61% of enrolled students graduated from the program in 2011, and 67% graduated from the program in 2012, according to statistics from the program's advisory committee. Attrition rates at MWCC could jeopardize future accreditation status. Employers and advanced degree universities may look to graduation from an accredited institution as an indicator of the quality of the nurses hired (Council for Higher Education Accreditation [CHEA], 2019).

At the time of the study, MWCC had a total student population of approximately 15,000 part-time and 10,000 full-time students. The nursing program enrolls approximately 240 students in the LPN program per academic year. Administrators and faculty anticipate that 200 of those students will progress to the ADN program. Sixteen to 24 advanced standing students join that cohort along with students restarting into single courses that require repeating. The nursing student population is primarily female, White, and between the ages of 25 and 35. Despite admitting 240 students per semester to the

LPN program over the past three academic years and graduating an average of 60.7% of those students, the ADN program had a 31% average attrition rate and a 55.3% graduation rate before implementing academic progression requirements, according to statistics from the program's advisory committee.

Interestingly, the most recent accrediting review conducted by the NLNAC indicated that decision makers at this community college implemented academic progression requirements without documentation supporting the correlation of those requirements to academic success (NLN, 2009). In response to that area of noncompliance, the nursing program has reconvened the Attrition Task Force to obtain the required data, analyze, and report back to the NLNAC, according to a follow-up report prepared by the program. I evaluated the progression requirements currently in place to make recommendations to program stakeholders, to report findings to administrative decision makers, provide information to other LPN and ADN programs, and to make recommendations for change to curriculum or program policies to reduce attrition rates.

Evidence of the Problem From the Professional Literature

Graduates from current ADN nursing programs contribute to the alleviation of the nursing shortage in the United States (AACN, 2019. That growth is dependent upon the students' success. Given the current rate of growth and the limitations of enrollment, reducing the attrition of those students already enrolled is essential, according to Klein-Collins (2011). In the face of increased demand and given the current national attrition statistics, stakeholders charge nursing programs with producing graduates who are

competent for entry-level practice (Alavere Health LLC, 2015). Not only is it necessary that enrollment in nursing programs grow, but it is also essential that more students are successful in that endeavor. Shelton (2012) discussed the importance of appropriate recruitment and admission while reiterating that "…it is not enough to recruit qualified applicants" (p. 1).

The purpose of this project study was to analyze the relationship between current academic progression requirements and first-semester ADN course grades and to provide recommendations for the revision of current academic progression policies. Students who are not successful in first-semester ADN courses do not progress through the program as planned or graduate on time, thus contributing to higher program attrition rates and the continued global nursing shortage (Jeffreys, 2007, AACN, 2019). Using the results of this study, I developed a white paper policy recommendation. In the white paper, I communicated the problem, discuss the history of academic progression requirements at MWCC, and provide an overview of the literature associated with the nursing shortage and nursing student attrition. I also made recommendations for evidence-based interventions that have been noted to correlate with student success as recommendations for academic progression requirement revisions.

Definition of Terms

Following are definitions used in the study that apply to MWCC's nursing program:

Academic progression requirements: The attainment of a course percentage of 80% in all second semester LPN courses or the achievement of 63.7% on the standardized exit exam required to advance from the LPN program to the ADN program.

Advanced Standing Nursing Program: A program that admits students who have obtained LPN licensure and are returning to complete the requirements for RN licensure.

District advisory committee: A committee representing a cross-section of the local nursing profession. The program administrators give specific attention to securing representation from a cross-section of the district population to include former students, current students, union members, ethnic minorities, and urban/rural residents.

Graduation rate: The percentage of students who complete the program within twice the published length of the program.

Following are definitions from the literature that are used in the study:

Accreditation: The voluntary evaluation of a nursing program using established standards and criteria as indicators of educational quality (NLN CENA, 2016).

Associate's Degree in Nursing: A 2-year degree which prepares students for entry-level nursing practice within a defined scope (ANA, 2017, para. 4).

Attrition: A term that refers to a student's leaving an educational program without completion or graduation (Park, Perry, & Edwards, 2011, p. 39).

Integration: "The student's experience within the college" (Tinto, 1993, p. 71).

Licensed practical nursing: A 1-year program which prepares a nurse who provides basic nursing care under the supervision of an RN or physician (U.S. Department of Labor, 2018b).

Program success: Completion of the program within the prescribed time frame (Herrera, 2013).

Significance of the Study

As faculty and administrators facilitating the MWCC nursing program strive for excellence in educational delivery, the program administrators must evaluate academic progression requirements designed to reduce attrition rates. Student success rates on the NCLEX-RN are currently above the national average. However, the percentage of attrition at the ADN level remains high. Students are learning what they need to know to be successful on the NCLEX-RN. Now, the program needs to address attrition rates to provide more graduates to sit the NCLEX-RN and enter nursing practice.

Student attrition remains a concern at the institutional level. Citing the community college open-door philosophy, administrators often challenge the efficacy of conditions designed to filter out students who may not be successful. Gabbard and Mupinga (2013) surveyed the admissions directors for nine community colleges in Iowa, Kentucky, Maine, Michigan, Texas, and Utah regarding admission policies, academic standards, and strategies to foster a balance between academic standards and open admission. While all nine participants confirmed open-door admission policies, all nine responding colleges require minimum standards, such as evidence of high school completion, placement exams with or without remediation, or remedial courses to improve reading, writing, math or science performance before enrollment (Gabbard & Mupinga, 2013). “The core mission of community colleges is challenged when too many students who need remediation enter their doors” (Gabbard & Mupinga, 2013, p. 380). The challenge to

increase retention and reduce attrition continues. Administrators for institutions want their numbers to show student successes.

Attrition rates averaging 30% in the Associate's Degree Nursing program are indicative of the noncontribution of this program to the alleviation of the nursing shortage. For this program, measures taken to improve attrition rates in the ADN program contribute to the resolution of the nursing shortage. The purpose of this project is to analyze the relationship between current academic progression requirements and first-semester ADN course attrition rates. In turn, the potential revision of those requirements by stakeholders may further contribute to social change by increasing the number of graduates to enter the RN workforce. Decreasing the nursing shortage contributes to lower nurse-to-patient ratios and better patient outcomes. Additionally, stakeholders at similar programs may use the results and recommendations for revision and research to inform decisions regarding improving attrition rates, thus increasing the number of graduates available to the RN workforce.

Research Question and Hypotheses

Students who progress as required by the nursing program do not contribute to attrition rates. In contrast, students who are not successful in first-semester ADN courses do not progress normally through the nursing program, thus contributing to increasing attrition rates and the failure to perpetuate the nursing workforce. Although many factors are known to contribute to attrition, including academic preparation, level of preparation, student study skills, personal finances, (Bowden, 2008; Habley Vaiiga, McClanahan, &

Burkum, 2010; Pryjmachuk, Easton, & Littlewood, 2009), my focus in this study was on the academic factor. The central research question for this study was the following:

RQ: What is the relationship between academic progression requirements to student attrition rates in first-semester ADN courses?

The research and null hypotheses were, as follows:

H_1: There is a positive relationship between second-semester LPN course percentages and/or scores by percentage on the standardized LPN exit examination and success in first-semester ADN courses.

H_0: There is no relationship between second-semester LPN course percentages and/or scores by percentage on the standardized LPN exit examination success in first-semester ADN courses.

The criterion variable for this study was first-semester ADN performance as indicated by success or failure in any first-semester ADN course. Students at MWCC who are not successful in any one of the three first-semester ADN courses are not allowed to progress through the program on schedule and contribute to attrition rate statistics.

The predictor variables in this study were the course percentage earned in each of three second-semester LPN courses and the percentage achieved on the required LPN exit exam. Students must meet either of those benchmarks to enter into the associate's degree program. Students must either achieve an 80% final course grade in all three second-semester LPN nursing courses or achieve a minimum 63.7 cumulative percentage on the

standardized exit examination, according to the college's 2013 nursing student program manual.

Review of the Literature

Literature Search Strategy

The literature search strategy used for this review consisted of a computerized EBSCO database search. With the goal of locating articles regarding nursing student attrition and persistence, my EBSCO database search was inclusive of the following databases: Academic Search Complete, CINAHL Plus with Full Text, Dissertations, and Theses, ERIC- Educational Resource Information Center, MEDLINE with full text, Ovid Nursing Journals Full Text, ProQuest Nursing & Allied Health Science, and SAGE Premier. Keywords used for the search included: *nursing shortage*, *nursing education, nursing student, attrition, academic performance, academic integration, persistence,* and *student success* for the years 2008-2016. The literature search culminated in a plethora of articles indicating that the causes of attrition are multi-factorial. However, the literature search also returned a dearth of articles specific to academic performance as related to attrition. In the current study, I attempted to address this dearth of research regarding academic progression requirements as benchmarks correlate to success.

Theoretical Foundation

By correlating academic progression requirements to first-semester ADN courses, I will contribute to research on student attrition. Astin (1975) acknowledged academic factors as elements of personal factors contributing to student success. Tinto (1993) posited that student success requires both academic and social integration. Researchers

traditionally apply theories of student attrition to explain behaviors of students enrolled in four-year universities in consideration of social and academic factors (Tinto, 1993). While the application of these theories to the community college setting raises questions concerning the nature of the student population versus the traditional university population, other researchers do apply student attrition theory to the community college setting. Karp, Hughes, and O'Gara (2008) applied the theory of student departure to qualitative social integration research and found that students in the community college do indeed socially integrate. The correlation between social integration and student success in the community college is consistent with that correlation in the traditional university setting and provides support for the application of this theory to academic integration. One could also consider that academic integration would also be consistent between the community college and a traditional university. Mutter (1992) also framed research in the community college setting using the theory of student departure finding that academic integration, measured by GPA in this instance, was associated with student success or failure. Deil-Amen (2011) applied this theory in the community college setting to qualitative research regarding academic and social integration and found that academic integration was more significant to the success of the community college student than social integration. Bitzer (2009) described a "complex relationship" between academics and social factors (p. 225). Finally, Tinto (1993) also stated that assessing academic integration through evaluation of measures taken to improve student outcomes may determine whether those changes resulted in decreased attrition. This correlational project study used archival, quantitative data to excavate the potential of Tinto's theory of

student departure for application of academic integration as a construct of attrition for the first year ADN students. The inability of practical nursing students to achieve academic integration into the first semester of the ADN program disrupts typical progression through the program and contributes to increased attrition.

The Nursing Shortage

The nursing shortage is a global problem. According to the World Health Organization (WHO, 2017a)

> Based on a threshold of 4.45 skilled health professionals per 1000 population, it has been estimated that the needs-based shortage of health-care workers globally would be about 17.4 million of which almost 2.6 million are doctors and over 9 million are nurses and midwives. The largest needs-based shortages are in South East Asian and African regions. If current trends continue, the global needs-based shortage of health-care workers is projected to be still over 14 million in 2030 (para.1).

Additionally, the European Commission (EU), 2012) funded a feasibility study to investigate the health care workforce needs. The EU identified a gap of 590,000 nurses by the year 2020 with an estimated care deficit of 14% (2012).

The nursing shortage is also a major concern in India. The World Bank (2017a) documented a nurse to patient ratio of two nurses to 1000 population in 2013 for India. Hazarika (2013) assessed data from the Indian Ministry of Statistics and Programme Implementation, to determine the extent of the health care workforce, including the nursing workforce. Hazarika found that despite a three-fold increase in educational

programs for entry-level nursing, and improvement in the absolute numbers of nurses in the workforce, health care worker positions in the public sector remain unfilled. Gill (2016) reiterated the gravity of the Indian nursing shortage and identified the limitations of the current statistics as a self-reported, non-validated dataset, which underestimates the current nurse to patient ratio in India. Saikia (2016) estimated that "only an estimated 40% of registered nurses are active because of low recruitment, migration, attrition, and drop-outs due to poor working conditions" (p. 170).

Al-Jarallah, Moussa, Hakeem, and Al-Khanfar (2009) projected supply and demand for the nursing workforce in Kuwait using nurse to population ratios. In particular, Al-Jarallah et al. focused their research on the indigenous nursing workforce. In addition to the nursing shortage with only one nurse per 234 population, native registered nurses make up only 6.6% of the total nursing workforce in Kuwait (Al-Jarallah, Moussa, Hakeem, & Al-Khanfar, 2009). The majority of nurses working in Kuwait are non-native ex-patriots. Al-Jarallah et al. posit that this disproportionate ratio of native to non-native nurses raises concerns about language barriers and cultural influences, which may affect the quality of care delivery.

Additionally, the native nursing workforce is further diminishing by 3.3% per year, which exacerbates the disparity in nurse to population ratios and the need to employ non-native nurses to augment the 3.4% contribution of native nurses to the workforce by the year 2020 (Al-Jarallah et al., 2009). The World Bank (2017b) documented the continuation of the nursing shortage in Kuwait with the most recent statistics regarding

nurse-patient ratios. In 2014, the nurse to patient ratio was 4.7 nurses to 1000 patients (The World Bank, 2017b).

Rajani, Meghani, and Sajwani (2013) documented literature related to the nursing shortage in Pakistan and identified numerous issues, which contribute to the problem. Nursing turnover, nursing's public image, and the standard of nursing education are significant contributing factors to the nursing shortage in Pakistan (Rajani, Meghani, & Sajwani, 2013). Rajani et al. (2013) identified literature, which confirmed the increasingly complex public health care needs, job dissatisfaction related to unrealistic nurse to patient ratios, migration to international job opportunities, and a lack of administrative appreciation as reasons for nursing turnover. The most recent statistics from the World Bank (2017c) reported a 2015 nurse to patient ratio of 0.6 nurses per 1000 patients in Pakistan. Muhammad (2015) defined the nursing shortage in Pakistan as "a serious threat to the healthcare [sic] system of the country" (p. 24).

In the United States, the U.S. Department of Labor (2018c) projected a 15% increase in projected employment for registered nurses from 2016-2026. Numerically, this is a 438,100-nurse deficit. The U.S. Department of Labor projected a need to increase numbers of working professional nurses by 15%. Given an additional need for an additional 500,000 nurses to replace nurses who retire or otherwise leave the profession and to accommodate new growth in the health care industry, the United States will need approximately 3.4 million nurses by 2026 (U.S. Department of Labor, 2018c). Juraschek, Zhang, Ranganathan, and Lin (2012) predicted not only the continuation of the nursing shortage but also an increase in the gravity of the nursing shortage. Juraschek et al.

calculated the percentage of registered nurse shortage for every state in the nation using a supply versus demand model. Juraschek et al. also predicted that only two states, Massachusetts and South Dakota, would suffer no impact from the nursing shortage by the year 2030.

The nursing workforce is aging. The NCSBN (2015) estimated that approximately 50% of the current nursing workforce is over the age of 50. According to HRSA (2014), 187,200 nurses reported that they intend to retire or take a non-nursing job when the economy improved. Almost 82,000 intend to change to part-time employment, which would add up to about 270,000 registered nurses leaving full-time employment (HRSA, 2014). Okrent (2012) discussed that 45% of nurses reported an intention to change jobs.

The aging of the nursing workforce is also an international problem. The WHO (2017b) found that in Denmark, France, Iceland, Norway, and Sweden, the average age of nurses employed today is 41–45 years. Given the average statutory retirement age in most EU countries of 65 years old (EU, 2012), the average nurse will be ready for retirement by the year 2030.

Nursing Program Enrollment Limitations

While nursing program enrollment has increased, programs regularly deny admission to qualified students. Enrollment in nursing programs is not growing quickly enough to meet the current and future demands for nurses. The AACN (2019) reported that of over 150,000 qualified applicants, programs accepted only approximately 40% of those applicants into nursing programs. Nursing programs deny access to students as programs reach maximum capacity. Nursing programs turn away or waitlist thousands of

potentially successful nursing students every year. Nursing programs denied admission to some 54,000 students to baccalaureate programs in 2010 (AACN, 2019). Those denials prevent admission to qualified students and relate directly to shortages of resources required to provide nursing education. The same survey identified limited educationally prepared faculty, inadequate clinical space, insufficient classroom space, and budgetary limitations as the primary motivations for enrollment denials (AACN, 2019). According to the NLN (2017), 77% of ADN programs denied admission to qualified students. ADN programs rejected 35% of qualified applicants.

The Nurse Educator Shortage

The AACN (2015) determined a 6.9% vacancy rate for nursing faculty positions nationally. The shortage of adequately prepared nursing faculty is at the root of enrollment limitations. The NLN (2017) confirmed that in 25% of ADN programs, the nurse educator shortage is the main obstacle to increasing program enrollment. The AACN (2019) found that more than 67,000 eligible nursing students were denied access to programs as a direct result of the nursing faculty shortage. The nurse educator shortage contributes to the nursing shortage by limiting enrollment in nursing programs, thus producing fewer graduates than necessary for the active growth of the professional nursing workforce. The NLN (2015a) identified a 28% nursing faculty vacancy rate in 2015. Resolution of the nursing faculty shortage alleviates the nursing shortage by the greater ability to provide new graduates to replace those leaving the nursing workforce as nurses retire and/or leave the profession. Ironically, given the age of the current nurse faculty workforce, many of those nurses are facing retirement in parallel to the nursing

workforce. Approximately 70% of all nurse educators, part time and full time, are currently over the age of 45 (NLN, 2015a). The AACN further reported an average nursing faculty age of 51-60.5 years with an average retirement age of 62.5 years.

Klein-Collins (2011) identified alleviating the nurse educator shortage as a primary means to an end of the nursing shortage. Acknowledging that merely increasing enrollment is not effective when challenged with a nurse educator deficit, Klein-Collins goes on to make recommendations for increasing enrollment beyond traditional methods of fiduciary support. For example, the recommendation is made to use specially trained staff nurses as clinical faculty while masters prepared educators teach in the classroom. In support of non-traditional approaches to the nurse educator shortage at an international level, the Royal College of Nursing, Wales (2016) recommended the implementation of a clinical academic career pilot program to "provide clinical practice and research leadership" as an educational provision (p. 15).

Student Attrition

In the College Completion Agenda 2012 Progress Report, Hughes (2013) described that only approximately 30% of students enrolled in 2-year programs graduate within the defined amount of time. An approximate 60% of students enrolled in 4-year programs achieve that goal. Hughes further communicated 10 recommendations to improve the position of the United States as compared to other developed countries in higher educational achievement by improving the number of degree-holding graduates to 55% by the year 2025. Specifically, Hughes defined recommendation nine to address

college completion by challenging colleges to reduce attrition by designing activities to foster student success.

Inconsistency in defining student attrition. The lack of a consistent definition of attrition challenges researchers internationally. Inconsistencies, in definition, often limit the ability to make comparisons between similar programs. Accompanying the inconsistent definitions of attrition are the realities of inconsistent measurement. Not all measures of attrition are created equally. Inconsistent measurement of attrition statistics only adds to the burden of attrition research. Further, the precise definition of terms related to student success and implementation of progression requirements at state, regional, national, and international levels is necessary for establishing consistent success standards.

Kennedy, McIssac, and Bailey (2007) identified inconsistent definitions of attrition as a significant problem in recordkeeping and data reporting and acknowledged the lack of a consistent definition of attrition within their programs. Additionally, the dearth of research available on nursing student attrition is challenging. Research concerning attrition varies internationally because methods of calculating attrition rates differ (Kennedy, McIssac, & Bailey, 2007). Some institutions measure retention, while others measure attrition. There are no national statistics available regarding attrition specific to nursing programs. Most programs researching factors, which contribute to attrition, do not communicate specific attrition rates but conduct that research with the ultimate goal of decreasing attrition by alleviating or attempting to reduce contributing factors. However, there are national and international statistics concerning attrition rates

at the institutional level. Robertson, Canary, Orr, Herberg, and Rutledge (2010) found similar challenges to research investigating success in nursing students: “The lack of conceptual clarity and standardized measures contributes to the confusion about what evidence is being produced…” (p. 105). Wray, Aspland, Barrett, and Gardiner (2017) investigated characteristics which affect student attrition. One challenge noted by Wray et al. (2017) was the limited access to consistently collected, reliable data as programs collect data based on variations in definition and evaluation methods.

Urwin et al. (2010) provided a historical perspective to the terminology used to describe students who leave programs. “Wastage” is an early term used to acknowledge the loss of time, resources, and resulting remainders when students are not successful. The historical definition of attrition arose from military language as a term indicating that the enemy had been “worn down to the point of collapse” (Urwin et al., 2010, p. 202). Researchers used both terms throughout the literature; however, attrition is the most typical of the terms. The comparison may seem harsh; however, when considering the human perspective, wastage/attrition has significant emotional, economic, and societal implications. Ironically, nursing is a caring profession. Emotionally, failure is difficult for students and faculty. Frustration, disappointment, and feelings of loss accompany academic or clinical failure (O’Donnell, 2011). While some skewing of data related to inconsistent definitions is unavoidable, the result is the same. Attrition statistics measure students who leave programs before completion.

Student attrition definitions. Attrition is defined inconsistently in the research internationally. The American Institute of Research (AIR; 2012) gave an “intentionally

conservative" (p. 3) definition of attrition as "departure from all forms of higher education prior to completion of a degree or other credential" (p. 3). The AIR also acknowledged the limitations of a practical definition as institutions are challenged by the ability to separate those who may continue their education elsewhere as well as the inability to establish a data set that reaches back far enough to address those who take an unusual amount of time to complete the degree.

Jeffreys (2007) defined attrition unique to a nursing program as a measurement of those who are dropping out of a nursing program. Jeffreys further dissected the definition into voluntary and involuntary attrition. Voluntary attrition indicates that a student has left the program because of personal reasons and not because of academic or clinical difficulty. Involuntary attrition is the term used to reference those who are academically or clinically unsuccessful (Jeffreys, 2007). Johnson, Johnson, McKee, and Kim (2009) defined attrition as "the loss of enrolled students prior to completion" (p. 740). In sharp contrast, Dante et al. (2017) defined attrition as "1st year nursing students' failure to achieve the 2nd year in the required time for various reasons such as exam failure(s), personal choice or dropout (voluntary withdrawal from the course)" (p. 75). Statistics Finland (2014; as cited in Kukkonen, Suhonen, & Salminen, 2014) defined attrition in Finland as "…a loss of students from a nursing education programme during one year of time" (p. 67). In Finland, a student who has not enrolled for a new term and has not graduated is considered "discontinued" (Kukkonen et al., 2014). Students who transfer to another program but remain in nursing education contribute to attrition rates at the

institutional level but should not be considered as discontinued at the national level (Kukkonen et al., 2014).

Measurement of student attrition. Attrition is measured inconsistently in the research. Juszkiewicz (2015) documented discrepancies between the U.S. Department of Education (ED), which bases completion rates on institutional reporting, and the National Student Clearinghouse (NSC), which bases completion rates on student-level data. According to Juszkiewicz, the ED is "widely acknowledged to be a poor measure of student completion, especially for community colleges" (p. 5). Additionally, the ED measurements only address a subset of the potential population as the ED graduation rate applies only to fall-enrolled, first-time degree seekers, full-time students who complete within 150% of normal program completion time (Juszkiewicz, 2015).

In the United Kingdom, even as agencies agree on definitions, the refusal by some of those agencies to use the agreed-upon definition results in the inability to generalize statistics (Buchan, 2007). In a report to the Canadian Nurses Association, Kennedy, McIssac, and Bailey acknowledged that approximately half of all nursing programs measure attrition in some manner. However, Canadian researchers do not have a standard definition of attrition. Again, the lack of a standard definition impairs statistical consistency. While Pryjmachuk, Easton, and Littlewood (2009) communicate a 15% attrition rate for those seeking a diploma in England, that number only considers the diploma student despite the existence of alternative routes into professional nursing practice in United Kingdom (UK) countries. Additionally, Pryjmachuk et al. describe a later survey used by UK researchers to evaluate attrition rates for all routes to entry-level

practice provides data for a more globally aligned representation of nursing student attrition at approximately 25%.

Monetary Cost of Attrition

In light of the current economy, fiduciary responsibility for reducing attrition rates is crucial. Lost tuition and student fees wasted resources, time expenditures, and delayed graduation all contribute to monetary losses for students, programs, institutions, and communities. Nationally, attrition is a costly entity. With tuition rising faster than inflation, and again, considering the economic situation, education subsidized by taxpayers can reach an estimated $10,000 per student per year (AIR, 2011). When a student is unsuccessful, institutions lose money. During the 2004 - 2009-time frame, "state and local governments appropriated close to $3 billion to community college students who did not return for a second year" (AIR, 2011, p. 2). State grant funds totaling over $240 million supported students who did not return (AIR, 2011). In Iowa, between the academic years of 2005-2005 and 2007-2008, state expenditures for first-year only community college students totaled appropriations of $49 million with state and federal grant awards totaling $12 million (AIR, 2011). The AIR also reported that the federal government issued an estimated $600 million, in the form of grants to community college students. Iowa spent $1.8 million on first-year community college students who did not return (AIR, 2011). In the face of increased enrollment, decreased legislative funding, increased tuition, and increased public scrutiny, attrition is a costly issue at the community college level.

Marthers, Herrup, and Steele (2015) discussed less obvious institutional costs related to attrition. College rankings, by various entities, may be impacted by high attrition rates. Negative statements made by disgruntled students may impact the reputation of the college and threaten potential enrollment (Marthers, Herrup, & Steele, 2015).

According to departmental records, in 2017, at MWCC, the overall retention rate for first to second semester students is approximately 70%, which represents an overall institutional attrition rate of approximately 30%.

Emotional Cost of Attrition

In response to a dearth of attrition research addressing students who withdrew from a nursing program rather than from those who remain enrolled, O'Donnell (2011) used a case study approach to explore the feelings of those who withdrew. From a population pool of 90 nursing students who chose to leave a program of nursing, 15 participants consented to participate in this qualitative case study research. O'Donnell studied the emotions of students who leave the program voluntarily and excavated recommendations for early recognition of emerging emotions and interventions to facilitate success. Using a qualitative case study methodology, researchers held semi-structured interviews at the setting of the participant's choice. O'Donnell used a pilot interview conducted with two former students who met the inclusion criteria for the study to validate the expertise of the interviewer as well as the actual content of the interview. Researchers used a three-phase model of qualitative data to analyze participant interviews, reduced data using a variety of techniques to determine patterns and

excavated themes, and ultimately, used member checking to confirm internal validity and dependability of the data (O'Donnell, 2011). Study participants discussed common themes of ineffectual struggle and recognition of futility. While some students found withdrawal to be liberating, others reported feelings of shame, failure, and grief. Commonly, the students reported avoidance behaviors of severance from the situation and developed patterns of nonattendance before withdrawal (O'Donnell, 2011).

Interestingly, many of these students did not choose to utilize support resources. Disengagement is a sign of student struggle and potential withdrawal; nursing instructors should remain attentive to changes in behavior, particularly attendance (O'Donnell, 2011).

Additionally, O'Donnell suggested that students who are considering withdrawal do not use support resources. Instructors should remain cognizant of this tendency and make appropriate referrals. By admission, O'Donnell reported the study to be limited by the small sample size, the single setting, and the relationship of the interviewer to the participants.

To compare self-efficacy and resilience across the curriculum, across the course, and as it is related to test scores, Taylor and Reyes (2012) explored the relationships between self-efficacy, resilience, and test scores. To address a known contributor to attrition – stress, the researchers sought to explore self-efficacy and resilience as related to test scores in baccalaureate nursing students. The initial population for this research consisted of baccalaureate nursing students from five nursing courses during one semester of a nursing program. The sample included only those who returned all

instruments. The final sample of 136 baccalaureate nursing students completed all instruments needed for the study (Taylor & Reyes, 2012). The specific setting is undefined. The Resilience Scale (RS) and General Self-efficacy Scales (GSES) were administered at the beginning of the designated course and then again at the end of the course. Taylor and Reyes then conducted data analysis to correlate those measurements with demographic data and archival test scores for the first and last exams of the course. Both scales are proven valid and reliable by previously documented use in the literature (Taylor & Reyes, 2012). Taylor and Reyes calculated differences for both the GSES and the RS using a paired samples t-test, pre- and posttest.

Individual items were explored using the Wilcoxen signed-rank test. The analysis found no significant difference in the GSES. The analysis found no significant difference between the RS (Taylor & Reyes, 2012). Item number one of 10 items on the GSES was found to be statistically significant from pretest to posttest. Perseverance and Existential Aloneness, two subscales of the RS, were found to be statistically different pretest and posttest (Taylor & Reyes, 2012). ANOVA analysis found no significant difference in program levels (Taylor & Reyes, 2012). Pearson correlation coefficient was used to find relationships between the GSES, RS, and first and last exam scores. The analysis found several moderately and weak significant correlations (Taylor & Reyes, 2012). The short time frame for this study limited the application of the findings to attrition throughout the program.

Additionally, the unequal distribution of students through the various levels of the program challenges the application to students at any particular level (Taylor & Reyes,

2012). Taylor and Reyes concluded that while student complaints of frustration and being overwhelmed may lead faculty to assume that those challenges will cause a student to be unsuccessful. Ironically, those challenges contribute to increased self-efficacy as the student successfully navigates the program (Taylor & Reyes, 2012). Longitudinal research is needed to investigate the changes that occur to self-efficacy and resilience as the student navigates the entire program. The short time frame for this study limited the application of the findings to attrition throughout the program. Additionally, the unequal distribution of students through the various levels of the program challenges the application to students at any particular level (Taylor & Reyes, 2012).

Causes of Attrition

In response to an average attrition rate of 53% in their program, Harris, Rosenberg, and Grace-O'Rourke (2014) investigated the literature and the academic records of 152 students enrolled over three years to identify risk factors that were common to unsuccessful nursing students. Approximately 56% of unsuccessful students had lower than national average ACT scores, 72% of unsuccessful students had repeated anatomy and physiology, 60 % previously enrolled in basic math courses, and 50% were previously enrolled in basic English courses (Harris, Rosenberg, & Grace-O'Rourke, 2014). Harris et al. (2014) then used these criteria to identify and recruit 19 at-risk students for voluntary enrollment in a student support program. Despite an average participation rate of 79% in the student success program, ten of the 19 participants subsequently failed the first course of the program (Harris et al., 2014). The failure of ten additional students who did not demonstrate any of the at-risk criteria supported the

multi-faceted nature of attrition and limited this particular research. Seven students repeated anatomy and physiology, had been enrolled in remedial math, and had scored lower than the national average ACT scores. Additionally, while no single risk factor was more prevalent than any other, the student's risk for failure increased if the student had more than one risk factor (Harris et al., 2014).

Habley, Vaiiga, McClanahan, and Burkum (2010) found numerous factors that contribute to student success. The purpose of this report was to communicate the findings specific to community colleges that participated in the ACT's 2010 What Works in Student Retention survey. A total of 3360 surveys were mailed out to colleges and universities. Of those, researchers sent 949 surveys to community colleges. Of those, 305 participants returned surveys with complete information for a return rate of approximately 32% (Habley Vaiiga, McClanahan, & Burkum, 2010). Background survey items included the existence of a position of responsibility for coordinating retention programs, common course numbering, access to online education, and articulation agreements. Additional survey items included first to second-year retention rates and degree completion rates, factors affecting attrition rates, and typical retention practices. Survey respondents were ultimately asked to choose the top three retention practices at their institution from a list of 94 options (Habley et al., 2010). Participants were asked to rate each of 42 items regarding the degree to which that factor affected attrition at their institution using a Likert scale. Participants identified the level of student preparation, student study skills, personal finances, and student commitment as the top four attrition factors. Student preparation is the second overall factor to contribute to academic success

in the general community college student; second only to student employment opportunities (Habley et al., 2010).

Pryjmachuk, Easton, and Littlewood (2009) further supported the finding of academic preparation as correlating student attrition. The "most robust" findings included academic preparation and along with age, were "the only two factors to predict completion" (p. 157). Pryjmachuk et al. (2009) sought to isolate reasons for student attrition in nursing programs and collected ex-post facto academic records of 1,259 nursing students. Of those 1,259 records, 1,143 were deemed appropriate for analysis by the researchers. Pryjmachuk et al. found statistical significance ($p \leq 0.05$) related to entry requirement achievement and the likelihood of completion using chi-squared analysis. Students with higher entry qualifications completed more often than those with lower entry qualifications (Pryjmachuk et al., 2009). Achievement of educational requirements is a statistically significant predictor for nursing program completion as "those with the minimum entry requirements are less likely to complete" (Pryjmachuk et al., 2009, p. 156).

Abele, Penphrase, and Ternes (2013) used a retrospective investigation to determine the relationship between academic performance and attrition. Using a sample of 327 students who had demonstrated academic difficulty in one or more program course, Abele et al. use ex-post facto data to complete a logistic regression analysis. Logistic regression excavated by Abele et al. suggested the relationship between the several variables including age, gender, ethnicity, program, the total number of course failures, and a course identified in previous research for this program to be predictive of

student success. Results indicated that the total number of course failures ($p<0.05$) and grade in the program identified course ($p<0.001$) were predictive of success in this program (Abele, Penphrase & Ternes, 2013).

Rouse and Rooda (2010) sought to discover the factors contributing to attrition in accelerated program nursing students. Students enter the nursing program with a bachelor's degree in a different area and reduce their program of study from three years to 18 months (Rouse & Rouda. 2010). Accelerated program students from two consecutive cohorts had 29% and 50% attrition, respectively (Rouse & Rouda. 2010). Rouse and Rooda used a qualitative approach to investigate the reasons for attrition in these cohorts of students. They utilized focus groups and exit surveys to collect data from students who left the program. Common themes excavated for leaving the program included personal or family health issues, academic dismissal, major focus change, personal reasons, and transfer to the part-time program (Rouse & Rouda. 2010). Wray, Aspland, and Barrett (2014) also determined that academic performance and admission requirement achievement are contributing causes of nursing student attrition. Withdrawal, whether voluntary or related to a failure to meet academic standards, is indicative of potential attrition.

Bowden (2008) investigated graduates who indicated that they had "considered leaving" (p.50) as a possible source of information for factors contributing to attrition. The researchers approached all students who graduated during a seven-month time frame via postal mail with a paid return questionnaire. Responses to the questionnaire and the willingness of the participants to be interviewed were the only criteria for inclusion.

Ultimately, of the 93 graduate students who identified that they "considered leaving" (Bowden, 2008, p. 49), only 46 were returned. Of the 46 questionnaires returned, ten participants revealed that they had seriously considered leaving on one or more occasions" (Bowden, 2008, p. 49). Bowden conducted face to face interviews with the eight participants. Following transcription, the researcher used qualitative data analysis, including coding, both literal and interpretative, and computer-assisted indexing to discover themes. The majority of the participants interviewed identified academic issues as one of the primary reasons they considered withdrawing from their program (Bowden, 2008).

Academic course performance, particularly pathophysiology, was found by Uyehara, Magnussen, Itano, and Zhang (2010) to be a statistically significant predictor of nursing program success. The higher the pathophysiology grade, the higher the chance that the student will be successful. Uyehara et al. (2010) recognized that academic prowess is an essential consideration in success. However, none of the subjects identified that the course grades in prerequisite courses as a significant contributing factor. In contrast, document analysis and triangulation in this particular study revealed a "heavy emphasis on academic achievement" (Uyehara Magnussen, Itano, & Zhang, 2010, p. 97). Grade point average (GPA) is a measurement of academic performance.

Shelton (2012) investigated causes of nursing student attrition in associate degree nursing students from nine nursing programs by examining the relationship between academic self-efficacy and perception of faculty support to academic success or failure. Shelton found statistically significant relationships between college GPA and student

success. Additionally, those who persisted had a significantly higher high school and college GPA.

Rogers (2010) selected three expert faculty members and six exemplary graduates for a qualitative investigation of contributors to success in nursing students with the ultimate result of decreasing attrition by increasing retention. Rogers conducted audiotaped, face to face, semi-structured interviews while providing pseudonym protection for the participants. Using triangulation of interview responses, document analysis, and comparison between and across participants, Rogers exposed several common themes. All participants, including faculty and graduates, identified motivation as the most common factor contributing to success as a nursing student. Interestingly, participants did not identify academic achievement as a significant contributing factor to success. However, Rogers found that academic factors underpin the document analysis.

Additionally, Kukkonen, Suhonen, and Salminen (2016) identified four different types of discontinued students using a purposeful sample of 25 nursing students who were unsuccessful in exploring students' reasons for leaving two nursing programs in Finland. The participants responded to questions concerning their general reasons for leaving the nursing program, personal reasons, educational reasons, social reasons, economic reasons, geographical reasons, health reasons, and any other reasons for leaving in a semi-structured telephone format (Kukkonen Suhonen, & Salminen, 2016). Kukkohen et al. first grouped the participants according to statistic groups, which are pre-determined by the Ministry of Education in Finland for attrition calculation. The resulting groups were further clustered into four categories to provide a new perspective for

analysis. Kukkonen at al. (2014) used narrative analysis to identify four types of discontinued students and to define features regarding reasons those students identified for leaving. Discontinued students included those who have moved to another program or school, faced a life crisis, made the wrong career choice, and lived busy years (Kukkonen et al., 2014). Participants (n=3) revealed life crises such as the death of a loved one or a sudden divorce that affected their ability to continue their nursing education. The youngest participants (n=6), who often entered the nursing program right after graduation from high school, discovered that nursing was not a suitable career choice (Kukkonen et al., 2014). The oldest participants (n=6), with an average age of 37 years, had dependent children or elders to care for, worked outside of the home, and "found it difficult to combine working, studying, and family life" (Kukkonen et al., 2014, p. 71).

In response to the limitations of the previously investigated methods used to identify students at risk for academic failure, Peterson (2009) sought to fine-tune the ability to predict academic success and decrease attrition. From a population of 350 nursing students from an urban college, a sample of 66 full-time, consenting students completed the Rosenberg Self-Esteem Scale and the General Self-Efficacy Scale (Peterson, 2009). Additionally, Peterson obtained archival records of consenting students' GPA on admission and first-semester GPA. Peterson used analysis methods, including a power analysis to validate the sample size, Pearson's r, and correlation coefficients were used to determine direction and strength of relationships between academic success and past academic performance. With an initial average grade point average (GPA) of 3.0 or above for 63% of the participants, the findings were personified in a loss of 43.9% of

study participants during the first semester due to academic performance (Peterson, 2009). Peterson identified that a univariate approach to variable analysis limited the study. A multivariate approach would identify variables by importance and provide topics for focusing on the study of student attrition. A statistically significant positive correlation between previous academic performance and success in nursing students supports academic success as a cause of attrition and supports the consideration of academic admission requirements as admission criteria (Peterson, 2009).

In support of academic integration, Peyrovi, Parvizy, and Haghani (2009) sought to confirm the improvement of academic grades for nursing students through formal supportive counseling. Given the previous implementation of academic counseling in this setting and the consistent rate of attrition, Peyrovi et al. (2009) hypothesized that the formal counseling delivered to the experimental group would improve mean grades in fundamental and specialized courses. Students enrolled in an Iranian nursing and midwifery program, made up the initial group. From that population of 320 nursing students, researchers identified 62 students as appropriate for the study by poor academic standing in the program. Ultimately, 43 students agreed to participate with one student dropping out during the study (Peyrovi, Parvizy, & Haghani, 2009). Peyrovi et al. initiated a counseling program designed using Bandura's theory of self-efficacy and Tinto's theory of student retention to promote the counseling environment and model emotionally supportive behaviors. Functional support responses were also an element of the sessions with a third focus on academics fully set the stage for the sessions. Peyrovi et al. assigned students by coin toss to either the control or the experimental group using a

two-group experimental design. Students in the experimental group received eight to 16 supportive counseling sessions focused on improving self-efficacy, fostering functional behaviors, academic assistance with study skills, and problem-solving.

Sessions were conducted by faculty either individually or in a group setting per the participating students' choices (Peyrovi et al., 2009). Despite the improvement in mean grades for the experimental group, the analysis did not reveal any significant difference between the two groups. The data analysis did not support any of the three hypotheses (Peyrovi et al., 2009). Demographic evidence of group comparability was analyzed using the chi-square test. Control and experimental groups were compared using t-tests.

Additionally, gender comparisons were analyzed using the Mann-Whitney test. Means and standard deviations show no significant difference between the control and experimental groups demographically (Peyrovi et al., 2009). Statistically, researchers did not note significant differences between the control and the experimental group. However, while the hypotheses were disproven, the experimental group did achieve higher academic status than the control group (Peyrovi et al., 2009).

Interestingly, while there is still no statistically significant difference between the control and experimental groups, males achieved improvements in both fundamental and specialty courses (Peyrovi et al., 2009). Peyrovi et al. concluded that, despite the lack of statistical significance between the control and experimental groups, males in the experimental group did show a statistically significant improvement over the control group. Thus, formal counseling for males in academic jeopardy is supported by the study

(Peyrovi et al., 2009). When looking at effect as an alternative means of reporting results, Peyrovi et al. found that there was a moderate effect on the experimental group. The researchers reported that the power analysis acknowledged the limitation of the small sample size. Also limiting was the potential for the students to become disinterested (Peyrovi et al., 2009). Peyrovi et al. also recognized that time for counseling sessions was also a limitation of the study as students must attend academic classes and clinical practice. Finally, the uniqueness of the study poses limits the ability to validate the results as little comparable research was available to the researchers (Peyrovi et al., 2009).

Wolniak, Mayhew, and Engberg (2012) explored relationships between learning and persistence for liberal arts students. As part of a national study, full-time undergraduate students enrolled in one of six liberal arts colleges or 10 university settings were invited to participate in the study. Of the 4,501 students invited to participate, 2,439 students ultimately returned all data required for this particular analysis (Wolniak, Mayhew, & Engberg, 2012). Specifically, Wolniak et al. sought to determine whether assessments of student learning in the first year of college affect success in the second year and to determine whether academic and social integration control the effects of student learning on success. Wolniak et al. used instrumentation, including a direct measurement of enrollment in first year courses as compared to enrollment status in the second year, measures of student learning using a 5-dimensional approach, social and academic integration measuring, and control variables, which are demographic or descriptive. Multivariate logistic regression models using mean values were used to compare persistence with nonpersistence across all variables (Wolniak et al., 2012). They

made predictions regarding the probability of persistence. Using separate regression models for each of the five different measures, Wolniak et al. found a significant relationship between one dimension of learning and persistence. Measures of learning were then exposed to a multivariate analysis along with the measures of academic and social integration (Wolniak et al., 2012). Students who successfully navigated the first year were found to have significant predictive characteristics. Grade point average and leadership were found to have a positive impact on persistence (Wolniak et al., 2012). While the overall relationship between academic integration and movement into the second year of college was statistically weak, the analysis supported the relationship between grade point average and persistence. Student learning and persistence are only marginally linked. However, a significant relationship between grade point average and classroom teaching practices supports the continued investigation of teaching practice improvement as a means to improve student progression (Wolniak et al., 2012). The persistence rate of the sample limits the generalization of this research to other populations. The sample success rate was relatively high in comparison to the national average at the time of the research (Wolniak et al., 2012).

Additionally, the analysis did not differentiate between those who were unsuccessful and those who transferred to other institutions. The entity of the larger project limited the measurement of learning by providing preconceptualized objectives for determining domains of learning investigated. Finally, non-random sample selection and self-reporting of grade point average also limit this research (Wolniak et al., 2012).

Implications

In an attempt to decrease attrition rates, the implications of this project study are to use the data from the Pearson correlation analysis to refine academic progression requirements. I will communicate recommended policy changes to program administrators via a white paper policy recommendation. Current academic progression requirements include a minimum course percentage of 80% in all second-semester LPN courses or a minimum score equivalent to an 80% likelihood of success on the NCLEX-PN, which is identified using a standardized exit examination. I included several potential policy changes related to academic progression requirements including increasing the minimum required course percentage in second-semester LPN courses, eliminating the required minimum percentage on the standardized exit examination, adopting a standardized entrance examination, adopting a weighted admissions rating system which considers evidence-based measures of student success, and adopting a selection interview process. Additional implications include the means to identify students who are at risk for academic failure in first-semester ADN courses early. The ability to identify students at risk for failure, in turn, may generate the ability to remediate before failure can occur, thus, decreasing attrition in first-semester ADN courses.

Summary

The nursing shortage is expected to continue as nurses retire or otherwise leave the nursing workforce. A parallel nursing faculty shortage contributes to nursing program enrollment limitations. Without the ability to increase enrollment, nursing programs are motivated to increase the numbers of graduates available to perpetuate the profession by

decreasing attrition rates. While numerous reasons for student attrition exist, I will use this correlational project study to focus on the academic integration construct of Tinto's theory of student departure as it applies to the relationship between academic progression requirements and student attrition rates in first-semester ADN courses.

Section 2: The Methodology

The purpose of this quantitative, correlational project study was to examine if academic progression requirements in the LPN program have a significant relationship to success in first-semester ADN courses for students enrolled at MWCC. Students who are not successful in first-semester ADN courses do not progress through the program as planned, do not graduate on time, do not alleviate program attrition rates, and thus contribute to the perpetuation of the global nursing shortage (Jeffreys, 2007; AACN, 2019). I applied the academic integration construct of Tinto's (1993) theory of student departure to support the necessity of academic success for progression and to illustrate the academic integration of the student experience.

Research Design and Approach

I used a quantitative method and I examined archival data reflecting the performance of students entering the ADN program between the years of 2010 and 2012 for this project study. Additionally, a correlational design was appropriate to answer the research question because the predictor variables occur in advance of the criterion variable. Decision makers at MWCC intended the implementation of academic progression requirements to reduce first-semester ADN attrition rates. Because that reduction has not occurred, I determined that use of a correlational design was necessary to define which of the predictor variables has a relationship to which criterion variables (Johnson & Christensen, 2017). In this research, I sought to determine the relationships between the criterion variable, ADN attrition, and the predictor variables, course

percentages in all second-semester PN courses and score by percentage on the standardized PN exit examination.

A quantitative approach was necessary for this project study because the results provided a numerical representation of the analysis of a numerical variable (Johnson & Christensen, 2017). The academic progression requirements investigated in this project study were numerical representations of academic performance, course percentages, and a score by percentage on a standardized exit examination. In contrast, a qualitative methodology was not appropriate for this project study as none of the variables excavated for this project study included observations, interviews, or open-ended questions (Johnson & Christensen, 2017).

Informal needs assessment and data analysis indicate that at MWCC success in first-semester ADN courses was more likely when students achieved particular benchmarks as a requirement for admission to the program. Three cohorts of students have subsequently graduated from the ADN program, having achieved those benchmarks before admission. However, the attrition rates for first-semester ADN courses remain essentially unchanged. Decreasing attrition rates is essential. To provide a comprehensive assessment of the current academic progression requirements at MWCC, I formally collected and analyzed data related to the relationship between academic progression requirements on first-semester success in the ADN program. I analyzed archival information, including second-semester LPN course grades and standardized testing scores for correlation to attrition in first-semester ADN courses. Archival data represent events that have already occurred (Johnson & Christensen, 2017).

Setting and Sample

Setting

The setting for this research project was a community college nursing program in the Midwestern United States. MWCC is a six-campus community college with an LPN-ADN ladder nursing program on four of those campuses. The fifth campus currently provides only the LPN program. Students from that campus who wish to progress to the ADN program transfer to alternative campuses when seats are available. The sixth MWCC campus does not have a nursing program. Additionally, LPNs with diplomas received at other community colleges may transfer into the MWCC nursing program as Advanced Standing students to complete their ADN degree.

Sampling and Sample Size

With a total MWCC student population of approximately 15,000 part-time students and 10,000 full-time students, the MWCC nursing program enrolls approximately 240 students in the LPN program per academic year. Approximately 200 of those students progress to the ADN program per academic year. Advanced Standing (ASN) students and students who are restarting into individual courses that require repeating join the progressing students. The nursing student demographic is primarily female, White, and between the ages of 25 and 35. This sample encompasses the most recent three cohorts of students who have been required to meet progression requirements since the initiation of this policy, numbering approximately 600 total students on four campuses. The study sample did not include advanced standing program students as those students may or may not have completed their LPN education at this institution.

Archival data are defined by Johnson and Christensen (2017) as data taken from records collected by educators and educational institutions (p. 246). The data for this research included records from the nursing program enrollment group from 2010 to 2012. I required institutional-level data as well as district-level data for this correlational project. Institutional-level data associates student records with names and letter grades. District-level data associate student names with the exact course percentages required to analyze the research question. The college's executive director of institutional effectiveness granted permission to access the archival data. Access to the archival data at the district level is already available to me as an employee of the Nursing program.

The executive director provided me with the data set from the academic transcripts of 214 students admitted to the program from 2010 to 2012. I deleted the resulting archival data set of any student record who repeated any LPN course as those students have not progressed through the program and have already contributed to the attrition rate for their original cohort. I also deleted all ASN students from the data set as these students may have obtained their first year of nursing education at another institution. Letter grades, as submitted by course instructors to the record keeping system, included all courses for each student. Following the association of student records with district-level course records containing course percentages, I anonymized all data by removing all references to the students' identifying information and assigning random research numbers before data analysis. The resulting data set sample consisted of 145 complete student records. I did not discard any records as a result of missing data. I was able to locate all required data for every record in the sample.

Instrumentation and Materials

The college's executive director of institutional effectiveness provided the data set consisting of the necessary information to associate student records with student identifiers at the institutional level. I gathered the exact course percentages and standardized exit examination scores from archived district records for this study from the final sample. The student identifiers were needed to obtain the records at the district level as records within the district are organized and archived by student name. Archival data are described by Johnson and Christensen (2017) as records kept by organizations concerning events that have already taken place. Although Johnson and Christensen expressed concern about the reliability of archival data in general as related to inconsistent data gathering methods for those who initiated the source, the concern was not pertinent in this situation. Academic grades are based solely on student performance on objective activities. Student transcripts represent official records of student achievement. I will store a master copy of raw data electronically on a secure drive within the MWCC data server. Access to this drive is limited to administrative personnel at MWCC, and for this research, I requested and received access to this secure drive.

Data Collection and Analysis

I investigated if current academic progression requirements, including second-semester LPN course percentages and the standardized exit examination percentage, are correlated to the first-semester ADN course attrition. All of the students whose records are included in the study have either graduated or voluntarily or involuntarily withdrawn. Thus, I concluded that the use of archival data was appropriate.

I solicited permission to conduct this research from the institutional research coordinator. MWCC does not have a formal Institutional Review Board. All research permission is granted or refused by the executive director of institutional effectiveness. Also, this study was approved by the Walden IRB (approval number: 02-04-15-0086007) before I initiated data collection. After requesting and receiving authorization for records analysis from the designated institutional research coordinator, I acquired an archival data set, including student identification numbers and student letter grades. Using those student identification numbers and letter grades, I reduced the data set by eliminating those students who repeated any LPN course and any students enrolled in the advanced standing nursing program. I used student identifier numbers to identify the remaining student data sets by name and obtain the district records for grades by percentage in each second-semester LPN course, the score by percentage achieved on the standardized exit exam, and letter grades for each first-semester ADN course for each included student. Grades by percentage are not available within the institution's record-keeping system. Letter grades are available are potentially associated with a variety of percentages. For example, the letter grade *B* is associated with course percentages ranging from 85% to 87.99%, according to the nursing student policy manual.

As I needed the specific percentages for the predictor variables, and instructors document course grades according to the student identification number, I searched program records for these percentages. Letter grades are only needed for first-semester ADN courses because the criterion determinate the degree to which the student was successful in all first-semester ADN courses or unsuccessful in any one of those courses.

Following approval, I collected and organized data using Microsoft Excel and exported that data into SPSS software for computation of correlation using the point-biserial calculation. I entered predictor variables as course percentages to the hundredth place as instructors record academic grades in this manner per MWCC faculty policy. I coded the criterion variable for success in all first-semester ADN courses with the number 1. I coded the criterion variable for failure in any one of the first-semester ADN courses with the number 2. I measured point-biserial correlation as the predictor variables are continuous, and the criterion variable is dichotomous. Given the objective of the program to decrease attrition rates in first-semester ADN courses, it was important to determine if there is a correlation between the attainment of a certain percentage in second-semester LPN courses or on the standardized exit examination and attrition in first-semester ADN courses.

Assumptions, Limitations, Scope and Delimitations

In undertaking this correlational project study, I made several assumptions. First, I assumed that instructors calculated and recorded all grades accurately. Instructors use a weighted system to evaluate with examinations holding the greater weight and homework type assignments totaling a 10% maximum weight in every course throughout both programs. Instructors are responsible for setting up grade book calculations in the learning management system. Every instructor is required to complete learning management system training before managing the grade book for a course. Some instructors are less comfortable with grade book management than others and may set up the calculations incorrectly resulting in artificially higher or lower final course

percentages. The information technology department provides a generic student to every course as a "checks and balances" system to ensure grade book accuracy. I assumed that the instructors calculated all grades correctly. Instructors transfer letter grades to the registrar's office using both electronic and paper/pencil submission forms. Registrar's office staff transfers grades to the transcript system. I assumed that submitting instructors and registrar's office staff recorded accurate grades in either situation. Secondly, I assumed that all instructors evaluated all students objectively in the clinical setting using established criteria. Students can be successful in the academic area of a course and still fail the course clinically. Failing either academically or clinically contributes to increased first-semester ADN attrition rates. While academic grades are objective and based on academic performance, clinical performance is subjective by nature, even when instructors use well-established criteria. Instructors evaluated students on a pass/fail basis using criteria established as key observed behaviors. Previous research showed both the strengths and weaknesses of clinical evaluation tools (Black, Curizo, & Terry, 2014; Jervis & Tilki, 2011).

At MWCC, all instructors used a clinical evaluation tool that communicates all learning objectives and all expected behaviors for each course. This tool lists the same professional behaviors for every course. The course-specific objectives vary depending on the content of the course. Clinical instructors also have a mentor available to assist with remediation referrals and to support decisions to fail a student and provide support with that process if needed. Finally, I assumed that all students entered the ADN program intending to complete the program. Students choose to progress through the ADN

program. If that choice were a result of peer or family pressure, the student may not be as invested in success and may self-sabotage out of the program.

Grove, Burns, and Gray (2013) defined the limitations of a research study as problems that occur within the theoretical framework or methodology that influence the generalizability of the study. Limitations to the generalizability of this research included the single institutional setting and the variability of teaching technique among faculty teaching the same course on different campuses. Additionally, the students with a lack of investment in high-stakes testing may have limited the statistical validity of this research as students who met the progression course percentage requirements may or may not have prepared for the standardized exit examination or may or may not have invested in achieving the minimum requirement. These students may have also perceived less anxiety related to the lower stake nature of the standardized exit examination as they had already met the required standard.

The limitations of this correlational project study included a potential for research bias and the timeliness of data collection and analysis. There is a potential for researcher bias as I am employed by three of the five campuses and worked directly with students included in the sample. My current position could contribute to researcher bias. However, my role is to facilitate the success of students in all courses. I do not teach in the classroom and have minimal responsibility for direct evaluation of students. While bias could have impacted the validity and reliability of the data collection, the academic data collected for this research is directly from student transcripts, which negated significant bias.

Additionally, this correlational project study is limited by my use of ex-post facto data. By definition, ex-post facto, or archival data, consists of data that have already been collected (Johnson & Christensen, 2017). For this research, through the use of second-semester LPN academic grades, the score on the exit examination, and success or failure in first-semester ADN courses, I used archival data. Johnson and Christensen (2017) identified the inability to control the quality of data collection related to the researcher's absence during the primary data collection as a limitation to reliability and validity.

Additionally, the inability to control for any changes that took place during the data collection limited reliability and validity (Johnson & Christensen, 2017). Concerns arose when using archival data because I did not collect the original data and cannot control the changes in course teaching methods, instructors, or content throughout the data collection time frame. However, per faculty developed testing policies, all faculty teaching in a course use a test bank developed by the course faculty. Only statistically valid questions are placed on course exams, and instructors analyze all exam questions for validity upon administration. Instructors nullify any questions deemed statistically unsound.

The boundary restriction of a single ADN nursing program delimits this research. I did not include data from diploma programs or BSN programs. Additionally, this research only includes students who completed their LPN education at MWCC immediately before entering the ADN program. I did not include Advanced Standing students as may not have attended the MWCC LPN program and may have had different but equivalent requirements for admission to the ADN program. The location also

delimits this research. The nursing program policy that I investigated is located in the Midwest United States. Nursing program attrition rate challenges affect programs both nationally and internationally.

Protection of Participants' Rights

There was no risk for physical or psychological harm to study participants. Given the archival nature of the data to be collected, formal permission from study participants was not necessary. The nature of enrollment in an institution of higher learning with the recording of academic records on student transcripts implies permission to use such records in research. However, it was essential to provide confidentiality to the students, as well as the program. Students were assigned a research number for data collection. That research number was known only to me, with a password-protected list stored electronically on a single flash drive. A hard copy was filed in a locked filing cabinet and locked in my academic office. I attempted to keep any references to the program as ambiguous as possible. For the long term, I will store the data in a locked filing cabinet, in my home office. I will shred all paper copies of data will after five years. I will delete all electronic data will after five years.

Data Analysis Results

I collected and organized data using Microsoft Excel and exported that data into SPSS software for computation of correlation using the point-biserial calculation. I entered predictor variables as course percentages to the hundredth place as faculty record academic grades to the hundredth place for district-level record keeping. I entered the standardized exit exam score as provided by the district, by percentage to the hundredth

place. I coded the criterion variable for success in all first-semester ADN courses with the number 1. I coded the criterion variable for failure in any one of the first-semester ADN courses with the number 2. I measured point-biserial correlation as the predictor variables are continuous, and the criterion variable is dichotomous. According to Gravetter and Wallnau (2013), continuous variables are those which have an infinite number of possibilities. For this project, I rounded the continuous variables to the hundredth place. Dichotomous variables are those variables with only one of two potential values (Gravetter &Wallnau, 2013). Gravetter and Wallnau affirmed that the correlation coefficient is used to calculate the "degree and direction of linear relationships" (p. 527). Given the objective of the program to decrease attrition rates in first-semester ADN courses, it was important to determine if there is a correlation between the attainment of a certain percentage in second-semester LPN courses or on the standardized exit examination and attrition in first-semester ADN courses.

I used descriptive statistics to provide an overview of the sample performance regarding academic progression requirements. I used the mean and standard deviation for course percentages of each second semester PN course and the standardized exit exam to illustrate the performance of each student in the cohort. The mean is defined as "the sum of the scores divided by the number of scores" (Gravetter & Wallnau, 2013, p. 71). Describing the mean aligned to the research question as the mean scores for these course percentages and the standardized exit exam indicated the average student performance and can be compared to the current course percentage requirement of 80% and the standardized exit examination score of 66.7%. Mean scores indicated that the average

student who has successfully progressed to the first term of the ADN program exceeded the minimum course percentage progression requirement of 80% by approximately 5-7%. Additionally, those who successfully achieved the required score of 67.7% on the standardized exit examination also exceeded that standard by almost 6%. Table 1 includes a breakdown of scores.

Table 1

Second Term LPN Course Percentages and Standardized Exit Examination Score by Percentage

Academic requirement	N	Minimum	Maximum	Mean	Std. deviation
PNN351	144	78.29	97.14	87.2957	3.81288
PNN605	144	78.22	95.65	86.2442	4.02585
PNN606	144	78.30	95.91	85.2492	4.06249
ExitExam	144	58.70	96.21	73.5719	6.83947
	144				

The frequency analysis illustrated the success or failure of students in these cohorts in the first term of the ADN program and provided information regarding the overall attrition rate for these cohorts of students (see Table 2).

Table 2

Frequency of Success in First-Semester ADN Courses

	Frequency	Percentage	Valid percentage	Cumulative percentage
Success	104	72.2	72.2	72.2
Failure	40	27.8	27.8	100.0
Total	144	100.0	100.0	

Pearson's correlation coefficient established the nature and the strength of the relationship between two variables. I compared each academic progression requirement, measured as the three second-semester LPN course percentages and the standardized exit exam, to the success or failure in any first-semester ADN course. The research question indicated that there is a positive relationship between second-semester LPN course percentages and scores by percentage on the standardized LPN exit examination and success in first-semester ADN courses.

There were statistically significant negative correlations noted ($p < .01$) between each second-semester LPN course and first-semester ADN success (see Table 3). The standardized exit examination showed no significant correlation with success in first-semester ADN courses. Interestingly, the supporting evidence documenting the purpose of this standardized exit examination indicated that the purpose of the exit exam is to predict success on the NCLEX-PN, not to predict success or failure in a program (ATI, 2011). Table 3 presents the correlational analysis.

Table 3

Correlations

		ADNP1F2	ExitExam	PNN351	PNN605	PNN606
ADNP1F2	Pearson correlation	1	.092	.266**	.369**	.379**
	Sig. (1-tailed)		.135	.001	.000	.000
	N	144	144	144	144	144
ExitExam	Pearson correlation	.092	1	.328**	.310**	.384**
	Sig. (1-tailed)	.135		.000	.000	.000
	N	144	144	144	144	144
PNN351	Pearson correlation	.266**	.328**	1	.454**	.591**
	Sig. (1-tailed)	.001	.000		.000	.000
	N	144	144	144	144	144
PNN605	Pearson correlation	.369**	.310**	.454**	1	.691**
	Sig. (1-tailed)	.000	.000	.000		.000
	N	144	144	144	144	144
PNN606	Pearson correlation	.379**	.384**	.591**	.691**	1
	Sig. (1-tailed)	.000	.000	.000	.000	
	N	144	144	144	144	144

**. Correlation is significant at the 0.01 level (1-tailed).

While all of the students included in the study either earned an 80% in each second-semester LPN courses or achieved a minimum score on the standardized exit examination, the minimally correlated score in the course percentages may indicate a need to change that minimum course percentage requirement. As a result of correlating the minimum course percentage required to progress to the ADN program, the student

who is more likely to be successful in first-semester ADN courses progressed as defined through the programs and thus does not contribute to attrition rates in the first semester of the ADN program. The null hypothesis is upheld. Course percentages in second-semester LPN courses have a weak relationship with first-semester ADN success.

Interestingly, the standardized exit examination did not show a statistically significant correlation to success in first-semester ADN courses. The lack of statistical significance in the correlation is in alignment with the actual purpose of this standardized exit examination, which is to predict the likelihood of the graduate's success on the NCLEX-PN (ATI, 2016). The use of an academic predictor with a documented purpose, which is not in alignment with the objective of the intervention seems futile. The lack of alignment between the documented purpose of the standardized exit examination and the use of this examination by MWCC is a limitation of the research. The analysis of the data concerning the correlation between the standardized exit examination and success in first-semester ADN courses showed no statistically significant correlation. The lack of statistically significant correlation proved the null hypothesis regarding the standardized exit exam percentage requirement, that is, there is no relationship between scores by percentage on the standardized LPN exit examination and first-semester ADN success.

Conclusion

The nursing profession must regenerate the nursing workforce using graduate nurse production to counter the nursing shortage. Students who are not successful in first-semester ADN courses contribute to program attrition rates. I intended to determine the nature and strength of the relationship between academic progression requirements and

first-semester ADN course performance using this correlational study. Student attrition can be related to many factors. Academic integration to the program is necessary for student success. I used statistically significant ($p > .05$) correlational relationships between second-semester LPN course percentages and first-semester ADN course success or failure to drive recommendations for academic progression requirement revision.

Additionally, I used the information gleaned from this correlational project study to inform similar programs via white paper policy recommendation regarding academic progression requirements. Sakamuro, Stolley, and Hyde (2010) defined the white paper as a document that is written to advocate for solutions to particular problems. Policy recommendations are used to present research to convince stakeholders to revise the current policy (Nickitas, 2011). As I identified the problem of continued first-semester ADN attrition, I used the white paper policy recommendation to document the correlation between academic progression requirements and first-semester ADN attrition.

Section 3: The Project

Introduction

Section 3 includes a description of the project, including key goals of the project; the rationale; a supporting literature review; implementation recommendations; an evaluation plan; and consideration of the implications of the project. I analyzed MWCC's archival records to examine the relationship between current course percentage requirements and success in first-semester ADN courses but at a higher benchmark. There was no relationship between score by percentage on the standardized exit examination. These findings suggest that revision of the academic progression requirements is necessary to reduce attrition rates in first-semester ADN courses at MWCC.

The results of this project can inform discussion of recommended changes to academic progression requirements to maximize student success and reduce attrition rates. The project was a white paper policy recommendation. I designed the white paper to inform stakeholders of the ongoing problem with attrition rates in first-semester ADN courses. Additionally, I communicated the statistical evidence to support the need for change to current academic progression requirements and literature to support both the theoretical need for academic integration and the implications of attrition. Ultimately, I made provide recommendations for changes to the current academic progression requirements at MWCC (see Appendix B). Selecting students who are more likely to be successful in first-semester ADN courses may result in a higher overall graduation rate and may produce more nurses to enter the professional workforce. With the national

nursing shortage approaching 438,100 (U.S. Department of Labor, 2018c), the implications of social change are evident. More graduate nurses entering the workforce will alleviate that shortage resulting in higher nurse satisfaction and improved patient outcomes. The AACN (2015) expressed that high attrition rates may impact society as the demand for health care is increased by expanded access, increasing diversity, and the increasing age of the population.

Description and Goals

The goal of the project was to yield statistical evidence regarding current academic progression requirements for presentation to decision-making stakeholders in the MWCC Nursing Program. Given the diversity of the stakeholders involved in the decision-making process at MWCC, I used a white paper format and PowerPoint presentation. According to Knowles (2016), the short, concise nature of the white paper conveys meaning, maintains interest, and provides specific information. The white paper, by definition, is well suited to communicate a problem and provide a recommended solution. Sakamuro, Stolley, and Hyde (2015) described a white paper as an informative paper, which is used by presenters to describe a problem and recommend a specific conclusion. Given the limited time likely allowed for each agenda item, the concise construction of a white paper will provide the necessary information to stakeholders. Also, using the traditional format of the white paper, which avoids technical language, provides interesting charts and graphics, and supports statements with evidence from the literature, I will be able to promote understanding for members of the committee without a health care education background (Knowles, 2016).

I chose the white paper format because of the potential ease of dissemination as well as the overall formality expected of the white paper. Nursing education accrediting agencies use the white paper to clarify position statements and support expectations of programs. For example, the AACN issues white papers whenever a stakeholder identifies a problem. Most recently, a white paper was issued to identify current issues regarding the Doctor of Nursing Practice degree and clarifies a position statement regarding the movement of the advanced nursing role to the doctoral level (AACN, 2015). Avalere Health LLC (2015) issued a white paper policy recommendation regarding safe nurse to patient ratios.

Additionally, the AACN has issued numerous white papers concerning the nursing shortage (2017), the nursing faculty shortage (2017), and projected registered nurse deficits (2015). The focus of this white paper policy recommendation was to describe the policy in place, communicate the current attrition rates experienced by students at MWCC, provide information regarding the correlation of current academic progression requirements to current first-semester attrition rates. I also sought to propose policy changes designed to reduce the overall first-semester ADN attrition rate by improving the caliber of student performance expected to enter the ADN program. A secondary goal was to enable the identification of students at risk for academic attrition and early remediation to promote student success. The PowerPoint presentation included a description of the problem, summaries of the relevant literature, statistical results of the study, and recommendations for revision of the current academic progression requirements. Guetig (2011) described the visual nature of the PowerPoint presentation as

an efficient format to present all aspects of a project to stakeholders of varying backgrounds.

Rationale

I chose a policy recommendation as the final project type as a way to communicate the results of the study and make recommendations for revision to academic progression requirements to stakeholders, including the MWCC administration, the District Advisory Committee, and the Nursing Faculty Association. Current academic progression requirements at MWCC have not reduced attrition rates for first-semester ADN courses. I identified a statistically significant relationship between academic progression requirements at a higher benchmark and success in first-semester ADN courses. I also identified that students who were successful in first-semester ADN courses exceeded current academic progression requirements by 5 to 7%. Examining academic progression requirements may provide stakeholders with statistical evidence (or lack thereof) to support modification of academic progression requirements and thus improve first-semester ADN attrition rates. Spillane (2012) discussed the importance of using data and research to gain the support of administrators in the modification of academic progression requirements. The overarching objective of this project is to provide insight that nursing program leaders can use to reduce attrition rates in the first term of the ADN program through selective enrollment and early identification of students at risk of attrition. Modification of academic progression requirements may engage students who have demonstrated academic integration and are more likely to be successful in first

semester ADN courses, thus meeting the objective of reducing attrition rates in those courses.

Review of the Literature

To locate articles regarding policy analysis and policy recommendations, I conducted an EBSCO database search that was inclusive of the following databases: Academic Search Complete, CINAHL Plus with Full Text, Dissertations and Theses, ERIC- Educational Resource Information Center, MEDLINE with Full Text, Ovid Nursing Journals Full Text, ProQuest Nursing & Allied Health Science, and SAGE Premier. Keywords used for the search included *white paper*, *policy recommendations*, *policy analysis frameworks*, *policy evaluation*, *policy development*, *policy recommendation*, *progression policies*, *attrition*, *academic performance*, *academic integration*, *persistence*, and *student success* for the years 2008-2016.

Policy Definition

A policy is defined as "a relatively stable, purposive course of action or inaction followed by an actor or set of actors in dealing with a problem or matter of concern" (Anderson, 2015, p. 6). O'Grady, Mason, Hopkins, and Gardner (2016) described *private policies* as policies developed by and for those entities outside the government. Health care institutions, companies, business organizations, and programs develop private policies (O'Grady, Mason, Hopkins, & Gardner, 2016). As the academic progression policy is under the auspices of the Nursing program and is governed by specific stakeholders, it is a private policy. Furthermore, O'Grady et al. explained that the

intentional investigation of problem causation, potential responses, alternatives, and decision-making that occur during policy analysis requires various assessment methods.

Policy Analysis

Just as there is no one way to conduct research, there is no one way to conduct a policy analysis. For this project study, the policy analysis is the research supporting the recommended policy changes. As O'Conner and Netting (2008) noted, "policy analysis becomes research when it is clear to the analyst what is desired from the policy analysis" (p. 163). For this project, I sought to analyze the MWCC academic progression policy for efficacy in reducing first-term ADN attrition rates.

Ritter (2016) defines two types of policy analysis. While descriptive policy analysis explains how a policy functions, prescriptive policy analysis is used to examine an issue to make recommendations for change (Ritter, 2016). O'Conner and Netting (2008) supported the philosophy that policy analysis is research and that policy analysis frameworks are tools that can be used to evaluate policies before making recommendations for change. The choice of a policy analysis framework is similar to the choice of traditional research tools. Policy analysis frameworks are situationally unique and should be approached with the same careful attention as any research tool is selected (O'Conner & Netting, 2008). Weimer (2009) explained the difference between policy research and policy analysis. Policy research is conducted to gain information about the policy.

In contrast, policy analysis is done to address a specific problem and to produce a potential alternative to solve that problem (Weimer, 2009). According to Blume, Scott,

and Pirog (2014), “The basic goal of policy analysis is to examine the ‘true’ effect of a given policy intervention” (p. S37). O'Connor and Netting posited that the choice of policy analysis framework parallels the importance of the choice of a research instrument in research. Bardach and Patashnik (2016) described an eight-step approach to policy analysis that provides structure to the analysis process. The generic nature of the process facilitates adaptation to a variety of contextual applications (Bardach & Patashnik, 2016). This project followed the eight-step policy analysis with only minor adaptations. The policy under scrutiny for this project determines the progression of LPN students to the ADN program. The academic progression requirements needed to progress from second-semester LPN courses to first-semester ADN courses at MWCC include the achievement of a minimum course percentage of 80% or better in PNN 351, PNN 605, and PNN 606 or achievement of a minimum percentage of 67% or better on the standardized exit examination.

Positions of Accrediting Organizations

Both the IBON and the NLN accredit the MWCC Nursing programs. ACEN (2013b) explains the accreditation process as necessary to ensure the quality of educational delivery through continuous attention to accreditation standards. Accreditation is a voluntary process that is also an indicator of excellence in educational delivery (ACEN, 2013c).

Accrediting organizations do not mandate admission policies, including academic progression policies. However, these organizations do offer opinions. The IBON (2015) issued a statement regarding the use of standardized examinations in a nursing

curriculum. The IBON recommends that exit examinations not be used as graduation determinates and programs should integrate similar examinations throughout programs with remediation planned as needed. Additionally, the IBON (2015) explains that there needs to be adequate, published, accessible communication of policies to students. MWCC does not use the standardized exit examination as an LPN graduation requirement. Students are required to take the examination to graduate from the LPN program. The program does not limit graduation to a minimum score. Only students who intend to progress to the ADN program but who do not meet the minimum course percentages are required to meet the minimum score on the standardized exit examination.

The NLN (2012) also issued a position statement regarding the use of standardized testing in the nursing curriculum. In this statement, while establishing that standardized examinations are indeed useful, the NLN acknowledges the lack of standards to guide programs in setting academic progression requirements using standardized examinations. Legal issues such as educational malpractice, breach of contract, and due process are also cited as areas of concern when implementing standardized examinations (NLN, 2012). Interestingly, the NLN only expresses specific concerns regarding the use of standardized examinations for undocumented purposes. "Using tests outside of their intended purpose negatively affects test takers, especially minority students who may face language difficulties, social bias, stereotype threats, and poorer early academic preparation, etc." (NLN, 2012, p. 3). Attending to policy analysis

and proposing recommendations will provide evidence that MWCC has achieved Standard V for NLN accreditation (NLN CENA, 2016).

Standard V focuses on the curriculum and evaluation processes and establishes that faculty are ultimately responsible for the management of an evidence-based educational delivery. Additionally, this standard establishes the requirement that "communities of interest" are informed of decisions made regarding the curriculum (NLN CENA, 2016).

Policy Recommendation

Changes to Current Academic Progression Requirements

Standardized exit examination changes. I recommend that the MWCC Nursing Program eliminate the use of a minimum benchmark on the standardized exit examination as a progression requirement and choose a standardized entrance examination that is designed to predict success in nursing programs.

Standardized nursing entrance examinations are a common component of nursing program admission criteria. The two most commonly administered examinations are the HESI Admission Assessment (A2) and the Test of Essential Academic Skills (TEAS-V). The MWCC nursing program currently requires pre-nursing students to meet a benchmark on the standardized entrance examination. MWCC can use this program admission requirement as a weighted measure for academic progression from the LPN program to the ADN program.

The A2 is a two-part standardized examination designed to evaluate the academic performance and personality traits of pre-nursing students. The academic portion of the

A2 consists of eight sections, including reading comprehension, vocabulary and general knowledge, grammar, math, physics, biology, anatomy and physiology, and chemistry. The personality trait evaluation consists of personality style and learning style assessment. Nursing programs may choose to implement one or both of the A2 components (HESI Exam Guide, 2017).

Chen and Voyles (2013) determined the validity of the A2 as a predictor of student success. Using a sample of 506 nursing students admitted into a nursing program over a period of three years, Chen and Voyles obtained student data from institutional records to calculate correlations between composite A2 scores and first-semester nursing courses. The mean composite score on the A2 was significantly higher ($p < .01$) for students who were successful in all three courses than for those who were unsuccessful in one or more first-semester nursing course. Additionally, Chen and Voyles found that A2 scores can be used to provide objective information regarding admission decisions.

Knauss and Willson (2013) also validated the predictive nature of the A2 as related to success in first-semester courses. Using a sample of 150 students admitted to the program over a period of two years, Knauss and Willson calculated the correlation between the composite A2 score and the course percentages in two first-semester courses. There is a highly significant correlation between the composite A2 score and both first-semester courses, $r= 0.532$, $p <.01$ and $r=0.455$, $p< .01$. “As students’ composite A2 score increased, so did their final course grades in the two first-semester nursing courses” (Knauss & Wilson, 2013, p. S29).

The TEAS-V is a standardized examination designed to assess the students' academic potential in reading, math, science, English, and language usage (ATI, 2011). ATI (2011) recommends the use of the TEAS-V as a component of admission criteria, not a sole determinate of admission. Further, ATI recommends that programs should use the overall score rather than the component scores should for benchmark determination (ATI, 2011).

ATI (2011) obtained data from 509 RN programs and 393 LPN programs to correlate TEAS-V performance to early program performance using a standardized examination which is administered in the first semester of the program, the Fundamentals of Nursing assessment. The aim of establishing a correlation between the TEAS-V and the Fundamentals of Nursing assessment was to establish the validity of the TEAS-V as not only correlated with early nursing program success but also to establish the TEAS-V is an accurate predictor of with early success in the program (ATI, 2011). The statistical significance of the correlation between the TEAS-V and the Fundamentals of Nursing assessment ($r=0.459$, $p< .0001$) speaks to the efficacy of the TEAS-V as an admission criterion (ATI, 2011).

ATI (2016) also found the TEAS-V to be correlated not just with early program success but with program completion. Assessment Technologies Institute (2016) collected data from a sample of 94 nursing students who were either successful or unsuccessful in the program. Using composite scores, researchers divided TEAS-V scores for this group into groups of the top 50% of scores and the bottom 50% of scores

for comparison. “Students scoring in the top 50% on the TEAS V had a 32% increased rate of academic program completion” (ATI, 2016, p. 1).

Wambaugh, Eckfield, and Von Hofwegen (2016) supported the use of academic admission requirements with a retrospective analysis of 513 nursing students’ academic performance as correlated to specific nursing program outcomes, including program graduation. Using logistic regression, Wambaugh et al. (2016) determined the relationship between five predictor variables including pre-admission science GPA, TEAS score, health care experience, previous degree, and pre-admission university enrollment versus transfer enrollment and nursing program outcomes of graduation, nursing program GPA, and success on the NCLEX-RN. Among the five predictor variables, TEAS scores above 82 were found to be statistically predictive of graduation (p-value 0.93; Wambaugh et al., 2016). A student with a TEAS score of at least 82 has a 93% probability of graduation. In contrast, a student with a score below 82 (p-value <0.85) still has an 85% probability of graduation which indicates that evaluators should consider additional factors (Wambaugh et al., 2016). The standardized exit examination showed no significant correlation with success in first semester ADN courses at MWCC.

Mee and Hallenbeck (2012) developed criteria for selecting standardized examinations in nursing education. In addition to criteria such as who develops the test items and the manner of test item development, faculty-friendly reports, and the quality of the test report and remediation recommendations for students, faculty must determine the validity of the examination (Mee & Hallenbeck, 2012). “Validity of a high-stakes exit examination in nursing can be determined by how accurately the test identifies students

who will pass the licensure or certification examination" (Mee & Hallenbeck, 2012, p. 494). The use of the standardized exit examination as a predictor of success in first-semester ADN courses at MWCC does not support the validity of the examination indicated in the literature as this examination is intended to predict success on the licensure examination, not success in an ADN program.

Course percentage changes. I recommend that the MWCC Nursing Program increase the minimum course percentage required to advance to the first semester of the ADN program to 85% in second-semester LPN courses. The course percentages in second-semester courses held only a slight statistically significant correlation to success in first-semester ADN courses. The mean course percentage for those students who were successful was 3%-7% higher than the required benchmark. Increasing the minimum percentage required to progress from the second semester of the LPN program to the first semester of the ADN program to 85% will provide a cohort with more students who are near the mean benchmark of success. There was no sufficient evidence in the literature to support the use of course percentages in the second-semester of an LPN program as predictors of success in the first term of an ADN program.

Recommendation of a Statistical Scoring System

I recommend that the MWCC Nursing Program should establish a statistical scoring system for progression using GPA, revised second-semester LPN course percentages, a standardized entrance examination, and a scored selection interview.

Cunningham, Manier, Anderson, and Sarnosky (2014) proposed a statistical method to predict nursing student success and thus admit students with a high probability

of success. The application of a formula-based assessment based on multiple academic predictors eliminates the "subjective insights generated from unstructured discussion of candidate strengths and weaknesses" (Cunningham, Manier, Anderson, & Sarnosky, 2014, p. 487). This statistical scoring method weights specific criteria such as high school and-or college GPA, course percentages for certain prerequisite classes, standardized examinations, and program specific entry examinations to statistically predict the likelihood of student success (Cunningham et al., 2014). Cunningham et al. collected archival data from a BSN program, which had a history of using a points-based rational method, of predicting variability in nursing students. The overall aim of the study was to determine if the statistical formula method could predict the potential success of nursing program candidates as compared to the traditional, faculty invested, points-based procedure to determine the qualifications of potential students (Cunningham et al., 2014). Cunningham et al. used archival data to excavate the scores on standardized examinations required by the program, the students' second semester GPA, and an average overall GPA. Additionally, the nursing program used the student performance indicators of overall GPA at entry, science GPA, the number of completed prerequisites, and the ATI-TEAS score to determine entry into the program. In that regard, Cunningham et al. also evaluated the indicators of overall GPA at entry, science GPA, the number of prerequisites completed, and the ATI-TEAS score. The nursing program used a points-based scoring system to determine the qualifications of potential students. Cunningham et al. used a weighted formula to determine a statistically calculated score. The empirical, statistical scoring method removes faculty responsibility for determining admission

criteria (Cunningham et al., 2014) The statistical method promotes the efficient use of faculty time, reduces the risk of perceived bias in the admission process, and may "lead to a strong cohort of students with the highest potential for performing well…" (Cunningham et al., 2014, p. 492). MWCC can use a similar model to determine the appropriate criteria for a weighted formula, identify the minimum weighted score that a student needs to achieve for admission to the program, and rank the students in order per their weighted score. This statistical method recommended for MWCC would include academic measures including GPA, course percentages, standardized entrance examination scores,

Hinderer, Dibartolo, and Walsh (2014) completed a retrospective review of the records of 89 undergraduate nursing students to explore the relationship between of the A^2 and preadmission GPA as predictors of "timely progression" (p. 439). While a significant correlation between the A^2 score and timely progression was not found, Hinderer et al. (2014) did excavate a significant correlation between preadmission GPA and timely progression. "Students with higher preadmission GPAs were more likely to have timely progression" (Hinderer, Dibartolo, & Walsh, 2014, p. 439).

Timer and Clauson (2011) retrospectively evaluated admission GPA, interviews, demographic characteristics, and supplemental application artifacts to determine the relationship to mean nursing course grades and final program GPA as outcome measures of student success. The admissions process for the program under investigation used admission GPA and scored supplemental artifacts including a resume, a personal statement, and two reference letters to determine initial invitations to complete the second

phase, the interview (Timer & Clauson 2011). Timer and Clauson found statistically significant associations between mean course grades and admission GPA (F (3, 243) =18.21, p,0.01. Students with the highest course means had significantly higher admission GPA. “Of the relevant criteria used for admissions, admission GPA was the only consistent predictor of the students’ success (Timer & Clauson 2011, p. 605).

McNelis et al. (2010) evaluated the implementation of an admission process using weighted GPA as one of the admission criteria. Having moved from an admission process based on GPA alone to an admission process including a weighted GPA, an interview, a writing sample, and a service requirement, McNelis et al. used a mixed methods approach to collect data from nursing students and faculty. Interestingly, the GPA used in the scoring system by McNelis et al. was not a standard cumulative GPA but rather is calculated using a weighted formula including the cumulative GPA (15%); critical, analytical, and science GPA (20%); and nursing GPA (30%). The total weight of the GPA within the scoring system was 65% with the interview weighted at 30%, and the service experience weighted at 5% (McNelis et al. 2010).

Other health-related programs use GPA as a determinant for admission. Poirier, Kerr, and Phelps (2013) examined academic progression requirements for 98 schools of pharmacy. The most common criteria used by 76.5% of pharmacy programs to determine student progression was a minimum cumulative GPA. Additionally, 60% of pharmacy programs require students to maintain a minimum GPA through the pharmacy program. Interestingly, 22.1% of private pharmacy programs required a higher GPA for

progression as compared to 11.1% of public pharmacy programs (Poirier, Kerr, & Phelps, 2013).

Multiple-Mini Interviews (MMIs) are a part of a three-phase student selection process involving literacy testing, numeracy testing, and interviews. Cognitive skills are quantitatively measured using numeracy and literacy examinations. If the students are successful with the cognitive evaluation, the students attend a series of six interview stations to demonstrate "communication skills, empathy, decision-making and problem-solving, ethical insights and integrity, initiative and team-work". Interviewers, including faculty, health care professionals, and other stakeholders used a prescribed evaluation grid to generate a score for each student (Gale, Ooms, Grant, Paget, & Marks-Maran, 2016, p. 125). Gale, Ooms, Grant, Paget, and Marks-Maran (2016) conducted a longitudinal retrospective analysis to determine the presence or absence of bias in the MMI and to determine the predictive nature of the MMI. Retrospectively, the researchers correlated students' academic evaluations to each phase of the selection process. While Gale et al. (2016) found only a weakly predictive relationship between literacy examination performance, numeracy examination performance, and MMIs both significantly predict academic success. The research conducted by Gale et al. supported the use of the MMI in the student selection process.

Norrie et al. (2012) conducted a qualitative research study to determine the qualities desired in nursing students using an inductive approach to develop a conceptual model that can be applied to a variety of settings and proposed means of measuring those desired qualities. Norrie et al. used qualitative interviews with faculty, staff, and other

stakeholders to discover themes related to the qualities needed as antecedents to professionalism in nursing including analytic ability, commitment to compassionate care, effective communication, the understanding field of practice, and the challenge of the interview to develop the conceptual model. Norrie et al. also developed suggestions interviewing techniques for implementing the conceptual model.

Roberts et al., (2010) developed and evaluated the inclusion of lay people in the selection of students for a college of nursing and midwifery. Using a six-stage process to develop the project team, recruit appropriate lay people, design the interview, design the structure and tools for selection, provide training, and include lay people in admission interviews, Roberts et al. then evaluated the process. The inclusion of the lay people into the interview process was both communicated to the potential students and low stakes in that the interview results with the layperson had no impact on the admission selection process (Roberts, Wild, Washington, Mountford & Capewell, 2010). Lay people involved commented on the quality of the tools used to assist in the interview, the positive feelings derived from the experience, and the importance of being able to "make a contribution" to the selection of future nurses (Roberts et al., (2010, p. 46). Potential candidates found the addition of the layperson interview helpful as they progressed through the selection process to the formal interview and responded that the layperson interview was "a really good addition to the interview process" and "a comfortable and valuable exercise" (Roberts et al., 2010 p. 46).

Baxter et al. (2016) conducted a systematic review of the literature to extract evidence in support of training for lay people involved in the selection process. Baxter et

al. aimed to determine the need for interviewer training using a systematic review of the literature. Incidentally, Baxter et al. also found that the literature supports layperson participation in interviews with the benefits of credibility and balance noted. In contrast, the challenges to including lay people in interviews of potential students include the concern about the role of the lay people among the professionals involved, the value or weighting of the layperson's contribution, and the need for proper planning and implementation of the layperson interview process (Baxter et al., 2016).

Pitt, Powis, Levett-Jones, and Hunter (2014) identified personality traits, conscientiousness/motivation, cognitive skills, and professional/personal values as attributes that "illustrate the qualities desired in a practicing nurse" (p. 866). In response to incidences of increased incivility, unsafe clinical practice, and a general lack of compassion in nursing students, Pitt et al. investigated the relationships between personal qualities, academic performance, behavior, and progression. Pitt et al. aimed to inform decisions concerning selection criteria by investigating the impact of personal qualities on academic progression. All participants completed a personal qualities assessment (PQA) upon entry to the program. The PQA uses three scales to measure personal qualities in health care professionals. The narcissism, aloofness, confidence, empathy (NACE) scale measures involvement as compared to detachment. The interpersonal values questionnaire (IVQ) predicts a student's decision making in response to a moral dilemma. The self-appraisal inventory (SAI) measures control and resilience (Pitt, Powis, Levett-Jones, & Hunter, 2014). Throughout the study, Pitt et al. collected academic performance measures including GPA and course percentages, clinical performance

measures using successful versus unsuccessful dichotomous measures, student behavior measures, including attendance records and responses to the Life Events Scale for Students (LESS) to measure exposure to stressful events, and progression information. Pitt et al. identified significant correlations between NACE and SAI scores and academic performance. Pitt et al. identified confidence as the strongest predictor of clinical competence and resilience as the only significant predictor of progression. Pitt et al. concluded that the significant predictability of personal qualities "highlight the importance of considering personal qualities as potential selection criteria…" (p. 870).

The Association of American Medical Colleges (2017) defines holistic admission as a process, which individualizes student selection using four central principles during initial student screening, student interviews, and the final selection. Glazer et al. (2016) investigated barriers to the implementation of holistic admission practices in nursing using a qualitative approach. Nursing deans or their designated representatives were invited to attend focus groups exploring the use of a holistic admission process. The participants identified challenges to implementing holistic admission as an overarching lack of knowledge regarding the holistic admission process. Participants also identified "…the need for better dissemination of evidence, the need for additional support from university leaders and administrators, the need for legal guidance to facilitate implementation of holistic admission, and ensuring appropriate resources to support the holistic admissions review process" (Glazer et al., 2016, p. 309). In response to the identified challenges, Glazer et al. developed recommendations for implementing a holistic admissions process. Strategies such as addressing the lack of knowledge related

to the holistic admission processes, fostering support for holistic admission from not only institutional stakeholders, but also community stakeholders, and evaluating current admissions practices foster the implementation of holistic admission review (Glazer et al. 2016).

McNelis et al. (2010) examined the perceptions of interviewers and students involved in a revised admission process. The admission process in question used weighted elements of GPA (65%), the interview (30%, and service experience (5%) to determine admission to a nursing program (McNelis et al., 2010). Interviewers and students who participated in the new admission process completed surveys to collect quantitative data using a Likert scale and qualitative data using open-ended questions. Quantitatively, interviewers (M=4.36, SD=.93) and students (M=4.04, SD=1.02) found the interview "highlighted the applicant's strengths" (McNelis et al., 2010, p. 192). Qualitatively, interviewers found the interviews helpful to influence admission decisions when academic benchmarks were identical. Students, while they expressed feelings of intimidation during the process, also found the interview to be an advantage and appreciated the opportunity to show potential beyond academic grades (McNelis et al. 2010).

Finch, Wilson, Symonds, and Floyd-Tune (2014) explored the interview process through the lived experiences of students who experienced an interview as part of the admission selection process. A sample of 25 participants, including 15 first-semester nursing students and ten fifth semester nursing students discussed common themes regarding the selection interview process. All students found value in the process and

understood the importance of the interview to candidate selection. Academically challenged students approached the selection interview as an opportunity to explain their circumstances and describe their plan for success (Finch, Wilson, Suymonds, & Floyd-Tune, 2014). Participants described the selection interview as an opportunity to show the "intrinsic qualities needed to be a good nurse" (Finch et al., 2014, p. 3). Selection interviews, for these students, added a dimension to the admission process that holistically approached the student as more than a score on a standardized entrance examination and GPA (Finch et al., 2014).

Project Description

Potential Resources and Existing Resources

The potential resources needed to deliver the white paper include limited access to the stakeholders' email and attendance at the semi-annual MWCC District Advisory Committee meeting. Upon approval of the project, I will submit a request to have my presentation placed on the agenda for the semi-annual MWCC District Advisory Committee meeting. Using the documented email addresses for the District Advisory Committee members, I will disseminate the white paper via email approximately two weeks before the scheduled District Advisory Committee meeting. While the MWCC Nursing Programs do not require the approval of the MWCC District Advisory Committee for an admission requirement revision, these respected members of the community provide important feedback regarding the needs of local health care institutions as well as the community at large. It is essential that the MWCC Nursing program meets the needs of the community. Per policies set in place by the MWCC

faculty, the faculty members must discuss and approve/deny any changes to the curriculum, including changes to the admission requirements. Following the presentation to the MWCC District Advisory Committee meeting, and with the approval of the Dean of Health and Public Services and the Director of the Nursing program, I will request an addition to the Nursing Faculty Association (NFA) semi-annual meeting to present the findings and feedback from the District Advisory Committee. I will again disseminate the white paper to the Program Chairpersons and the Nursing Faculty via email well in advance of that meeting.

Potential Barriers

The primary potential barriers to the implementation of this project include the inability to gain access to the MWCC District Advisory Committee meeting and the inability to gain access to members' email addresses. Requests for attendance at the MWCC District Advisory Committee meeting only require a request to the District Secretary to place the item on the agenda. The District Secretary also maintains a contact list for each committee and forwards any preliminary documents and-or information to the committee members.

Proposal for Implementation

To present the white paper, I will request that I be allowed to formally present the white paper to the District Advisory Committee meeting and NFA stakeholders. Attendance and presentation of the materials are required. The District Advisory Committee must approve any potential changes to nursing program progression criteria. The faculty of NFA must approve and implement any changes to academic progression

requirements. Implementation of any policy recommendations will take approximately one year as any changes to requirements will need to be published in the Program Information Brief (PIB), and the program will need to inform students on the waiting list of the changes in academic progression requirements. Any changes in the academic progression requirements will impact only the students enrolled in the program after the MWCC implements changes in policy. Those currently enrolled in the program will be expected to meet the academic progression requirements that were in place when their enrollment began. Appendix A presents the time table for the project.

Roles and Responsibilities of Student and Others

It is my responsibility as the student to deliver the program recommendations at the designated time and place. I should explain the problem at hand using program statistics related to attrition rates, present the background information using the evidence obtained with an exhaustive search of the literature, and communicate my findings concisely and with confidence. I should describe the proposed implementation process and define any barriers or limitations to implementation. I should be prepared to respond to any questions regarding any phase of the process, from conceptualization to evaluation. I should be prepared to facilitate the implementation of the program recommendations and maintain the data needed for evaluation.

The MWCC District Advisory Committee has the responsibility to listen to the presentation, ask any relevant questions regarding the proposed changes, and provide an overall opinion regarding the implementation of the proposed changes to academic progression requirements as related to the local health care institutions and the

community at large. The Dean of Health and Public Services and the Director of the Nursing program have the responsibility to review the research, supporting literature, and proposed changes and also offer their opinion regarding the proposed implementation of changes to the academic progression requirements. The faculty bears the burden of the decision. Since the nursing program is faculty developed and outcomes-driven, faculty will be responsible for attending to the presentation, supporting literature, and proposed changes, and determining if those proposed changes will benefit the student population by reducing the overall attrition rate in first semester ADN courses. The faculty will then vote on the proposed revision to academic progression requirements.

While currently enrolled nursing students have no responsibility for the delivery of the white paper or the implementation of any recommended changes to the academic progression requirements other than the need to be aware of and meet academic progression requirements after initial admission to the nursing program. Nursing students are invited to attend District Advisory Committee meetings and present any program-related topics. For example, the students wanted to change the required lab classroom attire. To make that change, representative students presented the proposal to the District Advisory Committee and requested the opinions of those in attendance regarding the change. The representatives then took their proposal and a synopsis of the District Advisory Committee's response to the proposal to the Nursing Faculty Association meeting to propose the change to program policy. Students are routinely invited to attend and provide the student perspective to Nursing Faculty Association meetings.

Project Evaluation Plan

The primary objective of the policy recommendation is to improve attrition rates in first-semester ADN nursing students by enrolling students who meet evidence-based benchmarks of academic success. Evaluation is described by McBride (2018) as "A process, discipline, and in some cases, an intervention in and of itself" (para 1). I will use an outcomes-based evaluation method to measure the effectiveness of the revised progression requirements by measuring attrition rates in the first cohort of nursing students who are held to the revised progression requirements. The Centers for Disease Control (CDC; 2014) describes outcomes evaluation as appropriate when the program desires to measure the progress towards achieving objectives. I will collect and analyze data regarding the scored admission process. The quantitative data collected will include, which will include the final, specific measures adopted by program stakeholders. The key stakeholders for the evaluation outcomes are the students, faculty, staff, and administrators with the MWCC nursing program, the District Advisory Committee which includes representatives from local health care institutions and members of the local community.

Project Implications

Local Community

In addition to identifying that there is only a slight correlation between academic progression requirements and first-semester ADN course attrition rates, the results of this project support that students who exceeded progression requirement course percentages by 5-7% are more likely to be successful in first-semester ADN courses. Students who

achieved second-semester LPN course percentages between 83% and 87% were successful in first-semester ADN courses. The identification of those who are likely to be successful leads to the revelation of those who are likely to contribute to attrition rates in first-semester ADN courses. Students with borderline benchmark scores can then be monitored for academic difficulty and remediated before a course failure occurs. The MWCC Nursing Program has the potential to reduce first-semester ADN attrition rates by selective admission using a higher benchmark of 85% for second-semester LPN courses as a minimum requirement for progression.

Additionally, the current standardized exit examination as an alternative benchmark for academic progression does not relate to academic success in the first semester of the ADN program. The lack of statistically significant correlation between the standardized exit exam and success in first-semester ADN courses is supported by the documented purpose of this particular examination which is to predict success on the NCLEX-PN (ATI, 2011). An alternative exam, the LPN-STEPP test is designed to predict success in the first term of an ADN program. The MWCC Nursing program has the potential to reduce attrition rates in the first semester of the ADN program by selecting students who are predicted to be successful by a standardized exam that is specific to this purpose.

Nursing students who are successful in first-semester ADN courses are progressing through the ADN program as defined by MWCC. Successful students do not contribute to attrition rates, graduate on time, and are successful on the NCLEX-RN. The nursing shortage is expected to escalate by the year 2020 (United States Department of

Labor, 2015). Nursing programs that produce successful graduates reduce the nursing shortage by contributing to the nursing workforce (American Association of Colleges of Nursing, 2014). Most graduates of the MWCC Nursing programs obtain local employment after graduation and successful NCLEX-RN testing (MWCC, 2011a). The MWCC graduates are locally and aggressively recruited to remain in local institutions and provide care to those with health care needs in the community.

Far-Reaching

The far-reaching social change implications of this project study include contributing to the nursing education research base, informing similar programs of the statistical evidence, and reducing the nursing shortage. While there is a plethora of research concerning attrition and the potential causes of student attrition, there is a dearth of research regarding the relationship between academic progression requirements within levels of a nursing program. This research study contributes to that research base.

Nursing programs struggle to balance admission requirements with student potential. The ultimate objective of any nursing program is to produce a graduate who can pass the NCLEX-RN and provide safe care to patients in need. The Community College network communicates freely about what works and what does not work in all curricular requirements, which include academic progression policies. Formally, through publication and informally, through word of mouth, the results of this study will be communicated to similar programs and inform the decisions made regarding academic progression requirements.

Finally, the nursing shortage is an international problem. Nurses in other countries are aging out, retiring, or leaving the profession in numbers that outreach the number of graduates available to replace them (WHO, 2017a). Graduates of the MWCC program contribute to international nursing shortage reduction by joining the nursing workforce and working at the bedside.

Conclusion

In conclusion, successful nursing students graduate from nursing programs on time, successfully pass the NCLEX-RN, and enter into practice. Their entry into practice provides relief to a profession facing a significant workforce shortage. However, the caveat lies within the on-time graduation and entry into practice. Program administrators placed academic progression requirements into effect with the objective of reducing attrition rates in first-semester ADN courses. Current academic progression requirements at MWCC have not shown a reduction in the attrition rate of first-semester ADN courses. The program can improve the probability of student success by enrolling a higher caliber student into the program. By investigating the predictive nature of current academic requirements and determining the benchmark that does predict success in first-semester ADN courses, students who are most likely to be successful progress under policy revision. While the initial numbers of students will decrease, a higher percentage of students will be successful.

Section 4: Reflections and Conclusions

Project Strengths and Limitations

The strengths of this project were the adequate sample size, quality of the data collected, and the potential ease of dissemination to the stakeholders. The sample size was adequate because all students who met the inclusion criteria were included. Additionally, archival, academic records were readily available from the executive director of institutional effectiveness. Program course records were accurately downloaded from the learning system and electronically filed by course faculty. There were no missing or incomplete data sets. I was able to easily access the stakeholders through attendance at the semiannual district advisory committee meeting. The white paper policy recommendation is appropriate for the dissemination of this study as white papers are commonly used in health care and business (Knowles, 2016). The white paper format includes the identification of a particular problem, supporting evidence, and a recommended resolution to the problem (Sakamuro, Stolley, & Hyde, 2010).

The semiannual meeting schedule for the District Advisory Committee and the Nursing Faculty Association meetings limits the delivery of the white paper. Major curricular policy changes are always introduced to these committees first. Meetings are held once per Fall and Spring semesters. Allowing a semester for pilot implementation and data collection may cause a potential for a delay until the Fall of the next academic year. Additionally, the white paper policy recommendation addresses academic factors of attrition.

Recommendations for Alternative Approaches

I will partially remediate the delivery limitation by introducing the white paper for review via e-mail in advance of the formal presentation. By providing committee members an advance viewing of the white paper, members can prepare any questions or concerns they wish to address at the presentation. Additionally, I will incorporate a synopsis of the District Advisory Committee's concerns and questions into the presentation for the Nursing Faculty Association.

Scholarship, Project Development and Evaluation, and Leadership and Change

Scholarship

Oermann (2014) explained that "scholarship is essential to nursing education and the teacher's role: It is through the scholarly work of nurse educators that we expand our knowledge about student learning and identify best practices for promoting their learning and development" (p. 370). The AACN (2018) defines nursing scholarship as

> those activities that systematically advance the teaching, research, and practice of nursing through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods (para. 3).

The AACN (2018) further identified four "aspects of scholarship that are salient to academic nursing" (para. 1). The standards defined by the AACN include the scholarship of discovery, scholarship of teaching, scholarship of practice, and scholarship of integration.

Scholars demonstrate the scholarship of discovery by conducting primary empirical research, historical research, theory development, methodological studies, and philosophical inquiry (AACN, 2018, Standards section, para. 1). I demonstrated the scholarship of discovery through the quantitative, descriptive methodology used to conduct the research. I conducted primary empirical research to describe the relationship between academic progression requirements and success in first semester ADN courses. I documented the quality of the current standard upon presentation of the research to stakeholders at MWCC.

The scholarship of teaching is described by AACN (2018) as contributing to "deeper understanding of both the discipline and pedagogy" (Scholarship of Teaching section, para. 1). One way for scholars to demonstrate the scholarship of teaching is participation in program development and learning outcome evaluation activities (AACN, 2018). Stakeholders at MWCC can replicate the methodology used for this project to evaluate revisions to academic progression requirements.

Nurse educators also demonstrate the scholarship of practice. While the focus of this standard addresses the clinical practice arena of nursing education, the standard easily translates to the educational arena. The AACN (2018, Scholarship of practice section, para 1) defines the educator as a practice role for faculty. Additionally, the AACN describes the scholarship of practice standard as focusing on the "scholarship generates through practice" (Scholarship of Practice section, para. 2). Also, the AACN explains that educators accomplish the scholarship of practice through faculty role approaches in the "development and refinement of practice protocols" (Scholarship of

Practice section, para. 2). My policy analysis research and the recommendations for revision to academic progression requirements for this project provide evidence of this standard of scholarship.

The scholarship of integration is described by AACN (2018) as a means for scholars to use previous works from both nursing and other professions to "illuminate the data in a more meaningful way" (Scholarship of Integration, para. 1). The District Advisory Committee for MWCC includes professionals from many different professions. The AACN provides policy analysis as a means to document the quality of the scholarship of integration.

This project is significant to the profession of nursing education and demonstrates nursing scholarship. The results, limitations, and implications for future research can be used to inform stakeholders of similar programs that are struggling with increased attrition rates. There is a dearth of formal research concerning the efficacy of academic progression requirements (Kennedy, McIssac, & Bailey, 2007) despite the use of academic progression requirements to determine the advancement of students in nursing programs. Leaders of programs with similar academic progression requirements can replicate this project to evaluate their requirements. Additionally, I will replicate this project following the implementation of the chosen policy recommendation to provide similar, additional information regarding the correlation between academic progression requirements and first-semester ADN attrition.

Furthermore, according to Tinto (1993), integration is defined as the "students' experience within the college" (p. 71). Thus, academic integration can be described as the

students' academic experience within the college and was the key theoretical basis for this study. The research and analysis of the students' academic integration to the nursing program provide information that can be used to solidify academic integration.

My interest in researching the efficacy of academic progression requirements began when I identified that the first-semester ADN course attrition rates did not appear to be improving despite the implementation of those requirements. My focus was on evaluating how this policy informs educational practice to reduce first-semester ADN attrition rates. I have developed into a practitioner who can conduct and analyze research, communicate research results succinctly, and propose alternatives to the status quo appropriately. I have found the confidence to teach evidence-based practice to nursing students.

Project Development and Evaluation

The white paper policy recommendation I developed includes several alternatives from which stakeholders may choose. These recommendations aim to reduce attrition rates in first semester ADN courses, thereby improving graduation rates, which may, in turn, reduce the nursing shortage. I recommended increasing the required course percentage for progression to 85%. Also, I recommended the replacement of the benchmark score on the standardized exit examination as an academic progression requirement with a weighted benchmark score on a standardized entrance examination. I recommended a weighted program admission score using evidence-based measures of student success including GPA, revised standardized examination benchmark scores, revised course percentages, and scored selection interviews designed to assess students'

critical thinking, problem-solving, and decision-making abilities. MWCC is a faculty-driven program. All faculty are members of the Nursing Faculty Association (NFA). The Nursing Faculty Association votes on all changes to the program, including academic progression requirements and holds final decision-making capacity. However, I will present the proposed changes and evidence to support those changes to all stakeholders. Those counted among stakeholders include institutional stakeholders, including the president of MWCC, the provosts for each campus, the dean of health and public services, and the director of the nursing program as well as the MWCC District Advisory Committee. Upon receiving all background and statistical information, I will compile and take the opinions from the nonvoting stakeholders to the NFA for review and consideration. The NFA then has the ultimate decision-making capacity for implementing recommended changes.

Leadership and Change

Gazza and Sterrett (2011) explained that the changes needed to transform nursing education require strong academic leaders and posit that nursing faculty must be willing to choose and embrace the leadership role through the dissemination of research. I embraced the leadership role by conducting this research, disseminating the results, and communicating my recommendations. The National League for Nursing (2016) defined critical competencies to promote excellence for the nurse educator. One of those core competencies requires functioning as a change agent and a leader. “Nurse educators function as change agents and leaders to create a preferred future for nursing education and nursing practice” (NLN, 2016). As I communicate the research and project to

stakeholders, I will be the change agent for the MWCC nursing program. Benner, Sutphen, Leonard, and Day (2010) explained that it is necessary for the nurse educator to "support students in becoming agents of change" (p. 222). In modeling the change agent role through research, project development, and communication to stakeholders, I am providing that support and growing in my leadership skills. Northouse (2012) posits that leadership is multifaceted and that successful leadership aims to promote positive outcomes. A global leadership study identified leadership qualities that are now accepted as "universal leadership attributes" (Northouse, 2012, p. 7). Included in this list of 22 positive and eight negative attributes are several leadership attributes, which I feel are areas of significant growth through the doctoral project study process. Specifically, I made progress in the areas of attributes of trustworthy, builds confidence, administratively skilled, and informed. I demonstrated trustworthiness through the ethical protection of my subjects and the confirmation of permission to conduct research. I built confidence as each aspect of the project fell into place. Revisions to more attentively meet the criteria set out for completion fostered an increased understanding of my project and the process. I demonstrated administrative skill by gathering and organizing a large number of student records from various sources. I was able to complete every potential record required for my sample. Finally, I am well-informed on the topic of student attrition and the implications of academic progression requirement policy at MWCC by saturating myself in the related literature. Summerfield (2014) explored numerous leadership definitions with a desire to "capture the essence" of leadership (p. 251). Ultimately, Summerfield developed a three-word definition of leadership. The three-word

definition of leadership proposed by Summerfield is: “Make things better” (p. 252). The overarching objective of this research and project was to reduce first-semester attrition rates at MWCC. In presenting my research, supporting my discussion with evidence both from the professional literature and the statistical analysis of current academic progression requirements, and making recommendations for change, I hope to illustrate Summerfield’s definition of leadership by making things better for all stakeholders. Revisions to academic progression requirements can influence social change by promoting student success, reducing attrition rates, and improving graduation rates, improving NCLEX-RN success rates, and thus providing nurses for reducing the impact of the nursing shortage by providing graduates to build the nursing workforce.

Analysis of Self as a Scholar

Stevens-Long, Schapiro, and McClintock (2012) explored the perceptions of doctoral students as applied to transformative learning and defined transformation as “a deep and lasting change” (p. 184). Likewise, Stevens-Long et al. (2012) defined transformative learning as being used to describe the behavioral process of the involved student. Stevens-Long et al., concluded that in addition to intellectual development, outcomes for doctoral students include advanced cognitive development, enhanced emotional capacity, and more reflective professional practice. As I complete my project and reflect on my progress as a scholar, transformational learning emerges. In advancing cognitive development, my appreciation for the need for research to provide evidence to stakeholders has grown past the project and into my professional educational practice. As I teach concepts of research to baccalaureate level nursing students, I use my project and

my experiences with the project as examples of research in practice. I am more passionate about education and the evidence behind decisions which may impact student potential. Finally, I am more reflective of my practice. I read the student evaluations of my course, reflect on the objectives and instructional design of the course, and make changes accordingly. Hogan (2016) posits that transformational learning is a process that "results in significant and irreversible changes in the way a person experiences, conceptualizes, and interacts with the world" (p.71). I feel changed. My perspective of teaching has changed throughout this process. I look for evidence to support ideas for instructional design rather than just trying to teach the way my professors taught me. I conceptualize the student perception of the learning experience when designing course activities to provide opportunities for improvement. I teach to the students rather than to the syllabus.

Analysis of Self as a Practitioner

> The concept of scholar-practitioner is at the core of the Walden experience. Through our dynamic learning model, we encourage students to become not just consumers of knowledge but also agents of change who contribute to the advancement of individuals, communities, organizations, and society (Walden, 2016b).

As my project evolved, I found myself more willing to engage in scholarly conversations about potential changes to my program. I want to be involved in changes that improve the success of our students, and this is not just about attrition rates. Community college nursing education has to potential to be life-changing for successful

students. I have seen students gain in confidence as increasingly difficult skills were mastered and subsequently take that confidence into their personal lives and leave abusive situations, change self-destructive behaviors, and overcome homelessness. As a doctorally prepared nurse educator who is a scholar-practitioner, I can learn from my experiences with students of varying circumstances and apply that new knowledge to fostering the success of new students.

> Scholar-practitioners bridge the gap between academia and the real world, blending scholarly research with practical application to solve complex problems in their profession. As a Walden student, you will go beyond theory to challenge assumptions, pose new questions, and create innovative solutions and strategies that can be used immediately to inform and elevate practice in your field (Walden, 2016b).

The project that I chose was complex. Attrition has many causes, and many solutions have been attempted to reduce attrition rates. In this situation, for this program, I challenged the assumption that academic progression requirements were effectively vetting students and promoting reduced attrition in first-semester ADN students. Having completed my scholarly research, I can now convert my new knowledge into practice as I make recommendations for revision of academic progression requirements. Schein defined scholar-practitioner as "someone who is dedicated to generating new knowledge that is useful to practitioners" (as cited in Wasserman & Kram, 2009). My study generates knowledge to stakeholders, who hold the decision-making capacity to bring a higher caliber student to the first term of the ADN program.

Analysis of Self as a Project Developer

As a project developer, I was able to design a project that provides evidence to stakeholders regarding a proposed change to academic progression requirements at MWCC. I used inductive reasoning to plan my doctoral project study as I asked the initial research question, developed the appropriate hypotheses, saturated myself in literature, collected and analyzed data, and planned the resulting white paper policy recommendation. As I reflect on the doctoral project study process, I appreciate how developing skills as a project developer through the project study process enhanced my practitioner skills. Walden University (2016b) defines the scholar-practitioner as one who blends academic research with application to real-world problems within their chosen profession. Increasing attrition rates in the first semester of the ADN program at MWCC are a real problem. In my quest to excavate the predictability of academic progression requirements, I have gained an in-depth knowledge of student attrition as it relates to the MWCC program. Additionally, as I immersed myself in the literature surrounding student attrition, I became more dedicated to the identification of students at high risk for attrition. My research has driven dialogue and interaction with my peers in nursing education.

Reflection on Importance of the Work

The ultimate contribution to social change made by successful nursing students is the potential for engagement in the professional nursing workforce. Walden University (2016a) defines social change "as a deliberating process of creating and applying ideas, strategies, and actions to promote the worth, dignity, and development of individuals,

communities, organizations, institutions, cultures, and societies" (p. 5). The nursing shortage is a relevant social issue as health care evolves. High-quality nursing education produces clinically competent graduates, critical thinkers.

Additionally, this project examined the nursing student who is progressing from the first year of the program to the second year. The objective of initiating academic progression requirements was to ensure that the student is fully prepared for the rigors of the second year. Researching the efficacy of current academic progression requirements and developing a project to communicate a potential solution to stakeholders allows me to promote social change by improving the potential for the MWCC nursing program to contribute to the alleviation of the local, national, and global nursing shortage.

Implications, Applications, and Directions for Future Research

Faculty designed academic progression requirements at MWCC with the desired outcome of reducing student attrition rates in first-semester ADN courses. This study refuted current MWCC academic progression requirements' predictability of student success in first-semester ADN courses. This refutation implicates a need to revise academic progression requirements to reduce student attrition rates.

The findings of this study also suggest a significant correlation to course percentages at a higher level. I can apply this finding to the white paper policy recommendation as a potential alternative to the currently required course percentages. The lack of a significant correlation between the standardized exit examination and student success in first-semester ADN courses is concerning. When accompanied by the recommendation from accrediting organizations that programs do not use standardized

testing outside the intended purpose, the standardized examination currently in use does not support the inclusion of academically prepared students.

The limitations of the study drive recommendations for future research. Additional research is needed to determine if a specific standardized examination for LPN to ADN progression exists so that the test is used according to accrediting organization recommendations…for the intended purpose (IBON, 2015; NLN, 2012). Academic integration is just one construct of Tinto's (1993) theory of student departure. Programs must conduct additional research to excavate other causes of student attrition.

Conclusion

The doctoral project study journey began with a simple question: Will academic progression requirements in LPN program predict attrition in first-semester ADN courses for students enrolled at MWCC? An exhaustive review of the literature guided me through the nursing shortage, factors that contribute to student attrition, and the need for policy analysis and recommendations for policy revision. While many nursing programs use academic measures to control student progression, there are no universal standards. Accrediting organizations provide guidelines, which suggest the careful inclusion of progression requirements to avoid ethical and legal dilemmas.

This research supports the revision of academic progression requirement policies at MWCC. The current course percentage requirement does not correlate to success in first-semester ADN courses. Second-semester LPN course percentages at a higher level are statistically significant in correlation to success in first-semester ADN courses. The

inclusion of standardized testing at high-stakes is contrary to the research findings as well as recommendations from accrediting organizations.

Sharing the results of this study with stakeholders will impact their understanding of the problem and provide recommendations for improvement. Maximizing the number of students who are predicted to be successful in first-semester ADN courses will reduce student attrition rates. Reducing attrition rates in first-semester ADN students promotes social change through the production of a successful student who becomes a successful nurse.

This doctoral journey does not end with the completion of the study. The proposed project is the initial spark to stimulate change within the MWCC nursing program. The life-long learning required of the scholar-practitioner and the need for evaluation in the teaching-learning process allowed me to apply research to practice in a real-world scenario. The project will provide the opportunity to reduce student attrition in first-semester ADN courses, which will bring these students closer to graduation, into practice to reduce the nursing shortage.

References

Abele, C., Penphrase, B., & Ternes, R. (2013). A closer look at academic probation and attrition: What courses are predictive of nursing student success? *Nurse Education Today, 33*, 258-261. doi:10.1016/j.nedt.2011.11.017

Accreditation Commission for Education in Nursing. (2013a). *ACEN accreditation manual: 2013 standards and criteria: Associate*. Retrieved from http://www.acenursing.net/manuals/SC2013_ASSOCIATE.pdf

Accreditation Commission for Education in Nursing. (2013b). History of nursing accreditation. Retrieved from http://www.acenursing.org/acen-history-of-accreditation/

Accreditation Commission for Education in Nursing. (2013c). Philosophy of accreditation. Retrieved from http://www.acenursing.org/philosophy-of-accreditation/

Al-Jarallah, K., Moussa, M., Hakeem, S., & Al-Khanfar, F. (2009). The nursing workforce in Kuwait to the year 2020. *International Nursing Review, 56*(1), 65-72. doi:10.1111/j.1466-7657.2008.00654.x

American Association of Colleges of Nursing. (2015, February). *Talking points: HRSA report on nursing workforce projections through 2025*. Retrieved from http://www.aacn.nche.edu/media-relations/HRSA-Nursing-Workforce-Projections.pdf

American Association of Colleges of Nursing. (2015, August). *The doctor of nursing practice: Current issues and clarifying recommendations*. Retrieved from http://www.aacn.nche.edu/news/articles/2015/dnp-white-paper

American Association of Colleges of Nursing. (2017, April). Nursing faculty shortage fact sheet. Retrieved from http://www.aacn.nche.edu/media-relations/FacultyShortageFS.pdf

American Association of Colleges of Nursing. (2018). Defining scholarship for the discipline of nursing. Retrieved from https://www.aacnnursing.org/Portals/42/News/Position-Statements/Defining-Scholarship.pdf?ver=2018-03-28-115314-237

American Association of Colleges of Nursing. (2019). Fact sheet: Nursing shortage. Retrieved from https://www.aacnnursing.org/Portals/42/News/Factsheets/Nursing-Shortage-Factsheet.pdf

American Institutes for Research. (2011, October). *The hidden costs of community colleges*. Retrieved from http://www.air.org/sites/default/files/downloads/report/AIR_Hidden_Costs_of_Community_Colleges_Oct2011_0.pdf

American Institutes for Research. (2012, September). *The institutional costs of student attrition*. Retrieved from http://www.deltacostproject.org/sites/default/files/products/Delta-Cost-Attrition-Research-Paper.pdf

American Nurses Association. (2017). How to become a nurse. Retrieved from http://www.nursingworld.org/EspeciallyForYou/What-is-Nursing/Tools-You-Need/RegisteredNurseLicensing.html

Anderson, J. E. (2015). *Public policymaking* (8th ed.). Farmington Hills, MI: Cengage Learning.

Assessment Technologies Institute. (2011). Is the TEAS V predictive of early nursing school success? Retrieved from http://atitesting.com/Libraries/pdf/Is_the_TEAS_V_predictive_of_early_nursing_school_success_12-20-11.sflb.ashx?_ga=2.93423960.472743372.1498443211-1357982378.1498443211

Assessment Technologies Institute. (2016). Research Case Study: TEAS V Scores Significantly Predict Students' Academic Completion in Allied Health Programs. Retrieved from http://atitesting.com/Libraries/pdf/TEAS_Findings.sflb.ashx?_ga=2.68456404.472743372.1498443211-1357982378.1498443211

Astin, A. (1975). *Preventing students from dropping out.* San Francisco, CA: Josey-Bass.

Association of American Medical Colleges. (2017). About holistic admissions. Retrieved from https://www.aamc.org/initiatives/holisticreview/about/

Avalere Health LLC. (2015, September). *Optimal nurse staffing to improve quality of care and patient outcomes*. Retrieved from http://www.nursingworld.org/Avalere-WhitePaper-on-NurseStaffing

Bardach, E., & Patashnik, E. (2016). *A practical guide for policy analysis: The eightfold path to more effective problem solving* (5th ed.). Thousand Oaks, CA: SAGE Publications Ltd.

Baxter, S., Clowes, M., Muir, D., Baird, W., Broadway-Parkinson, A., & Bennett, C. (2016). Supporting public involvement in interview and other panels: A systematic review. *Health Expectations,* 1-11. doi:10.1111/hex12491

Benner, P., Sutphen, M., Leonard, V., & Day, L. (2010). *Educating nurses: A call for radical transformation.* Stanford, CA: The Carnegie Foundation for the Advancement of Teaching.

Bitzer, E. (2009). Academic and social integration in three first-year groups: A holistic perspective. *South African Journal of Higher Education, 23*(2), 225-245. Retrieved from http://hdl.handle.net/10520/EJC37533

Black, S., Curzio, J., & Terry, L. (2014). Failing a student nurse: A new horizon of moral courage. *Nursing Ethics*, 21(2), 224-238. doi:10.1177/0969733013495224

Blume, G., Scott, T., & Pirog, M. (2014). Empirical innovations in policy analysis. *Policy Studies Journal, 42*(S1), S33-S50. doi: 10.1111/psj.12050

Bowden, J. (2008). Why do nursing students who consider leaving stay on their courses? *Nurse Researcher, 15*(3), 45-58. doi:10.7748/nr2008.04.15.3.45.c6456

Buchan, J. (2007). *Nurse workforce planning in the UK: A report for the Royal College of Nursing.* London: Royal College of Nursing. Retrieved from http://www.weds.wales.nhs.uk/sitesplus/documents/1076/nurse%20workforce%20planning%20in%20uk.pdf

Centers for Disease Control. (2014). Types of evaluation. *Practical Use of Program Evaluation among STD Programs Manual.* Retrieved from https://www.cdc.gov/std/Program/pupestd/Types%20of%20Evaluation.pdf

Chen, S., & Voyles, D. (2013). HESI admission assessment scores: Predicting student success. *Journal of Professional Nursing, 29*(2S), S32-S37. doi: 10.1016/j.profnurs.2012.06.08

Council for Higher Education Accreditation. (2019). About accreditation. Retrieved from https://www.chea.org/about-accreditation

Cunningham, C., Manier, A., Anderson, A., & Sarnosky, K. (2014). Rational versus empirical prediction of nursing student success. *Journal of Professional Nursing, 30*(6), 486-492. doi:10.1016/j.profnurs.2014.03.006

Dante, A., Ferrao, S., Lancia, L., Nascimento, C., Notara, V., Pokorna, A.,...Palese, A. (2016). Nursing student profiles and occurrence of early academic failure: Findings from an explorative European study. *Nurse Education Today, 38*, 74-81. doi:10.1016/j.nedt.2015.12.013

Deil-Amen, R. (2011). Socio-academic integrative moments: Rethinking academic and social integration among two-year college students in career-related programs. *The Journal of Higher Education, 82*(1), 54-91. doi:10.1353/jhe.2011.0006.

European Commission (EU). (2012). *EU level collaboration on forecasting health workforce needs, workforce planning and health workforce trends - A feasibility study.* Retrieved from

https://ec.europa.eu/health//sites/health/files/workforce/docs/health_workforce_study_2012_report_en.pdf

Finch, M., Wilson, D., Symonds, K., & Floyd-Tune, K. (2014). Being interviewed for admission to a BSN program: A qualitative inquiry. *Advances in Nursing,* 1-5. doi:10.1155/2014/310143

Gabbard, A., & Mupinga, D. (2013). Balancing open access with academic standards: Implications for community college faculty. *Community College Journal of Research and Practice, 37*, 374-381. doi:10.1080/10668921003609160

Gale, J., Ooms, A., Grant, R., Paget, K., & Marks-Maran, D. (2016). Student nurse selection and predictability of academic success: The Multiple-Mini Interview project. *Nursing Education Today, 40*, 123-127. doi:10.1016/j.nedt.2016.01.031

Gazza, E., & Sterrett, S. (2011). The leadership journey: From belief to reality. *Teaching and Learning in Nursing,* (6), 59-63. doi:10.1016/j.teln.2010.10.002.

Gill, R. (2016). Scarcity of nurses in India: A myth or reality. *Journal of Health Management, 18*(4), 509-522. doi:10.1177/0972063416665932

Glazer, G., Clark, A., Bankston, K., Danek, J., Fair, M., & Michaels, J. (2016). Holistic admissions in nursing: We can do this. *Journal of Professional Nursing*, 32(4), 306-313. doi:10.1016/j.profnurs.2016.01.001

Gravetter, F. & Wallnau, L. (2013). *Statistics for the behavioral sciences.* (9th ed). Boston MA: Cengage Learning.

Grove, S., Burns, N., & Gray, J. (2013). *The practice of nursing research: Appraisal, synthesis and generation of evidence.* (7th ed.). Maryland Heights, MO: Elsevier.

Guetig, M. (2011). Harness the power of PowerPoint. *PM Network, 25*(9), 50–54. Retrieved from https://www.pmi.org/learning/library/powerpoint-presentations-visual-improvement-tips-2921

Habley, W., Vaiiga, M., McClanahan, R., & Burkum, K. (2010). *What works in student retention: Fourth national survey: Community Colleges Report.* Retrieved from http://www.act.org/content/dam/act/unsecured/documents/Retention-AllInstitutions.pdf

Halstead, J. (2017). The value of nursing program accreditation. *Teaching and Learning in Nursing, 12*, 181-182. doi:10.1016/j.teln.2017.03.005

Harris, R., Rosenberg, L., & Grace O'Rourke, M. (2014). Addressing the challenges of nursing student attrition. *Journal of Nursing Education, 53*(1), 31-37. doi:10.3928/01484834-20131218-03

Hazarika, I. (2013). Health workforce in India: Assessment of availability, production and distribution. *WHO South-East Asia Journal of Public Health, April-June*, 106-112. Retrieved from https://pdfs.semanticscholar.org/c8ff/a44291ff5a11b9c9b1d7e7bb8603840a1daa.pdf

Herrera, C. (2013). Quantitative analysis of variables affecting nursing program completion at Arizona State University. *Research in Higher Education Journal, 21*, 1-18. Retrieved from http://files.eric.ed.gov/fulltext/EJ1064679.pdf

HESI Exam Guide. (2017). HESI A2 Entrance Exam. Retrieved from http://www.hesi-exam.com/hesi-a2-entrance-exam/

Hinderer, K., Dibartolo, M., & Walsh, C. (2014). HESI admission assessment (A2) examination scores, program progression, and NCLEX-RN success in baccalaureate nursing: An exploratory study of dependable academic indicators of success. *Journal of Professional Nursing, 30*(5), 436-442. doi:10.1016.j.profnurs.2014.01.007

Hogan, C. (2016). Transformative learning theory: Definition, criteria, and typology. *Adult Education Quarterly, 66*(1), 57-75. doi: 10.1177/0741713615611216

Hughes, K. (2013). *The college completion agenda 2012 progress report: The College Board*. Retrieved from http://media.collegeboard.com/digitalServices/pdf/advocacy/policycenter/college-completion-agenda-2012-progress-report.pdf

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

Jervis, A. & Tilki, M. (2011). Why are nurse mentors failing to fail student nurses who do not meet clinical performance standards? *British Journal of Nursing. 20*, (9). 582-587. doi:10.12968/bjon.2011.20.9.582

Johnson, B., & Christensen, L. (2017). *Educational research: Quantitative, qualitative, and mixed approaches* (6th ed.). Thousand Oaks, CA: SAGE Publications, Inc.

Johnson, C., Johnson, R., McKee, J., & Kim, M. (2009). Using the personal background preparation survey to identify health science professions students as risk for

adverse academic events. *Advances in Health Science Education, 14*, 739-752. doi:10.1007/s10459-009-9156-4

Juraschek, S., Zhang, X., Ranganathan, V., & Lin, V. (2012). United States Registered Nurse workforce report card and shortage forecast. *American Journal of Medical Quality, 27*(3), 241-249. doi:10.1177/1062860611416634

Juszkiewicz, J. (2015). *Trends in community college enrollment and completion data, 2015*. Washington, DC: American Association of Community Colleges. Retrieved from http://www.aacc.nche.edu/Publications/Reports/Documents/CCEnrollment_2015.pdf

Karp, M., Hughes, K., & O'Gara, L. (2008, May). An exploration of Tinto's integration framework for community college students. Retrieved from http://ccrc.tc.columbia.edu/media/k2/attachments/exploration-tintos-integration-framework.pdf

Kennedy, E., McIssac, C., & Bailey, J. (2007). *Measuring success: Moving towards a common measurement for nursing student attrition.* Ottawa, ON: Canadian Nurses Association. Retrieved from https://www.cna-aiic.ca/

Klein-Collins, R. (2011). *Strategies to produce new nurses for a changing profession: A policy brief on innovation in nursing education.* Council for Adult and Experiential Learning. Retrieved from http://files.eric.ed.gov/fulltext/ED524557.pdf

Knauss, P., & Willson, P. (2013). Predicting early academic success: HESI admissions assessment exam. *Journal of Professional Nursing, 29*(2S), S28-S31. doi:10.1016/j.profnurs.2012.07.001

Knowles, M. (2016). Why and how to write white papers. Retrieved from http://www.avangate.com/avangate-resources/article/white-papers-software.htm

Kukkonen, P., Suhonen, R., & Salminen, L. (2016). Discontinued students in nursing education- Who and why? *Nurse Education in Practice*, 17, 67-73. doi:10.1016/j.nepr.2015.12.007

Marthers, P., Herrup, P., & Steele, J. (2015). Consider the costs of student attrition. *Enrollment Management Report: Practical Guidance in Recruitment, Admissions, Retention, & Financial Aid*, 19(6), 3-5. doi:10.1002/emt

McBride, D. (2018). Evaluation. In B.E. Fey (Ed), *The SAGE encyclopedia of educational research, measurement, and evaluation.* Thousand Oaks, CA: SAGE Publishing Co.

McNelis, A., Wellman, J., Splan Krothe, J., Hrisomalos, D., McElveen, J., & South, R. (2010). Revision and evaluation of the Indiana University school of nursing baccalaureate admission process. *Journal of Professional Nursing, 26*(3), 188-195. doi:10.1016/j.profnurs.2010.01.003

Mee, C., & Hallenbeck, V. (2012). Selecting standardized tests in nursing education. *Journal of Professional Nursing, 31*(6), 493-497. doi:10.1016/j.profnurs.2012.06.006

Muhammad. (2015). Nursing shortage in Pakistan: A growing challenge for the healthcare system of the country. *I-managers Journal on Nursing, 5*(3), 22-26. Retrieved from http://www.imanagerpublications.com/JournalIntroduction.aspx?journal=JournalonNursing

Mutter, P. (1992). Tinto's theory of student departure and community college persistence. *Journal of College Student Development, 33*, 310-317.

National Council of State Boards of Nursing (2012). 2011 NCLEX Pass rates. Retrieved from https://www.ncsbn.org/Table_of_Pass_Rates_2011.pdf

National Council of State Boards of Nursing (2013). 2012 NCLEX Pass rates. Retrieved from https://www.ncsbn.org/Table_of_Pass_Rates_2012.pdf

National Council of State Boards of Nursing. (2015). National nursing workforce study. Retrieved from https://www.ncsbn.org/workforce.htm

National Council of State Boards of Nursing. (2016). 2017 NCLEX Examination Candidate Bulletin. Retrieved from https://www.ncsbn.org/089900_2017_Bulletin_Proof2.pdf#page=15&zoom=auto,-73,499

National League for Nursing. (2012). *The fair testing imperative in nursing education: A living document from the National League for Nursing.* Retrieved from http://www.nln.org/docs/default-source/about/nln-vision-series-%28position-statements%29/nlnvision_4.pdf?sfvrsn=4

National League for Nursing. (2015a). *NLN faculty census survey of schools of nursing academic year 2014-2015.* Retrieved from http://www.nln.org/newsroom/nursing-education-statistics/annual-survey-of-schools-of-nursing-academic-year-2015-2016

National League for Nursing. (2015b). *Number of basic RN programs, Total and by program type: 2005-2014.* Retrieved from http://www.nln.org/docs/default-source/newsroom/nursing-education-statistics/number-of-basic-rn-programs-total-and-by-program-type-2005-to-2014.pdf?sfvrsn=0

National League for Nursing. (2016). *Nurse Educator Core Competency*. Retrieved from http://www.nln.org/professional-development-programs/competencies-for-nursing-education/nurse-educator-core-competency

National League for Nursing. (2017). *Biennial survey of schools of nursing, academic year 2015-2016.* Retrieved from http://www.nln.org/newsroom/nursing-education-statistics/biennial-survey-of-schools-of-nursing-academic-year-2015-2016

National League for Nursing: Commission for Nursing Accreditation. (2016). Accreditation standards for nursing education. Retrieved from http://www.nln.org/accreditation-services/proposed-standards-for-accreditation

Nickitas, D. M. (2011). Policy as a tool to influence nursing professionalism and nursing supply. In D. M. Nickitas, Dl J. Middaugh, & N. Aries (Eds.). *Policy and politics for nurses and other health professionals*, 75-102.

Norrie, P., Day, J., Ford, K., Knifton, C., Welczko, N., Harrison, P.,...Tremayne, P. (2012). The right student: An exploration of the qualities desired in the next generation of nursing students, leading to improved selection processes within nursing and midwifery. Retrieved from https://files.eric.ed.gov/fulltext/ED544483.pdf

Northouse, P. (2012). *Introduction to leadership: Concepts and practice* (2nd ed.). Thousand Oaks, CA: SAGE Publications, Inc.

O'Conner, M., & Netting, F. (2008). Teaching policy analysis as research: Consideration and extension of options. *Journal of Social Work Education, 44*(3), 159-172. Retrieved from https://www.cswe.org/Publications-and-multimedia/Journal-of-Social-Work-Education

O'Donnell, H. (2011). Expectations and voluntary attrition in nursing students. *Nursing Education in Practice, 11*(1), 54-63. doi: 10.1016/j.nepr.2010.08.002

Oermann, M. (2014). Defining and assessing the scholarship of teaching in nursing. *Journal of Professional Nursing, 30*(5), 370-375. doi:10.1016/j.profnurs.2014.03.001

O'Grady, E., Mason, D., Hopkins, F., & Gardner, D. (2016). *Policy & Politics in Nursing and Health Care* (7th ed.). St. Louis, MO: Elsevier.

Okrent, D. (2012). *Health care workforce: Nurses: An alliance for health reform toolkit produced with support for the Robert Wood Johnson Foundation.* Alliance for Health Reform. Retrieved from http://www.allhealthpolicy.org/wp-content/uploads/2017/01/Nursing_Toolkit_FINAL_8-27-12_111.pdf

Park, C., Perry, B., & Edwards, M. (2011). Minimizing attrition: Strategies for students who are at risk of withdrawal. *Innovations in Higher Education and Teaching International, 48*(1), 37-47. doi:10.1080/14703297.2010.543769

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

Peyrovi, H., Parvizy, S., & Haghani, H. (2009). Supportive counselling programme for nursing students experiencing academic failure: Randomized controlled trial. *Journal of Advanced Nursing,*1899-1906. doi:10.1111/j.1365-2648.2009.05037.x

Pitt, V., Powis, D., Levett-Jones, T., & Hunter, S. (2014). The influence of personal qualities on performance and progressions in a pre-registrations nursing programme. *Nursing Education Today*, 34, 866-871. doi:10.1016/j.nedt.2013.10.011

Poirier, T., Kerr, T., & Phelps, S. (2013). Academic progression and retention policies of colleges and schools of pharmacy. *American Journal of Pharmaceutical Education, 77*(2), 1-5. doi:10.5688/ajpe77225

Pryjmachuk, S., Easton, K., & Littlewood, A. (2009). Nurse education: Factors associated with attrition. *Journal of Advanced Nursing, 65*(1), 149-160. doi:10.1111/j.1365-2648.2008.04852.x

Rajani Meghani, S., & Sajwani, S. (2013). Nursing: A profession in need in Pakistan. *I-managers Journal on Nursing, 3*(3), 1-3.

Ritter, J. (2016). Policy Analysis. In *Policy Analysis*. Retrieved August 17, 2017, from http://salempress.com/

Roberts, P., Wild, K., Washington, K., Mountford, C., & Capewell, J. (2010). Inclusion of lay people in the pre-registration selection process. *Nursing Standard, 24*(48), 42-47. doi:10.7748/ns2010.08.24.48.42.c7930

Robertson, S., Canary, C., Orr, M., Herberg, P., & Rutledge, D. (2010). Factors related to progression and graduation rates for RN-bachelor of science in nursing programs: Searching for realistic benchmarks. *Journal of Professional Nursing, 49*(6), 359-361. doi:10.1016/j.profnurs.2009.09.003

Rogers, T. (2010). Prescription for success in an associate degree nursing program. *Journal of Nursing Education*, 49(2), 96-100. doi:10.392//01484834-20091022-03

Rouse, S., & Rooda, L. (2010). Factors for attrition in an accelerated baccalaureate nursing program. *Journal of Nursing Education, 49*(6), 359-361. doi:0.3928/01484834-20100217-05

Royal College of Nursing, Wales. (2016). *Royal College of Nursing, Wales: Education strategy 2016: the future of nursing education in Wales*. Retrieved from https://www.nursingtimes.net/download?ac=3007077

Saikia, D. (2016). Situational analysis of the nursing workforce in rural health centers in India. *Nursing and Midwifery Research Journal, 12*(4), 169-179.

Sakamuro, S., Stolley, K. & Hyde, C. (2010). White Paper: Purpose and Audience. Retrieved 06/29/2014 from https://owl.english.purdue.edu/owl/resource/546/1/

Shelton, E. (2012). A model of nursing student retention. *International Journal of Nursing Scholarship, 9*(1), 1-16. doi:10.1515/1548-923X2334

Spillane, J. (2012). Data in practice: Conceptualizing the data-based decision making phenomena. *American Journal of Education, 118*(February), 113-141. doi:10.1086/663283

Stevens-Long, J., Schapiro, S., & McClintock, C. (2012). Passionate scholars: Transformative learning in doctoral education. *Adult Education Quarterly, 62*(2), 180-198. doi:10.1177/0741713611402046

Summerfield, M. (2014). Leadership: A simple definition. *American Journal of Health-System Pharmacists, 71,* 251-253. doi:10.2146/ajhp130435

Taylor, H., & Reyes, H. (2012). Self-efficacy and resilience in baccalaureate nursing students. *International Journal of Nursing Scholarship, 9*(1), 1-13. doi:10.1515/1548-923X.2218

Timer, J., & Clauson, M. (2011). The use of selective admission tools to predict students' success in an advanced standing baccalaureate nursing program. *Nurse Education Today, 31*, 601-606. doi:10.1016/j.nedt.2010.10.015

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago, IL: The University of Chicago Press.

U.S. Department of Health and Human Services, Health Resources and Services Administration. (2014, December). The future of the nursing workforce: National- and state level projections 2012-2025. Retrieved from

https://bhw.hrsa.gov/sites/default/files/bhw/nchwa/projections/nursingprojections.pdf

U.S. Department of Labor. (2018a, April). Bureau of Labor Statistics: *Occupational outlook handbook: Licensed practical and licensed vocational nurses.* Retrieved from https://www.bls.gov/ooh/healthcare/licensed-practical-and-licensed-vocational-nurses.htm

U.S. Department of Labor. (2018b, April). Bureau of Labor Statistics: *Occupational outlook handbook. Healthcare occupations.* Retrieved from https://www.bls.gov/ooh/healthcare/home.htm

U.S. Department of Labor. (2018c, April). Bureau of Labor Statistics: *Occupational outlook handbook. Registered nurses: Job outlook.* Retrieved from https://www.bls.gov/ooh/healthcare/registered-nurses.htm#tab-6

Urwin, S., Stanley, R., Jones, M., Gallagher, A., Wainwright, P., & Perkins, A. (2010). Understanding student nurse attrition: Learning from the literature. *Nurse Education Today*, 202-207. doi:10.1016/j.nedt.2009.07.014

Uyehara, J., Magnussen, L., Itano, J., & Zhang, S. (2010). Understanding student nurse attrition: Learning from the literature. *Nurse Education Today*, 202-207. doi:10.1016/j.nedt.2009.07.014

Walden University. (2016a). EdD Program Candidate Handbook. Retrieved from http://ezp.waldenulibrary.org/limited/StudentFaculty_15819.htm

Walden University. (2016b). Scholar-Practitioners: What is a scholar-practitioner? Retrieved from https://www.waldenu.edu/about/who-we-are/scholar-practitioner

Wambaugh, O., Eckfield, M., & Von Hofwegen, L. (2016). Examining the importance of admissions criteria in predicting nursing program success. *International Journal of Nursing Scholarship, 13*(1), 87-96. doi:10.1515/ijnes-2015-0088

Wasserman, I., & Kram, K. (2009). Enacting the scholar practitioner role: An exploration of narratives. *Journal of Applied Behavioral Science, 45*(1), 12-38. doi:10.1177/0021886308327238

Weimer, D. (2009). Making education research more policy analytic. In G. Sykes, B. Schneider, & D. Plank (Eds.), *Handbook of Education Policy Research* (pp. 93-100). New York, NY: Routledge.

Wolniak, G., Mayhew, M., & Engberg, M. (2012). Learning's weak link to persistence. *Journal of Higher Education, 83*(6), 795-823. Retrieved from https://muse.jhu.edu/journal/90

The World Bank. (2017a). *Data bank: World development indicators: Nurses and midwives (per 1000 population): India.* Retrieved from http://databank.worldbank.org/data/reports.aspx?source=2&type=metadata&series=SH.MED.NUMW.P3

The World Bank. (2017b). *Data bank: World development indicators: Nurses and midwives (per 1000 population): Kuwait.* Retrieved from http://databank.worldbank.org/data/reports.aspx?source=2&type=metadata&series=SH.MED.NUMW.P3#

World Health Organization. (2017a). *Global health observatory data: Health workforce.* Retrieved from http://www.who.int/gho/health_workforce/en/

World Health Organization. (2017b). Health and social care systems. Retrieved from http://www.euro.who.int/en/health-topics/Life-stages/healthy-ageing/data-and-statistics/health-and-social-care-systems

Wray, J., Aspland, J., & Barrett, D. (2014). Choosing to stay: Looking at retention from a different perspective. *Studies in Higher Education, 39*(9), 1700-1714. doi:10.1080/03 075079.2013.806461

Wray, J., Aspland, J., Barrett, D., & Gardiner, E. (2017). Factors affecting the program completion of pre-registration nursing students through a three year course: A retrospective cohort study. *Nurse Education in Practice, 24*, 14-20. doi:10.1016/nepr.2017.03.002

Appendix A: Time Table for Project

Task	Time	Stakeholders

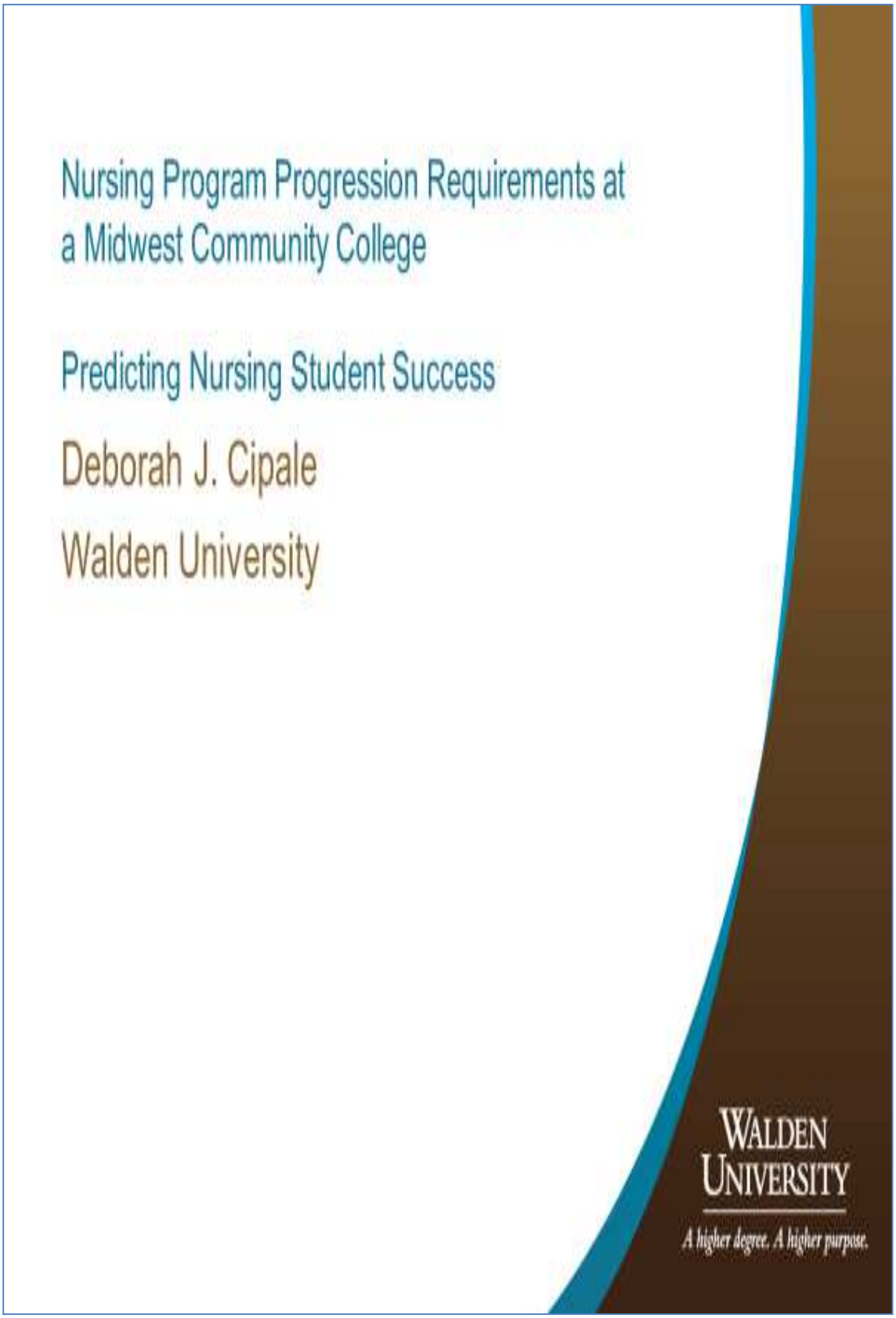
White paper delivery to MWCC District Advisory Committee	(2 weeks before meeting)	District Advisory Committee Members including:
		• Representatives from local health care institutions
		  o Acute care
		  o Long-Term Care
		  o Community Nursing
		• MWCC Administration
		  o MWCC President
		  o Campus Provosts
		  o Dean of Health and Public Services programs
		  o Director of Nursing program
		• Members of the Local Community
		• Program Chairs
		• Faculty
		• Students

White Paper presentation to MWCC District Advisory Committee		District Advisory Committee Members including:
		• Representatives from local health care institutions
		  o Acute care
		  o Long-Term Care
		  o Community Nursing
		• MWCC Administration
		  o MWCC President
		  o Campus Provosts
		  o Dean of Health and Public Services programs
		  o Director of Nursing program
		• Members of the Local Community
		• Program Chairs
		• Nursing Faculty by invitation
		• Nursing Students by invitation

White paper delivery to MWCC Nursing Faculty Association (NFA)	(2 weeks before meeting)	Nursing Faculty Nursing Students by invitation
White paper presentation to MWCC Nursing Faculty Association (NFA)		Nursing Faculty Nursing Students by invitation

Appendix B: White Paper

Appendix B consists of the actual white paper that will be sent to all stakeholders. The focus of this white paper policy recommendation is to describe the policy in place, communicate the current attrition rates experienced by students at MWCC, provide information regarding the correlation of current academic progression requirements to current first-semester attrition rates, as well as to propose policy changes designed to reduce the overall first-semester ADN attrition rate by improving the caliber of student performance expected to enter the ADN program. A secondary goal allows the identification of students at risk for academic attrition and early remediation to promote student success. The supporting literature will be included as an addendum to the white paper.


Nursing Program Progression Requirements at a Midwest Community College
Predicting Nursing Student Success
Deborah J. Cipale
Walden University
WALDEN UNIVERSITY
A higher degree. A higher purpose.

Overview/Agenda

Introduction

- Researcher's Professional Experiences
- History of Academic Progression Requirements at MWCC.
- Current Academic Progression Requirements at MWCC

The Problem

- The Global Problem
    - The Nursing Shortage
    - Attrition
- The Local Problem

The Evaluation of Current Academic Progression Requirements

- Purpose of the Research
- The Research Question
    - Hypotheses
- Review of the Literature
- Methodology
    - Sample
    - Data Collection and Analysis
- Results

The Policy Recommendation Conclusion

The Problem

Introduction

Researcher's Professional Experiences

Education.

I obtained my nursing diploma from Iowa Methodist School of Nursing in 1990. In 2003, I graduated with a bachelor's of science degree in nursing from Grandview University. In 2008, I completed the requirements and graduated from Nebraska Methodist College with a master's degree in nursing, with an emphasis on nursing education.

Professional.

I have been employed at MWCC since 2005. From 2005 until 2014, I was the Resource Lab Coordinator. I assisted all levels of students enrolled in the nursing program with academic and clinical challenges, managed the skills laboratory including budget, supply acquisition, and participated in curriculum development for lab related courses.

In 2014, the job description was rewritten to exclude any faculty-related contact with students. My responsibilities now include acquisition and maintenance of skills laboratory equipment and supplies and assistance with non-faculty related simulation activities.

I have been teaching for the MWCC Business and Information Management Program since 2003. I teach Medical Terminology I and II, and The Human Body in

Health and Disease to students enrolled in certification programs for Medical Office Assistant, and Medical Office Specialist.

I teach a variety of courses at the BSN level for Upper Iowa University. Evidence-Based Practice in Nursing and Professional Communication in Nursing are my most frequent courses.

I have been a nurse tutor for Smarthinking.com since 2014. In that role, I assist students in numerous nursing and allied health programs internationally via interactive technology. I provide synchronous and asynchronous assistance with concepts commonly included in health care curricula. I provide written feedback and guidance for improvement for written work for this service as well.

History of Academic Progression Requirements at MWCC

Prior to the implementation of formal academic progression requirements, students were required to achieve course percentages of 78% or better to progress to the Associate's Degree Nursing (ADN) program.

The Current Academic Progression Requirements

Administrators and faculty implemented current academic progression requirements in 2009 under the assumption that students with better academic performance in second-semester LPN courses and higher scores on the standardized exit examination would be more successful in first-semester ADN courses and thereby reduce attrition in that semester of the curriculum. Academic performance in the second semester of the LPN program at or above 80% and benchmark scores on a standardized exit examination determine whether a student progresses from the LPN to the ADN program. One of the

following academic benchmarks must be met for the student to progress from the second semester of the LPN program to the first semester of the ADN program.

- Course Percentages of 80% or better are required in all second-semester Licensed Practical Nursing (LPN) courses.
- A benchmark of 67% is required on the standardized LPN exit examination

The Global Problem

The Nursing Shortage

Currently numbering more than 2.9 million, licensed RNs comprise a significant percentage of the health care workforce in the United States (U.S. Department of Labor, 2018c), and it is estimated that their number will grow to more than 3.4 million by 2026 (U.S. Department of Labor, 2018c). Researchers anticipate that the projected need for RNs will rise by 15% by 2026 (American Nurses Association [ANA], 2017; U.S. Department of Labor, 2018c). This shortage is expected to intensify as currently practicing nurses leave the profession due to retirement (American Association of Colleges of Nursing [AACN], 2019) and the supply of new practitioners fails to meet demand. In 2014, the Health Resources and Services Administration (HRSA) in the U.S. Department of Health and Human Services identified "population growth and the aging of the nation's population, overall economic conditions, aging of the nursing workforce, and changes in health care reimbursement" (p. 4) as factors contributing to the nursing shortage in the United States. **Attrition**

Nursing program attrition contributes to the nursing shortage by providing fewer nurses than necessary to maintain the status quo and perpetuate the professional nursing workforce. The need for nurses has grown past the ability of nursing schools to provide enough new graduates (AACN, 2019, 2015; Hughes, 2013; NLN, 2017). While acknowledging the seriousness of the nursing shortage as influenced by the students enrolled, a potential solution to the nursing shortage problem is to graduate a greater percentage of students enrolled. Reducing nursing program attrition brings students to graduation and the licensure examination.

The Local Problem

The nursing program enrolls approximately 240 students in the LPN program per academic year. Administrative entities and faculty anticipate that 200 of those students will progress to the ADN program. Sixteen to 24 advanced standing students join that cohort along with students restarting into single courses that require repeating. The nursing student population is primarily female, Caucasian, and between the ages of 25 and 35. Despite the implementation of academic progression requirements for the LPN program to improve first-semester ADN course performance, attrition rates remain essentially unchanged at MWCC. Only 61% of enrolled students graduated from the program in 2011, and 67% graduated from the program in 2012 (Iowa Board of Nursing, 2011; See Table 2). During the 3 years before implementing current progression requirements in 2009, attrition rates for the ADN program ranged from 28 to 44%, according to internal documents. Nursing program attrition contributes to the nursing shortage by providing fewer nurses than necessary to maintain the status quo and

perpetuate the professional nursing workforce (AACN, 2019, 2015; Hughes, 2013; NLN, 2017). Despite the implementation of academic progression requirements, attrition rates remain essentially unchanged at MWCC

The Evaluation of Current Academic Progression Requirements

Purpose

The purpose of this quantitative, correlational project study was to examine if academic progression requirements in the LPN program have a significant relationship to success in first-semester ADN courses for students enrolled at MWCC.

Research methodology and question

A correlational study was necessary to excavate the potentially predictive nature of academic integration to student attrition in first-semester ADN courses. Will academic progression requirements in LPN program predict success in first-semester ADN courses for students enrolled at MWCC?

Sample

214 students were admitted to the MWCC ADN program from 2010-2012. I deleted the resulting archival data set of any student record who repeated any LPN course as those students have not progressed through the program and have already contributed to the attrition rate for their original cohort. I also deleted all ASN students from the data set as these students may have obtained their first year of nursing education at another institution. Letter grades, as submitted by course instructors to the record keeping system included all courses for each student. Following the association of student records with district-level course records containing course percentages, I anonymized all data by

removing all references to the students' identifying information and assigning random research numbers before data analysis. The resulting data set sample consisted of 145 complete student records. I discarded no records as a result of missing data. I was able to locate all required data for every record in the sample.

Results

There is a slight, statistically significant correlation between second-semester LPN courses and first-semester ADN program success. However, that statistical significance is at the mean percentage of 85% rather than 80%.

There is no statistically significant relationship between the standardized LPN exit examination and first-semester ADN program success.

The Policy Recommendations

I identified a slight statistically significant relationship between academic progression requirements and success in first-semester ADN courses; however, that statistical significance was at a higher course percentage than currently required. I identified that students who were successful in first-semester ADN courses exceeded current academic progression requirements by 5-7%. Modification of academic progression requirements will engage students who have demonstrated academic integration and are more likely to be successful in first semester ADN courses, thus meeting the objective of reducing attrition rates in those courses.

- Eliminate the use of course percentages in second-semester LPN courses as an academic progression requirement in the current context.

The course percentages in second-semester courses held only a slight statistically significant correlation to success in first-semester ADN courses. The mean course percentage for those students who were successful was 3%-7% higher than the required benchmark.

- Eliminate the use of a minimum benchmark on the standardized exit examination as a progression requirement. The standardized exit examination shows no significant correlation with success in first semester ADN courses at MWCC.

The exam can still be administered as a predictor of success on the National Council Licensing Examination for Licensed Practical Nurses (NCLEX-LPN). Remediation plans can be developed for students are at risk for failure of the NCLEX-PN.

The examination can be used to develop remediation for students at risk for failure of NCLEX-PN.

The examination can be used to develop remediation (required or recommended) for students with low scores in specific content areas.

- Establish a statistical scoring system for progression using only academic measures.

Potential academic measures

Standardized nursing entrance examination

Overall GPA

Course percentages in second-semester LPN courses Utilize interviews to evaluate ability, caring, communication, decision-making capacity, and problem-solving skills.

Conclusion

Will academic progression requirements in LPN program predict attrition in first-semester ADN courses for students enrolled at MWCC? An exhaustive review of the literature guided me through the nursing shortage, factors that contribute to student attrition, and the need for policy analysis and recommendations for policy revision. While many nursing programs use academic measures to control student progression, there are no universal standards. Accrediting organizations provide guidelines, which suggest the careful inclusion of progression requirements to avoid ethical and legal dilemmas.

This research supports the revision of academic progression requirement policies at MWCC. The current course percentage requirement does not correlate to success in first-semester ADN courses. Second-semester LPN course percentages at a higher level are statistically significant in correlation to success in first-semester ADN courses. The inclusion of standardized testing at high stakes is contrary to the research findings as well as recommendations from accrediting organizations.