RELATIONSHIPS OF COURSE REPETITION AND

COMPETENCY TEST-OUT OF LPNS TO

OUTCOMES ON THE NATIONAL RN

LICENSURE EXAMINATION IN A

COMMUNITY COLLEGE

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Abstract:

Efforts to mitigate the nursing shortage are multiple in our country. One example is the development of nursing program formats leading to the LPN completing curriculum at an accelerated pace. A Midwestern state community college offers such a format as the LPN-RN Advanced Placement Option (APO) completed in two to three semesters along with a Traditional Format (TRAD) completed in four semesters. The APO students move through all curriculum (Track #1), test out of one to three courses (Track #2), or repeat courses (Track #3). This quantitative study, of archived data, of Population $N=765$, TRAD Subpopulation 1 $n=578$, APO Subpopulation 2 $n=187$ was carried out to gain knowledge pertaining to APO and TRAD graduates passing the National Council Licensure Examination for Registered Nurses (NCLEX-RN) on the first round for years 2006-2012 (seven years total). NCLEX-RN pass rates calculated for each nursing school utilizing all graduates who test in the calendar year and compared to the national pass rate. School pass rates must be within 10 percentage points of the national pass rate or greater to achieve state and national standards.

Thirteen APO cohorts met the pass rate standard eight out of thirteen. APO graduates achieved pass rates that met the standard four of the six years. TRAD graduates met the standard all of the six years. APO track graduates pass rates were varied. Track #2 achieved the standard all five years. Track #1 years 2006-2011 achieved the standard five of the six years. Graduates in Track #3 achieved the standard three of the six years. Findings suggest the TRAD format leads to graduates who are capable of meeting the pass rate standard. The APO format as a whole leads to pass rates meeting the standard. When the APO tracks are analyzed separately graduates who repeated courses had greater difficulty meeting the pass rate standard. The findings are not generalizable. Caution in coming to conclusions is recommended as some of the groups are small in size. Knowledge gained could be of interest to the current faculty as they continue to prepare graduates for the NCLEX-RN. State and even national nursing programs might consider these findings as they plan accelerated formats.

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CHAPTER I

INTRODUCTION

The United States nursing shortage has led to a major problem for those needing health care. Mancuso-Murphy (2007) reported, "It is estimated that more than 1.2 million new and replacement nurses will be needed by 2014" (p. 252). Health care has experienced nursing shortages before. West, Griffith, and Iphofen (2007) explained previous shortages have lasted a short time with the stakeholders being able to see the needed relief. This needed relief had not been visible due to the ageing nurse population. According to the American Nurses Association, "the median age of nurses is 46 and more than 50% of the nursing workforce is close to retirement" ("Nursing Shortage," 2012).

Many strategies have been used to address the nursing shortage including increased class size, more admission windows throughout the year and alternative delivery times such as day, evening, and weekend availability. In addition, Shovein, Huston, Fox, and Damazo (2005) found other strategies had involved offering nursing courses in the classroom and part online, often called hybrid or web enhanced courses, or offering the entire program online (p. 340). Another strategy had been to change the nursing program format from the traditional four semester length for an associate of science degree in nursing to an accelerated format for the same nursing degree (Suttle and McMillan 2009). The accelerated format was the strategy studied by the researcher.

This study focused solely on one segment of the nursing profession and did not include other health practitioners such as home health aides and nursing aides. The nursing profession accepted two practice options for the beginning nurse, the Licensed Practical Nurse (LPN) and the Registered Nurse (RN). The scope of practice between LPN and RN is contextual depending upon the state in which the professional is practicing. In Oklahoma, the LPN has completed a one to two year course and passed a national licensure exam (NCLEX-PN). The LPN scope of practice is limited, often leading to employment in non-acute care facilities.

The RN has completed a two year nursing program and received an associate in applied science nursing degree (ADN) or a four year nursing program and received a baccalaureate degree in nursing (BSN). Both methods of preparation to become an RN involve taking a common exam (NCLEX-RN). The RN scope of practice includes a great deal of responsibility which also involved the supervision of the LPN. The RN experiences a wider variety of employment in acute as well as non-acute facilities. Whether or not observable differences would be seen in work responsibilities between an ADN and a BSN depends solely upon the individual work environment**.** The Oklahoma Board of Nursing (OBN) does not differentiate an RN by BSN or ADN in the OBN Rules. The OBN considered a person qualified to take the NCLEX-RN if that person graduated from an OBN approved school of nursing (OBN Rules 2012).

Suttle and McMillan (2009) explained, "the LPN has basic nursing knowledge that could be expounded and prepared to take the registered nurse national licensure exam" (p. 10). A very important factor considered when the LPN-RN Advanced Placement option was developed was the consideration that an LPN often needed to

continue to work and attend school. Jensen (2008) described an LPN to RN program that included web-based courses and was successful in meeting the student needs.

The context for this particular study included one associate degree nursing program in a Midwestern state community college which began in 1971. Two basic delivery options have been employed. In one delivery option, students were able to enroll in the more traditional, well-established registered nurse preparation track (TRAD). This track primarily consisted of face to face instruction with clinicals during the week. A student accessed the TRAD option by being a certified nurse aide or a patient care technician. An LPN who wanted to attend the TRAD option would also be permitted access.

In an attempt to better meet the need for registered nurses as well as to be more student-centered, another delivery program was simultaneously developed in the early 1980s. Using an accelerated format strategy, this program allowed a Licensed Practical Nurse (LPN) to 'fast-track' in preparation for taking the licensure exam to become a Registered Nurse. This option was referred to as the LPN-RN Advanced Placement Option (APO). The option featured a hybrid approach including some face to face but also online instruction. The only time both faculty and students were together was during clinicals, simulation laboratory and testing on Saturdays. TRAD students possibly had their LPN licensure but were required to be a certified nursing aide or patient care technician. This entrance level of previous preparation was a major difference in the two options.

Initially for the APO, initially the only change made was shortening the traditional four semesters to two or three. In 2004, the program received local hospital

association funding to expand the enrollment. Secondly, in the fall of 2005, curriculum revisions were adopted leading to the current APO curriculum. Major curriculum revisions were related to course location and content (see Appendix A for sequence of courses).

Accreditation and approval status was jointly held by the nursing program and included both the TRAD and the APO. This nursing program opened in 1971 following mandatory approval by the Board of Nursing, a status maintained by the school since its initial approval. The program sought, received and has maintained voluntary full accreditation by the National League for Nursing Accrediting Commission (NLNAC) consecutively since initial accreditation in 1977. All programs within the college are accredited by the North Central Association, now known as the Higher Learning Commission. All of these agencies have specific regulations, standards, or criteria that must be met to maintain either approval or accreditation.

A nursing program could not remain open if it did not have Board of Nursing approval. One major regulation from the Board of Nursing related to the ability of the nursing program graduates to pass the National Council Licensure Examination for Registered Nurses (NCLEX-RN). According to the Oklahoma Board of Nursing Rules (2011), "Pass rate reports are required when the first-time NCLEX writer rate falls 10 percentage points or more below the national pass rate and at least ten candidates wrote the examination (based on a calendar year)" (p. 12). Should this report be necessary, the board members would review the report and determine, if the nursing program would maintain board approval.

Accreditation from the NLNAC was voluntary and considered an indication of high quality nursing education. To maintain accreditation the nursing school must measure achievement of established standards. NLNAC Standard six states, "Evaluation of student learning demonstrates that graduates have achieved identified competencies consistent with the institutional mission and professional standards and that the outcomes of the nursing education unit have been achieved" (National League for Nursing Accrediting Commission, 2008, p. 6). This nursing program utilized the NCLEX-RN pass rate as its outcome measure.

The mandatory Higher Learning Commission accreditation criterion #4 Teaching and Learning-Evaluation and Improvement (2012) states, "the institution demonstrates responsibility for the quality of its educational programs, learning environments, and support services, and evaluates their effectiveness for student learning through processes designed to promote continuous improvement" (Higher Learning Commission, Adopted Policy Changes, p. 6). The college required that each academic division prepare and utilize a plan to assess the learning effectiveness of their programs. The nursing division has developed its assessment plan utilizing the NCLEX-RN pass rate as an indicator of learning effectiveness.

The NCLEX-RN pass rates for the nursing program graduates, was calculated by combining the Traditional (TRAD) and APO graduates pass rates. The pass rate of the APO graduates had not been calculated to determine if only the APO graduates met the board of nursing regulation, the NLNAC criteria or the Higher Learning Commission criteria. A clear understanding of the APO graduate achievement would be helpful when making curriculum changes.

In this study the researcher planned to analyze the NCLEX-RN pass rate of the

APO graduates compared to the TRAD graduates and the national pass rate. Further data

was analyzed to look for any relationship between identified variables of repeating

nursing courses or competency test-out of nursing courses and the NCLEX-RN pass rate.

The information obtained in this study may possibly be of value as multiple decisions

related to nursing education locally, state, and nationally were made.

Theoretical Perspective

The post-positivist theoretical perspective has been utilized in this quantitative

study. Willis, Jost, and Nilakanta (2007) explained "the goal of post-positivist research is

to find the truth about something through the use of the scientific method" (p. 72-74).

The study began when the archived data was reviewed to determine the NCLEX-RN

passage rate of the APO graduates. The pass rates were compared to the TRAD pass rates

as well as the national pass rates. For clarification, the researcher identified three

predominant tracks which seemed to elaborate on the experiences of the APO students in

terms of courses, testing and repetition of courses. These tracks were referred to and

diagrammed as Track #1, Track #2, and Track #3. All three tracks indicated on the

diagram include the Bridge course. This Bridge course was designed to provide

information to all APO students about the transition from being an LPN to being an RN.

A more in-depth analysis was carried out to determine if the graduates who did not repeat

or test out of courses were passing the NCLEX-RN on the first testing attempt at or above

the national NCLEX-RN pass rate. This option sequence was hereafter identified as

Track #1 to enhance understanding. Next the NCLEX-RN passage rate of graduates who

tested out of courses rather than taking the courses was analyzed to determine if the students were able to pass the NCLEX-RN at or above the national NCLEX-RN passage rate. This sequence option was hereafter identified as Track #2. The pass rate for an Advanced Placement graduate who failed and repeated courses was calculated to determine if it was at or above the national NCLEX-RN pass rate. This sequence option was hereafter identified as Track #3.

The post-positivists believe that truth cannot be found in a single study and a number of studies are needed to get closer to the truth (Willis et al, 2007). Creswell (2009) explained "the post-positivist recognizes that she cannot be positive about her claims of knowledge when studying the behavior and actions of humans" (p. 6). A need for further study utilizing other LPN-RN advanced placement option settings was found to be needed to help understand what variables influenced the graduates' ability to pass the NCLEX-RN on the first test taking attempt. The researcher conducted the first actual study on this data and phenomena and was well aware it was just a beginning snapshot.

The post-positivist perspective of research includes "the goal of objectivity and precise control of the research situation" (Willis et al, p. 77). The researcher retrieved the data from graduate transcripts, nursing program documents and Board of Nursing documents. The research conducted with only one person gathering data helped to maintain accurate data collection. The researcher, a nurse educator with teaching responsibilities in the option being studied attempted to remain unbiased as the study was conducted.

The post-positivist perspective maintains that the findings of research should be generalizable (Willis, et al). Generalizability requires the description of the population be

similar to other nursing student populations. The age of the student was the only descriptor obtained. The researcher was not able to state that the variables identified led to the student's pass or failure of the national licensure examination for all nursing graduates. It was impossible to identify all the variables that could have possibly influenced the exam results. The study was carried out to identify possible relationships or no relationship between the variables and success on the exam. The data compiled from the study could be utilized as rationale for changing program options or developing an entirely new option with or without these particular variables. The research findings would also possibly be utilized to lay the groundwork for future studies in nursing education.

From the post-positivist theoretical perspective, data are theory dependent (Willis, et al). The manner in which a student completed the course was the major variable. Track #1 is taking the course as planned without any repetition of courses and also not receiving credit for a course without taking it. Track #2 involved testing out of 1 to 3 courses by achieving a score of B or greater on the standardized nursing exams. This achievement led to the student not taking the course and receiving credit. This researcher believed it might have been possible to pass the test simply because of good testing skills rather than knowledge of test content. Participating in the actual course would provide the needed course content, opportunities to practice nursing skills, interaction with fellow students, and guidance from nursing instructors.

In summary, post-positivist beliefs guided this study of relationships of course repetition and testing out of courses to NCLEX-RN outcome of APO graduates. The researcher understood there were many variables that could have been chosen therefore

the analysis and conclusions were partial in nature. Figure 1 shows the theoretical

perspective of the study.

Post-Positivist Perspective

LPN-RN Advanced Placement Option (includes mandatory Bridge course)		
Track #1 Complete all courses one time	Track #2 Receive credit for one-three courses by testing out	Track #3 Repeat Failed Courses

Graduation or

NCLEX-RN Pass Rate
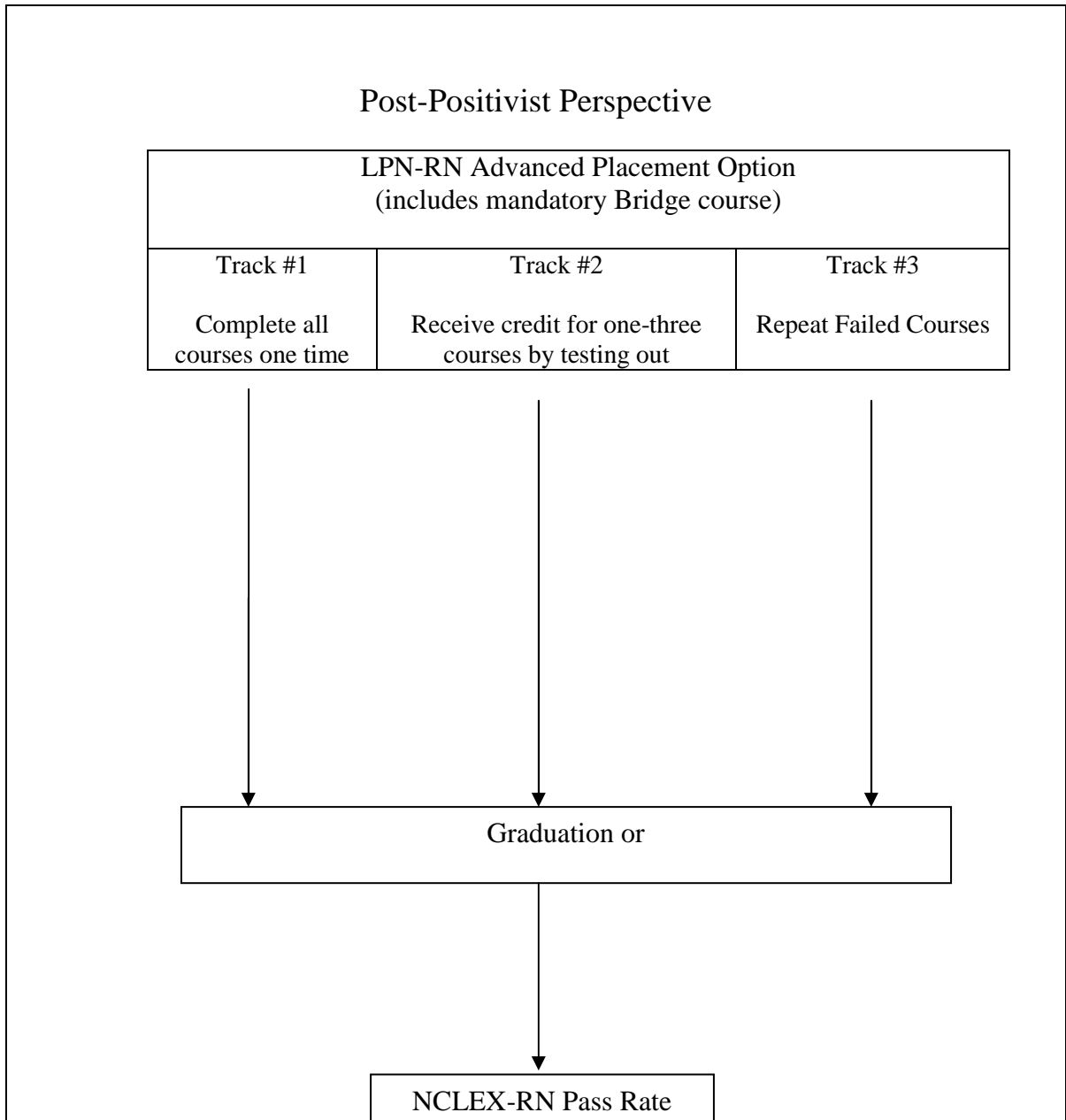
Figure 1. Theoretical Perspective.

Statement of the Problem

The need for registered nurses has led to the development of a variety of nursing program options. The APO examined in the study gave the student the opportunity of moving through the required nursing curriculum at an accelerated rate. The student was given 19 hours of articulation credit upon successful completion of the option. A second opportunity to accelerate the move through the curriculum was obtained by testing out of a total of three courses, which equaled an additional eight credit hours. Both of the opportunities were designed to facilitate a faster completion of the outcome of the Advanced Placement option which led to the graduate taking the NCLEX-RN exam, passing it, and beginning to work as a Registered Nurse (RN). It was not known if the outcome was being achieved, as the pass rates of the APO graduates had always been added to the pass rate of the TRAD graduates for a combined program NCLEX-RN pass rate.

The APO data have not been evaluated to determine if there are any relationships between identified variables and the NCLEX-RN pass rate. The problem was that a nursing program advanced placement option was being offered but no evaluation of data related to the success of the option had been analyzed. The lack of analyses made it difficult to determine if outcomes were being met or what changes needed to be made to the option format that could have led to a greater achievement of the outcomes.

Purpose of the Study

The purpose of the study was to analyze archived data related to an LPN-RN Advanced Placement option in a community college nursing program to describe and

compare NCLEX-RN pass rates of the graduates who completed the nursing option by means of Track #1, Track #2 and Track #3. The NCLEX-RN pass rates for each of 13 cohorts were calculated and analyzed as they related to the TRAD student and national NCLEX-RN pass rate for the same time frame. This information could be utilized in determining if the graduates of this option were meeting the outcome. The findings could possibly be utilized when making nursing curriculum revisions. The findings were not specifically generalizable but could be of benefit as other nursing programs developed options for LPNs to gain the education to be able to take the NCLEX-RN licensure exam, all in an effort to decrease the nursing shortage.

Research Questions

This study addressed the following research questions:

1. What is the performance of each of the 13 APO cohorts on the NCLEX-RN exam?

   a. What is the NCLEX-RN pass rate on the first round for graduates who took the exam?

   b. What is the percentage of graduates who <u>never</u> test for the NCLEX-RN exam?

   c. What is the percentage of graduates who do eventually pass on subsequent attempts but the data is not used for accreditation or programmatic evaluations?

2. What is the difference between the NCLEX-RN pass rates of the advanced

   placement option graduates with those of the traditional program graduates

   (calculate by calendar year)?

3. How do the pass rates of the three tracks of the APO compare to the national

   pass rates on the NCLEX-RN on the first round?

   a. How does the pass rate of Track #1 (graduates who complete all of the

      courses with no repetition or testing out) compare with the national

      pass rate?

   b. How does the pass rate of Track #2 (graduates who test out of the

      permitted one-three courses)   compare with the national pass rate?

   c. How does the pass rate of Track #3 (graduates who were required to

      repeat one or more courses) compare with the national pass rate?

Table 1 shows the data sources and planned analyses for each research question.

Table 1. Research Questions Data Sources and Data Analyses

Research Question or Purpose	Data Sources	Data Analysis
Description of Study Population	Demographic information	Descriptive Parameters
1. What is the performance of each of the 13 cohorts on the NCLEX-RN exam?	NCLEX-RN Pass Rate File	Descriptive Parameters
a. What is NCLEX-RN pass rate on the first round for graduates who took the exam?	NCLEX-RN Pass Rate File	Descriptive Parameters
b. What is the percentage of graduates who never test for the NCLEX-RN exam?	NCLEX-RN Pass Rate File	Descriptive Parameters
c. What is the percentage of graduates who do eventually pass on subsequent attempts?	NCLEX-RN Pass Rate File	Descriptive Parameters
2. What is the difference between the NCLEX-RN pass rates of the APO graduates with those of the traditional program graduates calculated by calendar year?	NCLEX-RN Pass Rate File	Descriptive Parameters
3. How do the pass rates of the three tracks of the APO compare to the national pass rates on the NCLEX-RN on the first round?	NCLEX-RN Pass Rate File	Descriptive Parameters
a. How does the pass rate of Track #1 (graduates who complete all of the courses with no repetition or testing out) compare with the national pass rate?	NCLEX-RN Pass Rate File Graduate Transcripts	Descriptive Parameters
b. How does the pass rate of Track #2 (graduates who test out of the permitted one-three courses) compare with the national pass rate?	NCLEX-RN Pass Rate File Graduate Transcripts	Descriptive Parameters
c. How does the pass rate of Track #3 (graduates who were required to repeat one or more courses) compare with the national pass rate?	NCLEX-RN Pass Rate File Graduate Transcripts	Descriptive Parameters

Definitions of Key Terms

Associate Degree in Nursing (ADN) An entry-into-practice nursing degree offered at community colleges. The person holding an associate's degree in nursing who meets an individual state's licensure requirements is eligible to take the national registered nursing licensure examination.

Registered Nurse (RN) a person who has successfully completed an associate degree in nursing program or a baccalaureate of science degree in nursing, met individual state licensing requirements, and passed the national registered nursing licensing examination.

Licensed Practical Nurse (LPN) a person who has successfully completed a practical nursing program earning a certificate of practical nursing, met individual state licensing requirements, and passed the national practical nursing licensure examination.

National Council Licensure Examination for Registered Nurses (NCLEX-RN) The national licensure examination developed by the National Council of State Boards of Nursing administered to any person requesting a license to practice as a registered nurse.

National Council Licensure Examination for Practical Nurses (NCLEX-PN) The national licensure examination developed by the National Council of State Boards of Nursing administered to any person requesting a license to practice as a licensed practical nurse.

Track # 1 A sequence option that includes completing all LPN-RN Advanced Placement option nursing curriculum without any testing out of courses or repetition of courses.

Track # 2 A sequence option that includes testing out of the permitted one to three courses and receiving credit toward completion of the LPN-RN Advanced Placement option nursing curriculum.

Track # 3 A sequence option that includes repeating one or more courses in order to complete the LPN-RN Advanced Placement option nursing curriculum.

APO LPN-RN Advanced Placement option requiring two to three semesters to complete the nursing program curriculum.

Accelerated Format The length of the nursing program is shortened by giving credit for courses by successfully completing the Bridge (first) course of the APO and testing out of courses.

TRAD The Traditional four semester option of the nursing program.

Assumptions and Limitations of the Study

The following assumptions and limitations were accepted for this study.

Assumptions

1. The data documented on the graduate records were recorded correctly by the college staff as well as the researcher.
2. Students who test0out may not have the content knowledge.

Limitations

1. The findings may not be generalizable to another population as nursing programs, options; students and delivery were typically not alike.

2. There were numerous variables that could have led to different test results; only two of these variables were evaluated in the study.

3. This study involved only one nursing school.

4. The researcher was a faculty member of the nursing program and objectivity was considered at all times.

Significance of the Study

The LPN-RN Advanced Placement option at the selected college had not formally been evaluated. LPNs were admitted to the option and some completed the option, graduated, passed the NCLEX-RN exam and practiced as registered nurses through others did not. Without an in-depth evaluation of outcome data, programs might have continued to offer such alternative formats trying to meet the needs of students without the knowledge of whether or not the outcomes were satisfactory. The data gained in the study could be utilized in determining changes made or not made in the current option. The following fundamental questions have not been answered: 1) Does using an alternative delivery format produce more successful graduates, 2) Does the delivery format have an impact upon the ultimate program outcomes, and 3) Are critical pieces of the program overlooked or minimized in an effort to meet student needs. From a larger perspective, the information could have led to decisions that improved the program leading to larger numbers of graduates able to pass the national licensure exam and to practice as Registered Nurses, thus decreasing the current nursing shortage. Finally, as other nursing programs developed options for LPNs to further their education, the findings of this study could be considered.

CHAPTER II

REVIEW OF THE LITERATURE

This study was conducted to better understand the relationship of advanced placement option graduates' option completion track and NCLEX-RN passage rate. The APO was developed to enable LPN students that were working the opportunity to complete required education needed to become a registered nurse (RN). The APO student was able to move through the nursing curriculum in one of three options. Track #1 was completed by taking all the required courses. Track #2 was completed by testing out of one to three of the required courses. Track #3 was completed by students that had failed a course and were required to repeat and pass the course in order to graduate. The nursing profession literature was reviewed for clearer understanding of the specific group of workers.

Nursing Education Approval and Accreditation Agencies

In Oklahoma all licensed nurses are regulated by the Oklahoma Board of Nursing (OBN), an Oklahoma State agency. "Statutory authority for the Board of Nursing is granted by state law through the Oklahoma Nursing Practice Act and Rules (ONPA)". The "mission of the OBN is to safeguard the public's health, safety and welfare through the regulation of nursing practice and nursing education" (Oklahoma Board of Nursing,

2012). The governor appoints each of the eleven members for five year terms. The

eleven member board is comprised of six Registered Nurses, three Licensed Practical

Nurses, and two public members (Retrieved from http://www.ok.gov/nursing).

The National League for Nursing (NLN) was dedicated to excellence in nursing

education. Its 33,000 individual and 1,200 institutional members included nurse

educators, education agencies, health care agencies, and interested members of the

public. "The NLN offers faculty development, networking opportunities, testing services,

nursing research grants, and public policy initiatives to its members, who represent all

types of nursing education programs, from doctoral to licensed practical nursing." "The

NLN was founded in 1893 as the American Society of Superintendents of Training

Schools as the first nursing organization in the United States. The headquarters are

located in New York City and is led by a board of governors elected at large by the

membership for three year terms" (National League for Nursing, 2012).

Schools of nursing can be accredited by the National League for Nursing

Accrediting Commission (NLNAC). "The purpose of the NLNAC is to provide

specialized accreditation for programs of nursing education, both postsecondary and

higher degree, which offer either a certificate, a diploma, or a recognized professional

degree (clinical doctorate, master's, baccalaureate, diploma, and practical)" (National

League for Nursing, 2012). Accreditation is voluntary. "The NLNAC began in 1893 as

The American Society of Superintendents of Training Schools for Nurses which became

the NLN. In 1996 the NLN Board of Governors approved establishment of an

independent entity within the organization called the National League for Nursing

Accrediting Commission (NLNAC)." In 1997 the NLNAC began operations with sole

authority for carrying out the responsibilities inherent in the accreditation process. The

Commission is made up of 15 appointed commissioners: nine nurse educators, three

nursing service representatives, and three public members. Program specific Evaluation

Review Panels were also established. In 2001 the NLNAC was incorporated as a

subsidiary of the NLN. In 2006 the Secretary of Education, U. S. Department of

Education, renewed NLNAC recognition as a nationally recognized accrediting agency

for nursing education." The NLNAC is located in Atlanta, Georgia (National League for

Nursing Accrediting Commission, Accreditation Manual 2008).

The North Central Association Higher Learning Commission (NCAHLC)

accredits the community college of the nursing program in the study. "The Higher

Learning Commission (HLC) is an independent corporation and one of two commission

members of the North Central Association of Colleges and Schools (NCA), which was

founded in 1895 as one of six regional institutional accreditors in the United States. The

NCAHLC accredits, and thereby grants membership in the Commission and in the North

Central Association, degree-granting post-secondary educational institutions in the North

Central Region." The Commission is governed by a Board of Trustees elected by the

membership. The Commission offers an extensive array of programs and services that

help member colleges and universities advance their quality of education. By law, the

U.S. Department of Education (USDE) relies in part on accrediting agencies to determine

eligibility for U.S. government assistance under certain legislation. The Commission is

among these governmentally recognized authorities and seeks renewal of USDE

recognition at least every five years. The NCAHLC is located in Chicago, IL" (North

Central Association Higher Learner Commission 2012).

Nursing Licensure

To practice as an LPN in Oklahoma, the person must have graduated from a practical nursing program located in a state technology center, or private vocational school. The graduate then is required to take and pass the National Council of State Boards of Nursing Licensing Exam for Practical Nurses (NCLEX-PN). The NCLEX-PN applicant must pass the NCLEX-PN within two years of date of graduation. If the applicant does not pass the exam, it can be repeated every 45 days. The applicant must submit a new application and pay the licensure fee to test to the OBN as well as the testing agency each time the exam is taken. The applicant who has reached the two year mark beyond date of graduation and does not pass the exam is required by the OBN to complete additional education as follows: "(A) Successfully complete an OBN-approved refresher course in accordance with the Board's policy; or (B) Successfully complete nursing didactic coursework and faculty-supervised clinical experience in a board-approved nursing education program at the appropriate educational level, to include at least 80 hours in classroom and skills laboratory review and at least 80 hours participating in patient care activities in the clinical setting. (C) After completion of the required additional education, the applicant will have two years from the completion date of the additional education to take and pass the NCLEX-PN" (Oklahoma Board of Nursing 2012).

The LPN nursing level in Oklahoma can be practiced if the nurse licensed as an LPN or Licensed Vocational Nurse (LVN) in another state. This licensed nurse would then apply for an Oklahoma LPN license, pay a fee, and meet Oklahoma licensing criteria to be granted a license to practice LPN nursing in Oklahoma. The LPN has a specified

role of practice in Oklahoma mandated by the ONPA. The LPN practices under the supervision of a Registered Nurse, licensed physician, or dentist.

The LPN's directed roles possibly include collecting data to contribute to the patient's assessment, participating in the development of the plan of care, providing safe and effective care, and delegating to unlicensed assistants commonly called nurse aides (Oklahoma Board of Nursing 2012).

The RN licensure procedures are largely identical to the LPN procedures. The RN roles of practice are mandated by the ONPA. These roles include assessing health status, analyzing assessment data, establishing goals, planning and implementing care, evaluating patient responses, delegating managing and supervising care, teaching nursing and working with the health care team (Oklahoma Board of Nursing 2012).

RN Licensure Exam

The National Council Licensure Examination (NCLEX) was developed as the national exam taken by all graduates of approved nursing programs offering degrees that allow the graduate to test for registered nursing or practical nursing licensure. The NCLEX was developed, revised and maintained by the National Council of State Boards of Nursing (NCSBN). The NCSBN was "a not-for-profit organization whose purpose is to provide an organization through which boards of nursing act and counsel together on matters of common interest and concern affecting the public health, safety and welfare, including the development of licensing examinations in nursing" (National Council of State Boards of Nursing 2012).

The NCSBN gave the NCLEX examination using computerized adaptive testing (CAT) to administer the test items. The testing was conducted in every state at a private

testing company. The exam was given in a secure computer room as scheduled by the testing candidate. The exam results were available via the State Board of Nursing licensure verification web site three days following testing. The exam was passed, the candidate was issued a license. The candidate who failed the exam was notified by mail. The results of the NCLEX-RN testing report were sent, by the State Board of Nursing, to the nursing program Dean every month.

The NCSBN reports, "Reliability of the NCLEX-RN examination is evaluated using the decision consistency statistic and it runs between .87 and .92" (National Council of State Boards of Nursing, ("Reliability of the NCLEX,"). According to the NCSBN, "Content validity is addressed by having the questions written by panels of volunteers from around the country with backgrounds covering different specialties and practice settings. Face Validity review is carried out when experienced test developers read real and simulated examinations to ensure that the balance and juxtaposition of content is on face, representative of the domain of nursing. Pass/Fail Decision Validity or passing standard is determined every three years. The NCSBN investigates the minimum level of competency that an examinee must attain in order to pass the NCLEX examination to maintain a current and valid passing standard (NCSBN, "Validity of the NCLEX").

Reasons for Seeking Higher Education

There are many reasons why an LPN would want to become an RN. An LPN has a limited scope of practice and must be supervised. The LPN who wishes to advance her nursing career, widen her scope of practice, or practice unsupervised is required to return to school to obtain the level of education necessary to take the NCLEX-RN. The LPN

could have been interested in working in a specialty area that requires specialty nurses to be RNs. Salary increase also could be the reason for the LPN to seek to become an RN. It was reported by the Oklahoma Hospital Association (OHA), that LPN annual salary ranges from $24,461 to $36,941 and RN salary ranges from $36,670 to $57,595 (Oklahoma Hospital Association 2008).

Finally acute care hospitals were moving toward all RN nursing staff. LPNs were often told they could remain in their area of work if they returned to school and obtained an RN license. In an effort that provided data driven support for an all RN staff that would decrease the cost of healthcare to the employer, research studies were conducted. The literature revealed that studies have been conducted related to the type of nurse working on a unit, either RN or LPN, and patient outcomes. Mark, Harless, McCue, & Xu found increasing RN staffing had a diminishing marginal effect on reducing in-hospital mortality rates (2004). In contrast, Needleman, Buerhaus, Mattke, Stewart, & Zelevinsky conducted a similar study but found as RN staffing per occupied bed increased, mortality rates decreased and as LPN staffing per occupied bed increased, mortality rates increased (2002). Glance, Dick, Olser, Mukamel, & Li studied the association between nurse staffing and hospital outcomes in injured patients (2012). Findings in this study revealed higher LPN staffing levels led to slightly higher rates of mortality and sepsis. When using pneumonia as the outcome, the findings in the studies were mixed. A decrease in the odds of pneumonia was found with RN staffing by Needleman et al (2002) and Cho, Katefian, Barkauskas, & Smith (2003). Mark et al (2004) found that RN staffing had no consistent effect on pneumonia.

Nursing Program Options

The literature provided examples of associate degree as well as baccalaureate degree nursing programs that provided options for the LPN to obtain an RN license. The variety of options included receiving credit hours for being a licensed nurse, receiving credit for a course by passing the final exam without attending the course, receiving credit for a course by passing a national standardized exam, flexible course schedules and some courses offered online to allow time for full-time employment (Suttle, & McMillan, 2009; Jenson, 2008; Porter-Wenzlaff & Forman, 2008; Cook, Dover, Dickson, & Engh, 2010).

Researchers often utilized the graduate's ability to pass the NCLEX-RN the first time as an indicator of program option outcome. Jenson (2008), in her study of a course for LPNs to obtain associate nursing degrees, indicated that twenty students started and 19 completed the course for a 95 percent completion rate. Cook et al. (2010) found that graduates who followed the first transition option had an NCLEX-RN passage rate between 68 and 74 percent. The transition option was then expanded from ten weeks to fifteen weeks with consistent faculty and the NCLEX-RN pass rate increased to above 90 percent. Suttle and McMillan (2009) explained the challenge option, allowing students the opportunity to test out of certain courses, led to a 91 percent NCLEX-RN pass rate. A fast track option, where students could move through the semester faster than the traditional students, was also offered. This option led to a 91 percent NCLEX-RN pass rate. Nursing programs compared their program NCLEX-RN pass rate, to the national NCLEX-RN passage rate, as an indication of meeting a program outcome. The researchers of both studies did not indicate the year of the NCLEX-RN testing. However;

according to the National Council of State Boards of Nursing (2012) the national passage rate had been between 85.5 percent and 88.42 percent indicating the NCLEX-RN passage rate results of these two studies were likely to be above the national NCLEX-RN pass rate.

Nursing program options were only beneficial if the graduates were able to pass the licensure exam. Passage of the licensure exam indicated the graduate was capable of practicing as a beginning nurse. It was pointed out in one article the reputation of a nursing program can quickly be in question if the pass rate is below the required percentage (Firth, K.H., Sewell, J.P., & Clark, D. J. 2008). Achieving this critical outcome had become so important that many nursing educators were developing strategies that were designed to lead to NCLEX-RN success. These strategies were being implemented as part of the nursing programs curriculum. Studies were conducted following the implementation of these strategies in hopes that NCLEX-RN predictors of success could be identified.

NCLEX-RN Success Strategies

The literature provided numerous articles that explained schools of nursing faculty who implemented strategies within the nursing curriculum to assist the student in successfully completing the nursing program and successfully passing the NCLEX-RN the first time the graduate took the exam. Some nursing programs have instituted a more rigorous level of entry than the entry requirements for general university admission. Nibert, Young, and Britt (2003) indicated their nursing program required more stringent academic nursing regulations, such as limiting the number of times students could repeat

a failed course, omitting any rounding of numerical grading, and setting the passing grade for a clinical nursing course at a C or above.

Some nursing program faculty members have planned strategies for assisting students in passing the NCLEX-RN. The individual nursing student has been given specific plans of study to prepare for the NCLEX-RN. This strategy was seen, in some programs, as a faculty member meeting with the student and reviewing scores achieved on standardized testing and developing a plan of study related to areas of weakness (McQueen, Shelton, & Zimmerman, 2004; Anderson 2007). Another nursing program offered tutoring by faculty or upper classmen (Rees 2006).

A strategy often used provided specific remediation to students who were not successful in passing faculty developed or standardized testing exams. The remediation included taking a review course, requiring completion of a certain number of practice NCLEX-RN questions, completing case studies related to certain nursing content, taking practice NCLEX-RN exams on a computer, and completing critical thinking activities (McQueen, et al; Firth, Sewell, & Clark 2008). Along with the remediation courses faculty emphasized learning strategies to assist the students in being successful on program exams as well as the NCLEX-RN. McDowell (2008) described a framework which included knowledge base, anxiety control, and test taking skills (KATTS) for maximizing NCLEX-RN performance (p. 183). This framework was utilized in the final semester included question drills, taking computerized mock NCLEX-RN exams, developing strategies to decrease test anxiety, maintain positive attitudes, and manage personal stress. Another course, Structured Learning Assistance (SLA) was developed for students who had achieved less than a B in any course completed their first semester,

facilitated by practicing RNs who provided real- life examples, good study-habit tips, and application of content (Morton, 2006).

In reviewing reasons for low NCLEX-RN passage rates faculty looked at their own performance to determine if different strategies were needed. The questions on the NCLEX-RN were written at the application and analysis levels (Rees 2006). These high level questions could be difficult to write. Faculty committed to improving their individual questions attended test writing process courses or workshops (Carr, 2011; Rees, 2006; Higgins, 2005). Changes in teaching strategies identified were no or little lecture, interactive teaching leading to student-centered environments, and deeper learning to generate higher order thinking, rather than memorizing (Carrick, 2011).

Finally, a strategy used many times in the literature was the use of standardized testing throughout the program. The content exams were administered at the end of courses such as pediatrics or medical-surgical nursing and comprehensive or NCLEX-RN readiness exams were administered in the last semester of the program (Morrison, Free, & Newman, 2005; Anderson, 2007; Higgins, 2005; Firth, et al 2008; Davenport, 2007; Carr 2011). These exams provided information related to weak areas of content that the student might use to prepare for the NCLEX-RN following graduation. Also mentioned was the need to plan NCLEX-RN preparation from the beginning of the program through the final semester (Davenport, 2007).

Researchers have studied these various strategies looking for possible predictors of NCLEX-RN success. In one study, the researchers wanted to know if progression policies and remediation improved NCLEX-RN pass rates. Morrison, Free and Newman (2005) interviewed administrators of five nursing schools who had implemented

progression and remediation policies based on scores achieved on a standardized exam.

Two of the five schools had two different program types, therefore data was gathered

from a total of seven programs. The administrators were asked about their program

NCLEX-RN pass rates before and after implementation of the policy and to describe the

type of remediation utilized. Findings indicated the passage rates did increase by 9-41

percent and ranged from 88-97 percent following policy implementation. A chi square

test of significance was used to analyze individual program data. NCLEX-RN pass rates

increased significantly in six of the seven programs after a progression policy was

implemented, 5 at the $P = .001$ level of significance and 1 at the $P = .05$ level of

significance. The type of remediation described varied a great deal. Researchers

concluded that the findings of this study appeared to indicate that implementing a

progression policy utilizing standardized testing did improve NCLEX-RN pass rate. This

researcher finds this study to have a very small sample size of n=7; therefore it is with

great caution that the interpretation of the findings made by the researchers of this study

could be generalized to other nursing programs.

Education Theories

Literature related to, theories of education were reviewed for possible support of

reasons why graduates who completed the option in one of the three tracks were able to

pass or not pass the NCLEX-RN. A second use of education theories considered was as a

filter. For example, perhaps the student who tested out of a course did not move through

the conditions of learning filter and therefore was unable to pass the NCLEX-RN.

Leon Festinger's Cognitive Dissonance

According to Festinger (1957) cognitive dissonance occurs when a person holds ideas that are psychologically inconsistent and produce psychological discomfort. The cognition might have been a belief about something a person thought was correct. Dissonance would have occurred when the person became aware of another belief that could also have been correct. The psychological discomfort produced by the cognitive dissonance would need to be decreased. Festinger (1957) provided his thoughts on the motivation property of cognitive dissonance and what the person would have done to return to a state of comfort and cognitive consistency. There are three main ways in which the person attempted to return to cognitive consistency. The person changed one or both of the cognitions and made them more coherent, attained more information that agrees with his cognition, or minimized the significance of the discrepancies (Festinger 1957). The literature provided examples of studies that had shown cognitive dissonance could interfere with learning. Walton (2010) conducted a study to examine communication education utilizing topics of diversity that created cognitive dissonance for some of the 17 students. The researcher related that cognitive imbalance could either hinder or promote individual learning (p. 172). McFalls and Cobb-Roberts (2001) also mentioned that dissonance could lead to resistance that defeated the learning.

An interesting phenomenon found while reviewing the cognitive dissonance theory literature was that studies were being carried out to look at the relationship in cognitive dissonance leading to changes in behaviors that led to improved health. Clark, McCann, Rowe, and Lazenbatt (2004) studied cognitive dissonance and undergraduate nursing students' knowledge of and attitudes about smoking. The study had 366

undergraduate nursing students at an Australian University. The students completed a smoking and health promotion instrument which indicated more women (25.2 percent) than men (18.9 percent) continued to smoke. Findings in this study included most of the nursing students had a laymen level of knowledge of the health effects of smoking, the younger participants had more favorable attitudes toward smoking and health promotion, the students who reported continuing to smoke seemed to have not allowed the knowledge of the influences of smoking to change their attitude about smoking. The data gathered did not provide information related to whether the cognitive dissonance discomfort was maintained at a level for the respondents to continue to smoke and the researchers recommended further research in this area.

Another study by Stellefson, Wang, and Williams (2006), looked at the effects of cognitive dissonance on intentions of college students to change their diet and physical activity. One hundred twenty-six full-time college students from 18 to 23 years of age participated in this study. The students were divided into three groups. One group was asked to write an essay about diet and exercise effects on physical appearance, another group wrote an essay about diet and exercise effects on physical health, and the control group wrote an essay about their favorite movie. The next step consisted of participants completing questionnaires assessing their present physical activity, their dietary habits, risk/worry they felt about their diet and exercise habits, and diet/exercise intentions for the future. Data analysis included ANOVA, MANOVA, and multi-group comparison. The overall findings reported by the researchers was the students that were in the physical appearance related to diet and the exercise group with a self-reported high risk of

perceptions of decreased physical appearance had a greater effect on their intention to change.

Gagné's Conditions of Learning

A second theory that could have been used as a filter was Robert M. Gagné's conditions of learning theory. According to Gagné (1985) to enhance learning the student needs to be exposed to the conditions of learning. There are nine instructional events the student will not experience if not in the course. These instructional events are needed to enhance learning. As the student learns particular content, the instructor provides stimulus to elicit recall of prior learning Gagné (1990). Gagné (1985) calls this prior learning prerequisite, which are needed for new learning to take place (p. 277). The instructor could ask the student to explain the conduction system of the heart when learning about cardiac dysrhythmias. This information was first learned in the anatomy and physiology courses taken prior to entering the nursing program. The student would receive a stimulus in the form of a study guide. The instructor could assist the student's learning by providing content the student was to know in the form of a study guide. Providing learner guidance could be accomplished by describing an event that had taken place in a healthcare facility. The student could have the opportunity to practice a skill in the skills laboratory or present information to fellow classmates thus leading to a greater chance of remembering what is learned. When the student was in a course the instructor would provide feedback related to the student's performance of a skill, response to a question, written assignment, and score on an exam assisting the student to learn the correct content. The performance could also be assessed in the clinical facility where the

student would be assigned a patient or a group of patients to complete clinical objectives. Gagne (1985) relates transfer of what is learned happens in places other than where the original learning took place (p. 278). It would be in the clinical rotation that the instructor could possibly see the student transfer the learning from one situation to another. The student's participation in clinical was also another way to enhance retention of what had been learned.

Gagné (1985) further explained that instruction must be designed as "instructional events" to help learning occur (p. 244). In order to assist student in learning in a variety of educational settings, the instructor used the nine instructional events. These nine instructional events were easily adapted to nursing education as indicated in Table 2.

The literature provided studies that related to retention of content learned. Gagné (1969) studied the effects of context, isolation and interference on the retention of facts. The study participants were 56 fourth-grade pupils and 56 fifth-grade pupils. The students were given material about howling monkeys. Gagné found when facts to be remembered were provided in a way in which other facts are isolated retention is improved (p. 412). A type of interference was put into place by providing the material of the five facts along with 20 other items. The findings indicated interference did happen and its significant effect was to reduce retention (p. 412). Retention of content was very important in nursing education. Although the participants in this study were children the findings did add to the appropriate way to present material to be learned and retained. Martin (2008) conducted a study to see if practice and feedback in a linear navigation (program control) and non-linear navigation (student control) web-based learning effected achievement

Table 2. Gagné's 9 Instructional Events

EVENT	DEFINITION	EXAMPLE
1. Gaining Attention	Alertness for reception of stimuli	Learners watch a surgery video and then are asked to identify the duties of the circulating nurse
2. Informing Learners of the Objectives	Telling the student what is to be learned engages expectancy which helps the learner reach the goals of the unit	Tell the learner she will learn to give an injection today to learn the injection technique
3. Stimulating Recall of Prior Learning	Learner asked to recall some things previously learned	The LPN recalls what was learned in practice as she practices a skill with fellow learners in the skills lab
4. Presenting the Stimulus	If verbal information is to be learned the stimulus may be printed prose	Provide a study guide with important content highlighted
5. Providing Learner Guidance	Learner can increase the intellectual skill by listening to the instructor giving concrete examples of a concept or rule	Always take an apical pulse before giving the patient Digoxin
6. Eliciting Performance	Retrieve what is learned and stored in long-term memory and tell what has been learned	Learner presents information learned about cardiac disease to fellow students
7. Providing Feedback	Communication to the learner about correctness and the degree of correctness of the performance	Learners participate in patient simulation, instructor debriefs learners giving performance feedback after simulation
8. Assessing Performance	Provides an opportunity to practice retrieval of learned content and reinforcement of that correct learning by the instructor	Learners take a written exam instructor grades exam and reviews answers with the learners
9. Enhancing Retention and Transfer	Increased amounts of practice affects the amount of retention and transfer of knowledge	Clinical participation exposes the student to a variety of opportunities to transfer knowledge learned

Note. Adapted by the researcher, from Gagné, R. M. (1985). *The conditions of learning and theory of instruction.* (4th ed.). Fort Worth, TX: Holt, Rinehart, and Winston, Inc.

(score on post-test). The 240 participants participated in a web-based lesson on the

primary operations of a computer and were divided into four classes. The four classes

were randomly assigned to four different treatments. Class 1 participants had practice

with program control, Class 2 had practice with learner control, Class 3 had no practice with program control and Class 4 had no practice with learner control (p. 84).

The findings indicated the participants in the class with the practice and program control of navigation achieved the highest scores on the post-test. The participants who had no practice and student control of the navigation scored the lowest on the post-test (p. 87). Martin (2007) concluded that practice in the learning environment was effective in helping the student achieve high test scores (p. 90). The findings were in agreement with Gagné's theory related to practice being a condition of learning.

Knowles's Andragogy Model

All of the APO students are adults; therefore, a review of adult education theory to see if it could inform the study is appropriate. The education of adults is considered different than educating children. Andragogy, according to Merriam, Caffarella, & Baumgartner (2007), focuses on the adult learner and his or her situation (p. 83). Knowles, Holten, and Swanson (2011) related Knowles first suggested that "adults learn best in informal, comfortable, flexible, nonthreatening environments" in 1950 (p. 59). Knowles then went on to develop a book about the practice of adult education using the term andragogy in the title (p. 59). Knowles eventually developed his ideas into assumptions related to adult learning.

These assumptions begin with adult learners needing to know why they need to learn before starting to learn. Next adults have a self-concept of being responsible for their own decisions, for their own lives. Next adults come into an educational activity with both a greater volume and a different quality of experience from that

of youths. Next adults become ready to learn those things they need to know and be able to do in order to cope effectively with their real-life situations. Next adults are more motivated to learn to the extent that they perceive that learning will help them perform tasks or deal with problems they confront in their life situations. Next adults are responsive to some external motivation (better jobs, promotions, higher salaries, and the like), but the most potent motivators are internal pressures (the desire for increased job satisfaction, self-esteem, quality of Life, and the like) (Knowles, et al. 2011, pp. 63-67).

Andragogy was not meant to be put into place every time one is teaching adults. They were to be considered as the teaching plan was being developed but utilized in part or entirely as needed. In fact, "an essential feature of andragogy is flexibility" (Knowles, et al).

In summary the chapter has provided literature related to nursing licensure which included the regulatory body, process, and examination. Accrediting bodies for the nursing program as well as the community college were explained. Information related to why LPNs continue their education to be able to test and practice as RNs and the available LPN-RN options were discussed. Education theories such as Festinger's Cognitive Dissonance, Gagné's Conditions of Learning and Knowles' Androgogy were discussed.

CHAPTER III

METHODOLOGY

Research Design

This study used a quantitative research design. According to Fraenkel and Wallen (2006) quantitative research is "research in which the investigator attempts to clarify phenomena through carefully designed and controlled data collection and analysis" (p. G-7). The post-positivist theory was utilized as the overall theoretical framework. The post-positivist goal is to find the truth about something through scientific method (Willis et al 2007). This study was conducted to analyze archived data to perhaps gain information related to a relationship of nursing curriculum option tracks and the National Council Licensure Examination for Registered Nurses (NCLEX-RN) pass rate. This study focused on NCLEX-RN pass rates of a community college associate degree program (population; N=765). Two subpopulations exist within the overall 765 students. Subpopulation 1 consisted of those prepared in a more traditional manner (TRAD; n=578) and Subpopulation 2 consisted of those enrolled in the Advanced Placement Option (APO; n=187). Subpopulation 1 was referred to as TRAD and Subpopulation 2 was referred to as APO.

Concerning 13 cohorts of these students in the APO enrolled in summer 2005 to fall 2009 semesters, the data was closely analyzed to determine if any differences existed between various tracks. Specifically, any differences, in NCLEX-RN calendar year pass rates and APO curriculum completion track were utilized. All APO students hold an LPN licensure before starting the program. A TRAD preparation method student might have an LPN licensure or not. All TRAD students must have completed a minimum of certified nursing aide course or patient-care technician certification.

The APO option the students to complete the nursing program by Track #1 completing all courses one at a time, Track #2 receiving credit for one to three courses by testing out, or Track #3 repeating failed courses. Further APO data was analyzed to determine yearly NCLEX-RN pass rates as they compared to the nursing program TRAD students and national NCLEX-RN pass rates for the purpose of identifying if graduates were meeting mandatory state and national levels of NCLEX-RN pass rates.

Based on the number of graduates that pass the test the <u>first time taken</u>, is important because only the <u>first time tester pass rate</u> is used as a benchmark for continued State Board of Nursing approval and National League for Nursing Accrediting Commission Accreditation. The benchmark is no more than 10 percentage points below the national NCLEX-RN pass rate. The researcher conducted this study to gain an informed understanding of the ability of the APO graduates to pass the NCLEX-RN. The information gained from this study could also be utilized in curriculum review and revision. If graduates that do test out or repeat courses are not passing the NCLEX-RN, it would be an area to consider when making programmatic, resource, and curriculum changes.

Permission to conduct the study was obtained from the Oklahoma State University and the community college Institutional Review Boards (IRB) prior to beginning this research. With IRB approval, the researcher contacted the nursing department and began the process of data retrieval and organization in order to comply with the IRB and successfully complete the study within the approved parameters. No transcripts were removed from the premises. The decision to select the summer 2005 semester as the starting point of the population was made because a curriculum change had been initiated that semester. The fall 2009 semester was selected as an ending point to capture the greatest number of graduates that had taken the NCLEX-RN for the first time. The board of nursing in the state where the community college was located allows a maximum of two years post-graduation to take the NCLEX-RN. The semesters of admission are in sequence with the exception of summer 2007 when no class was admitted.

Step One

The population of 765 students has enrolled to complete the program at the stated community college to become Registered Nurses during the selected time period. The first basic division of data was the method in which the student completed the program. Subpopulation 1 (n=578) completed the traditional (TRAD) method of preparation (TRAD) and Subpopulation 2 enrolled (n=187) and completed (n-147) the APO using three possible tracks.

In order to answer research question #2 (pass rate of the TRAD), the researcher had to sort the data available based on the method in which the student completed the

program.   This data was obtained from various programmatic reports in the department prepared by administrative staff. These reports can be formulated by various indices such as the date the student started the program or the date the student graduated. All data were electronic. The researcher requested that data be sorted by student starting dates. In order to capture the desired semesters, the data included was earlier than summer 2005 and later than fall 2009 data to be able to calculate the pass rate of TRAD students as well as those who would test after the fall of 2009 so that the pass rate of TRAD students as well as those who would test after fall 2009 could be calculated.   For example, fall 2004 data was needed in order to capture the pass rate for that group of traditional students that would finish in fall 2006.

Concerning the programmatic reports, data was included that was not part of the study. The researcher only used those parts of the data for which IRB approval had been granted. The parts of the data retrieved that were analyzed per the IRB included birthdate, semester started, semester graduated, whether or not the NCLEX was passed the first time, and the NCLEX pass date. If the student failed and had to retake the exam, that information was also included.   The data included all students from the fall of 2004 until fall of 2011, regardless of the method in which the student completed the program (Traditional and Advanced Placement options).

Also, the researcher also utilized reports from the Board of Nursing that were hard copy and stored in department administrative offices. These reports contained the national pass rate for all students that have taken the Registered Nurse licensure exam, as well as programmatic information. National data included overall pass rate only, however, the programmatic portion of the report included individual student pass/fail

information, the year the student graduated, if the exam was the first or subsequent

attempt, and the overall programmatic pass rate. These reports were also cross checked

with the Board of Nursing licensure verification online system. The researcher organized

data and double-checked all sources to ensure accuracy as much as possible. In

summary, the departmental spreadsheet provided data for the pass rate of traditional

student. At this point, details of traditional students were not analyzed further.

Step Two

Data was reported in aggregate in compliance with both IRBs. The researcher

then sorted the data to obtain ONLY students that had completed the APO (n=147).

Using data from transcripts, departmental reports, and online Board of Nursing licensure

verification system, the researcher formed each of the thirteen cohorts by semester and

students enrolled in the APO.

The researcher then began to specifically analyze the data of all 147 APO students

by using transcripts available through the community college secure online transcript

repository, which was the primary focus of the study. By using each student's campus

wide identification number obtained from the department, the researcher was able to

track each individual student regardless of the method of program completion. This is

the only means by which transcripts can be retrieved. The researcher was able to identify

which track the student pursued to complete the APO by reviewing the courses taken.

The researcher prepared a table by the three tracks.   Detailed information was recorded

in the researcher's table as follows: data on nursing courses taken, semester the course

was taken, grade earned, if the course was repeated, the grade for repeated courses,

courses tested out earning advanced standing credit, and completion date.

Step Three

Data were organized according to the three research questions. Each research question will be stated and the methodology of answering the question outlined.

Research Question #1: What is the performance of each of the 13 APO cohorts on the NCLEX-RN exam?

a. What is the NCLEX-RN pass rate on the first round for graduates who took the exam?

Using the data table, the NCLEX-RN pass rate was calculated for each of the 13 cohorts by determining the number of cohort members who tested and passed the first time the test was taken divided by the number of cohort members who tested. The pass rate was reported as a percentage and the entire population was used therefore parameters rather than statistics were used in all data analysis.

b. What is the percentage of graduates who <u>never</u> test for the NCLEX-RN exam?

Using the cohorts determined in the table, the researcher examined data that indicated all graduates and when they took the exam. For each cohort, the researcher manually counted the number of graduates that have not tested and divided by the total number of graduates.

c. What is the percentage of graduates who do eventually pass on subsequent attempts but the data is not used for accreditation or programmatic evaluations?

Using the cohorts determined in the table, the researcher examined data that indicated all graduates and when they took the exam and identified whether it was a first or subsequent attempt. Graduates that took the exam in a subsequent attempt were counted and divided by the total number of graduates.

Research Question #2: What is the difference between the NCLEX-RN pass rates of the Advanced Placement Option graduates with those of the Traditional program graduates (calculated by calendar year)?

The Board of Nursing reported testing information by the calendar year rather than when a student began a program or by a cohort. At this point, the researcher organized data by year the NCLEX-RN exam was taken. The NCLEX-RN pass rate was calculated by the Board of Nursing by calendar year. For example the first year any members of Subpopulation 2 were able to test was 2006. All APO students that tested in 2006 were placed in APO Testing Group 2006. The total number of students that passed the exam on the first try was divided by the total number that took the exam the first time to determine the 2006 APO pass rate. Then all Traditional (TRAD) students that tested in 2006 were placed in TRAD Testing Group 2006 and the total number of students that passed the exam on the first try was divided by the total number of students that took the test for the first time.

Research Question #3: How do pass rates of the three tracks of APO compare to the national pass rates on the NCLEX-RN on the first round?

a. How does the pass rate of Track #1 (graduates that complete all courses with no repetition or testing out) compare with the national pass rate?

Because the NCLEX-RN pass rate was calculated by the Board of Nursing by the calendar year, the researcher reorganized data to reflect the year in which the graduate tested. For this research question, members of the cohorts were divided by option track. Then data was redistributed by the year in which they took the exam for the first time. In this manner, the sets of data of Track #1 and the national pass rate were comparable.

b. How does the pass rate of Track #2 (graduates who test out of the permitted one-three courses) compare with the national pass rate?

The NCLEX-RN pass rate is calculated by the Board of Nursing by the calendar year. For this research question, members of the cohorts were divided by option track. Then data was redistributed by the year in which they took the exam for the first time. In this manner, the sets of data of Track #2 and the national pass rate were comparable.

c. How does the pass rate of Track #3 (graduates who were required to repeat one or more courses) compare with the national pass rate?

The NCLEX-RN pass rate was calculated by the Board of Nursing by the calendar year. For this research question, members of the cohorts were divided by option track. Then data were redistributed by the year in which they took the exam for the first time. In this manner, the sets of data of Track #3 and the national pass rate were comparable.

The purpose of this study was to review archived data for information pertaining to the relationship between options graduates participated in for completion of an LPN-RN APO nursing program and NCLEX-RN pass rate results. Methodology and analysis of this study was described in this chapter. Chapter IV indicates findings of the study and Chapter V indicates implications and conclusions of the study.

CHAPTER IV

FINDINGS

This quantitative study was conducted to analyze archived data to explore

information related to a relationship of nursing curriculum option tracks and the National

Council Licensure examination for Registered Nurses (NCLEX-RN) pass rate. The data

are reported in percentages with the base indicated. When reporting research data, "It is

important to use the right base (denominator or divisor) and indicate which base you've

used" (Taylor-Powell, 1996, p. 2). This chapter begins with the demographic information

of Subpopulation 2. Additional information about this subpopulation follows with each

research question listed and the associated findings.

The study focused on NCLEX-RN pass rate of a community college associate

degree program (population; N=765). Two subpopulations existed within the overall 765

students. Subpopulation 1 consisted of those prepared in a more traditional manner

referred to as 'Traditional' (TRAD; n=578) and Subpopulation 2 consisted of those

prepared in the Advanced Placement Option, enrolled (APO; n=187) completed (APO;

n=147). Subpopulation 1 was referred to as TRAD and Subpopulation 2 was referred to

as APO. Findings reported for Subpopulation 1 were limited to only the overall pass rate

and findings for Subpopulation 2 included pass rate as well as additional information.

Table 3 presents information about Subpopulation 2. It includes each of the 13 cohorts, semester enrolled, number of students in each cohort and number of graduates in each cohort.

Table 3. Cohorts, Semester Started and Number of Students

Cohort	Semester	*N* Students enrolled in program	*N* Graduates
1	Summer 2005	5	5
2	Fall 2005	10	5
3	Spring 2006	10	8
4	Summer 2006	7	5
5	Fall 2006	20	18
6	Spring 2007	11	11
N/A	*Summer 2007* **no students admitted* *this semester*	*0*	
7	Fall 2007	22	17
8	Spring 2008	15	12
9	Summer 2008	18	16
10	Fall 2008	18	13
11	Spring 2009	24	18
12	Summer 2009	12	11
13	Fall 2009	15	8
	Total *N*	187	147

The APO students were admitted to the option from summer 2005 through fall 2009. Each semester of students was organized in cohorts. The Subpopulation 2 for this study consisted of 13 cohorts for a total of 187 students enrolled and 147 students completed.

The researcher was unaware that gender information would be included in the programmatic report and, as a result, this information was not included in the IRB request. The age of the students was the only demographic information available to the researcher for which IRB approval had been given.

Table 4 presents the ages of the APO students by 6-1-12 per IRB guidelines.

Table 4. Subpopulation 2 - Age as of 6-1-2012

Age (Years)	N	%
20-29	36	19
30-39	78	42
40-49	51	27
50-59	19	10
60 years of age and older	3	2
Total	187	100

The highest percentage of students existed in the 30-39 age group. The smallest percentage of students was in the 60 years and older age group.

Research Questions

Research Question #1

What is the performance for each of the 13 APO cohorts on the NCLEX-RN exam?

a. What is the NCLEX-RN pass rate on the first round for APO graduates who took the exam?

Of the subpopulation 2, 187 students enrolled in the program and 147 graduated. Of the 13 cohorts, 40 did not graduate. Of the 147 students that completed the program, 142 took the NCLEX-RN exam. Of the 142 students who tested, 116 students passed the NCLEX-RN national licensure exam on the first round and were counted in terms of program approval for the Board of Nursing. Percentages were calculated based on the number of students who passed the licensure exam divided by the number of graduates who took the exam. Table 5 graphically demonstrated this information.

Table 5. APO Graduates NCLEX-RN Pass Rate per Cohort

Cohort	*N* Graduates	*N* Tested	*N* Passed	*%* Pass Rate
1	5	5	5	100
2	5	5	5	100
3	8	8	7	87.50
4	5	5	3	60
5	18	18	17	94.44
6	11	11	10	90.9
7	17	16	14	87.50
8	12	12	9	75
9	16	15	13	86.67
10	13	13	8	61.54
11	18	17	15	88.24
12	11	10	6	60
13	8	7	4	57.15
Total	147	142	116	81.64 average

Cohorts 1 and 2 had 100% pass rates while five cohorts (4, 8, 10, 12 and 13) had
pass rates at or below percent.   The Board of Nursing has set a mandatory pass rate for a
program to be within 10 percentage points of the National average. This state board
standard is applicable if a program has 10 or more graduates. The National pass rate has
consistently hovered over a period of years at about 85%.   The researcher used 75% as
the benchmark (only for Research Question #1) as the pass rates are calculated for each

cohort and not for the calendar year. The national pass rate from 2002-2011 ranged from

a low of 85.26% to a high of 88.42% (Oklahoma Board of Nursing FY 11 Annual Report

2011).

In reporting to the State Board of Nursing, both the TRAD and APO options were

combined. As a result, the program as a whole (both subpopulations) would have had a

yearly NCLEX-RN pass rate greater than or within 10 percentage points of the average

national pass rate. Data presented for the findings of Research Question #1 was only for

APO graduates. These pass rates are calculated per cohort and not calendar year;

therefore this information would be for the nursing program director and faculty APO

evaluation. In the data presented, five cohorts had a pass rate at a level that would cause

the program to be scrutinized more closely. If these pass rates were yearly pass rates the

procedure would have been for the program faculty to have written a NCLEX-RN pass

rate report. The report would have related what the director and faculty considered were

possible causes of the low pass rate and the planned steps for improvement. Members of

the Board of nursing would have reviewed the report and determined if further action was

needed.

Figure 2 shows the pass rate for each cohort, includes a trend line of the 75%

benchmark and provides information in a different format.
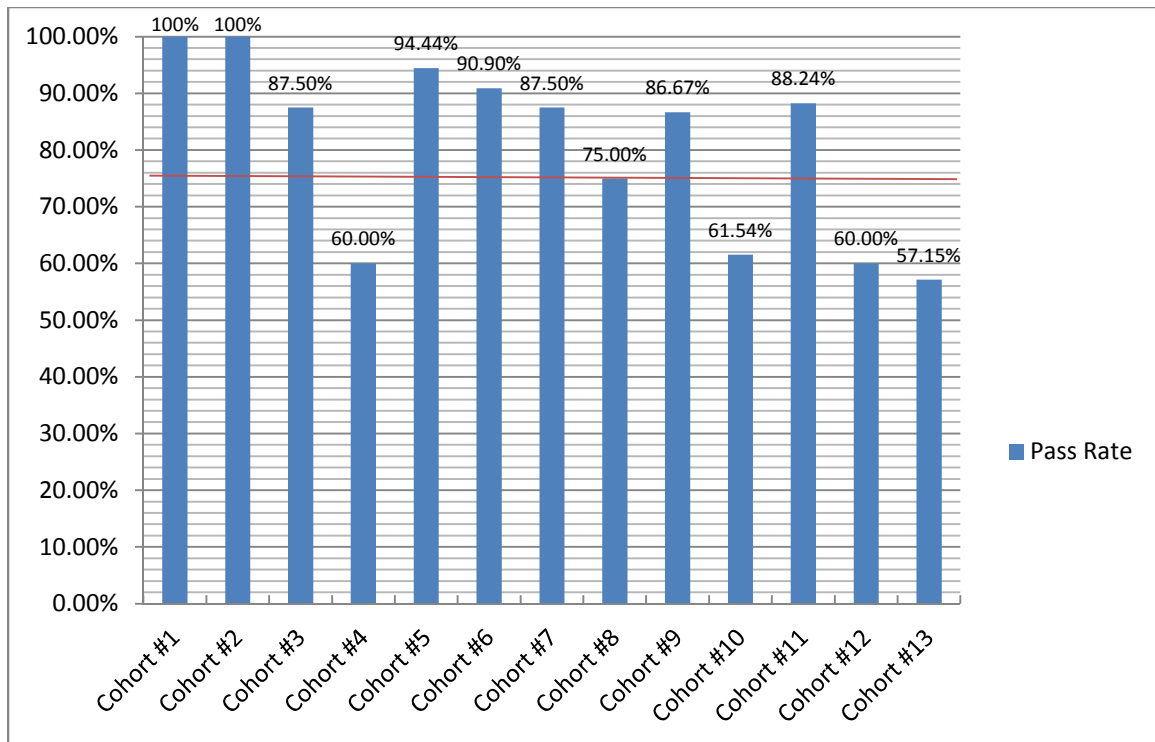
Figure 2: APO Pass Rate per Cohort. Trend Line Designates the 75% Benchmark.

Note: Cohorts 4, 8, 10, 12 and 13 were at the 75% benchmark or below which would have needed further investigation by administration and faculty of the APO.

b. What is the percentage of graduates who <u>never</u> test for the NCLEX –RN exam?

Within Subpopulation 2, a total of five individuals have never tested. Three of those graduates were no longer able to test due to time restrictions. Two students have not tested but still have time to test.

Table 6 presents information about the number of graduates in the 13 cohorts who never took the NCLEX-RN exam.

Table 6. APO Graduates Who Never Tested

Year Graduated	Graduated and Never Tested	Number Tested	Total	%
2008	1	24	25	4
2009	1	27	28	3.57
2010	1	28	29	3.45
2011	*1	8	9	11.11
2012	*1	4	5	20

Note: * Two graduates who still can take the NCLEX-RN.

Many reasons existed for not testing. Those reasons were not explored in this study. In Chapter V, the researcher will explore possible reasons for not testing.

    c. What is the percentage of graduates who do eventually pass on subsequent attempts but the data is not used for accreditation or programmatic evaluations?

Table 7 presents information about the APO graduates who failed the NCLEX-RN exam on the first round, graduates who passed on subsequent testing, and those who never passed.

Table 7. Percentage of APO Graduates Who Eventually Pass NCLEX-RN

Year	Failed First Testing Round	Passed Subsequent Testing	% Passed	Never Passed	% Failed
2006	No Failures	N/A	N/A	N/A	N/A
2007	1	1	100.00	0	0.00
2008	4	3	75.00	1	25.00
2009	2	2	100.00	0	0.00
2010	11	9	81.82	2	18.18
2011	8	7	87.50	*1	12.50
2012	1	0	0	*1	100
Totals	27	22	N/A	N/A	N/A

Note: *2011 and 2012 graduates who have never passed, may test again per Board of
Nursing two year limit on testing after graduation.

Years 2010 and 2011 had the largest percentage of graduates fail the NCLEX-RN
on the first testing respectively 18.18% and 12.5%. Analysis of the data indicated a total
of 27 graduates who did not pass on the first round. Removing from the calculation the
two graduates who are still within their two-year to window to test, leaves 25 graduates
who had not passed the NCLEX-RN on the first round. Of the 25 graduates who retested,
22 passed the NCLEX on subsequent rounds. This leaves only three APO students who
graduated from the program but never successfully passed the NCLEX-RN exam.

What is the difference between the NCLEX-RN pass rates of the Advanced Placement Option graduates with those of the Traditional program graduates (calculated by calendar year)?

The Oklahoma Board of Nursing, responsible for approving nursing programs, and the National League for Nursing Accrediting Commission, responsible for accrediting nursing programs, calculate the pass rate by calendar year. Data previously reported by cohort is now reported by year in which the test was taken.

Table 8 presents the pass rate for the Traditional Nursing graduates organized and calculated by year the NCLEX-RN was taken and the corresponding national pass rates.

Table 8. Traditional Nursing Program and National Pass Rates

Year	Passed	Tested	TRAD Pass Rate %	National Pass Rate %
2006	95	104	91.35	88.11
2007	87	93	93.55	85.47
2008	76	78	97.44	86.73
2009	68	72	94.44	88.42
2010	89	90	98.89	87.42
2011	99	106	93.40	87.90
2012	64	68	94.12	N/A

Note: The 2012 pass rate is calculated from Jan – Aug 2012 as the calendar year has not ended.

The pass rates for TRAD were above 90% for years 2006-2012. These high pass rates were well above the national pass rate.

Table 9 presents information about the APO, TRAD graduates, and national yearly NCLEX-RN pass rates.

Table 9. Advanced Placement Option, Traditional Nursing Program and National Pass Rates

Year	APO Passed	APO Tested	APO Pass Rate %	TRAD Passed	TRAD Tested	TRAD Pass Rate %	National Pass Rate %
2006	7	7	100.00	95	104	91.35	88.11
2007	17	18	94.44	87	93	93.55	85.47
2008	24	28	85.71	76	78	97.44	86.73
2009	27	29	93.10	68	72	94.44	88.42
2010	28	39	71.79	89	90	98.89	87.42
2011	8	16	50.00	99	106	93.40	87.90
2012	4	5	80.00	64	68	94.12	N/A

Note: The 2012 APO and TRAD pass rates are calculated from Jan-Aug 2012 as the calendar year is not complete.

The APO pass rates in 2010 and 2011 are well below the national pass rates. The APO 2012 pass rates are probably within 10 percentage points of the national pass rate however; the national pass rate for 2012 is not available at this time. The years of 2006, 2007, 2008, 2009 pass rate between the TRAD and the APO were comparable.

The parameters of the study were APO students who enrolled from summer 2005 to fall 2009. APO students who entered the program after fall 2009 graduated and tested in 2011 and 2012, but were not included in the calculations because they were not within the parameters of the study. Calculations only included the APO 13 cohort graduates who tested in those years. In 2011, the complete APO total would have been 42 graduates who tested and in 2012 the complete APO total would have been 24 graduates. In 2012, students were still able to test after the conclusion of the study but were pending conclusion of the 2012 year.

Figure 3 presents information about the APO, TRAD, and national yearly NCLEX-RN pass rates.

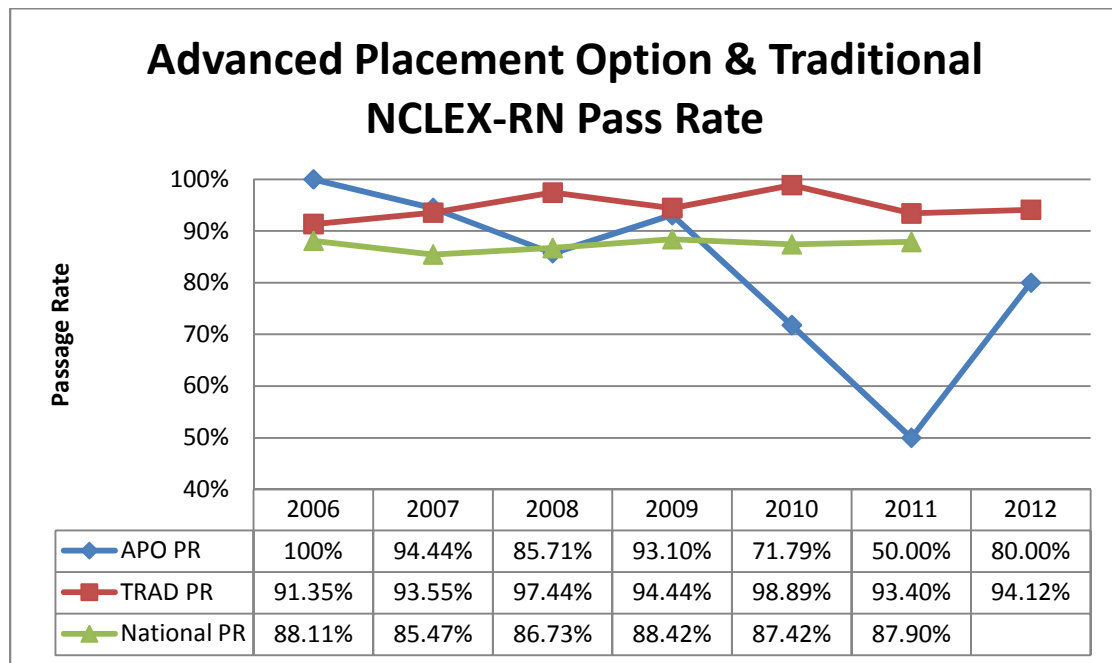|	2006	2007	2008	2009	2010	2011	2012
APO PR	100%	94.44%	85.71%	93.10%	71.79%	50.00%	80.00%
TRAD PR	91.35%	93.55%	97.44%	94.44%	98.89%	93.40%	94.12%
National PR	88.11%	85.47%	86.73%	88.42%	87.42%	87.90%	

Figure 3. Advanced Placement Option and Traditional NCLEX-RN Pass Rate.

Note: The 2012 pass rates for both the APO and TRAD were not complete as the testing is not completed for all of the 2012 calendar year. The 2012 national pass rate was unavailable.

In comparing the APO and TRAD pass rates their pass rates were above or within the 10 percentage points of the national pass rates for 2006 through 2009. The TRAD pass rate remained above the national pass rate in 2010 and 2011, but the APO pass rate fell below the 10 percentage points of the national pass rates. Although the national pass rate is not available for 2012, the TRAD and APO pass rates appear to be above or within the 10 percentage points of the national pass rate, based on previous yearly national pass rates.

Research Question #3

How do the pass rates of the three tracks of the APO compare to the national pass rates on the NCLEX-RN on the first round?

a. How does the pass rate of Track #1 (graduates who complete all of the courses with no repetition or testing out) compare with the national pass rate?

Track #1 graduates completed the entire program including all learning activities without any repetition or testing out of a course(s). Track #1 graduates exceeded the national pass rate in 2006 and 2007. In 2008-2010, Track #1 graduates met the criteria of being within 10 points of the national average. In 2011 with a National pass rate of 87.90% Track #1 fell behind with a pass rate of 62.50%.

Table 10 presents information about the APO graduates who completed the program by attending all of the courses and not repeating any courses (Track #1) and the national pass rates.

Table 10. Advanced Placement and National Pass Rates

Year	APO Track #1 Passed	APO Track #1 Tested	APO Track #1 Pass Rate %	National Pass Rate %
2006	1	1	100.00	88.11
2007	1	1	100.00	85.47
2008	6	7	85.71	86.73
2009	10	12	83.33	88.42
2010	16	20	80.00	87.42
2011	5	8	62.50	87.90
2012	None	None	N/A	No Data

Note: No APO Track #1 graduates were enrolled in 2012. The national 2012 pass rate was not calculated as testing was not completed for the calendar year.

The APO Track #1 graduate pass rates were above or within the 10 percentage points of the national pass rate for years 2006 through 2010. The APO Track #1 graduate pass rate for 2011 was well below the 10 percentage points of the national pass rate. There were no APO Track #1 graduates in 2012.

Figure 4 presents information about the APO Track #1 graduates and national pass rates for 2006 through 2011.
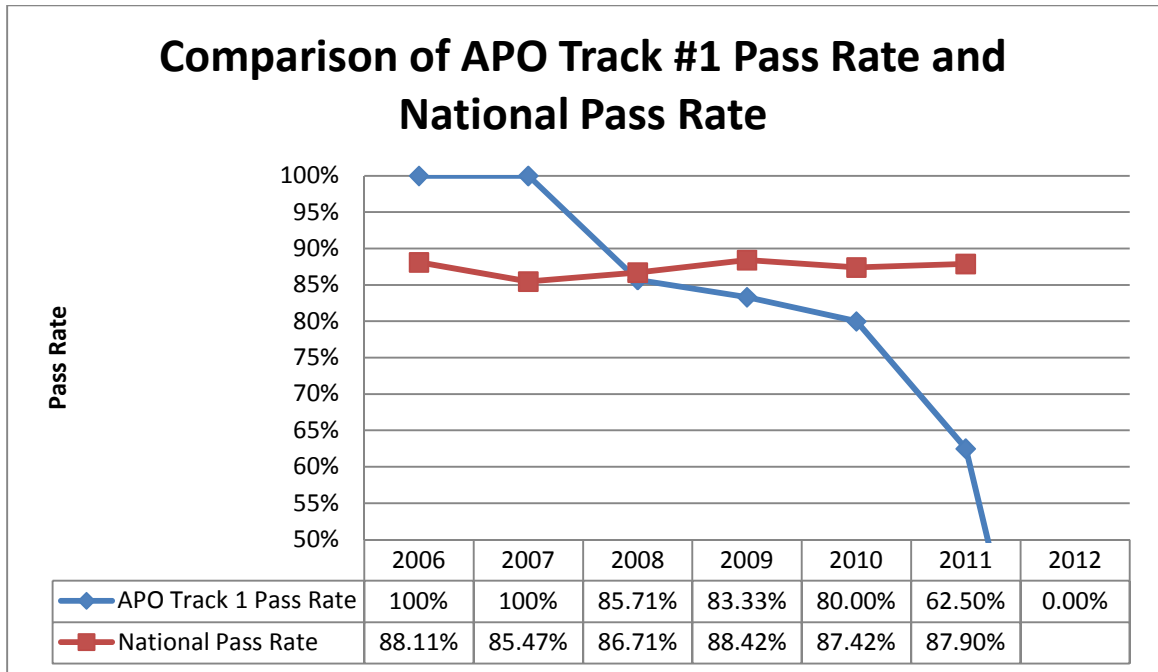
Figure 4. *Comparison of APO Track #1 Pass Rate and National Pass Rats.*

Note: No graduates had been enrolled in APO Track #1 in 2012. The national 2012 pass
rate was not calculated as testing had not ended for the calendar year.

The APO Track #1 graduates achieved 100% pass rates in 2006 and 2007. The
pass rates were within the 10 percentage points of the national pass rates in 2008, 2009
and 2010. The pass rate in 2011 was below the 10 percentage points of the national pass
rate.

**b. How does the pass rate of Track #2 (graduates who test out of the
permitted one-three courses) compare with the national pass rate?**

Table 11 presents information about APO Track #2 graduates pass rates from
2006 through 2010 and the national pass rates from 2006 through 2011.

Table 11. Advanced Placement Option Track #2 Pass Rate and National Pass Rate

Year	APO Track #2 Passed	APO Track #2 Tested	APO Track #2 Pass Rate %	National Pass Rate %
2006	6	6	100.00	88.11
2007	14	15	93.33	85.47
2008	14	14	100.00	86.71
2009	14	14	100.00	88.42
2010	5	5	100.00	87.42
2011	None	None	N/A	87.90
2012	None	None	N/A	No Data

Note: No APO Track #2 students were enrolled in 2011 & 2012. The 2012 national pass rate had not been calculated as testing had not been completed for the calendar year.

The pass rates of APO graduates in the Track #2 option were 100 percent for 2006, 2007, 2009, 2010 and 93.33% in 2007. There were no APO Track #2 graduates in 2011 and 2012. All Track #2 graduated achieved pass rates above the national pass rates.

Figure 5 presents information about the APO Track #2 graduates and national pass rates in a different format.

Comparison of APO Track #2 Pass Rate and National Pass Rate

	2006	2007	2008	2009	2010	2011	2012
APO Track #2 Pass Rate	100%	93.33%	100%	100%	100%		
National Pass Rate	88.11%	85.47%	86.73%	88.42%	87.42%	87.90%	
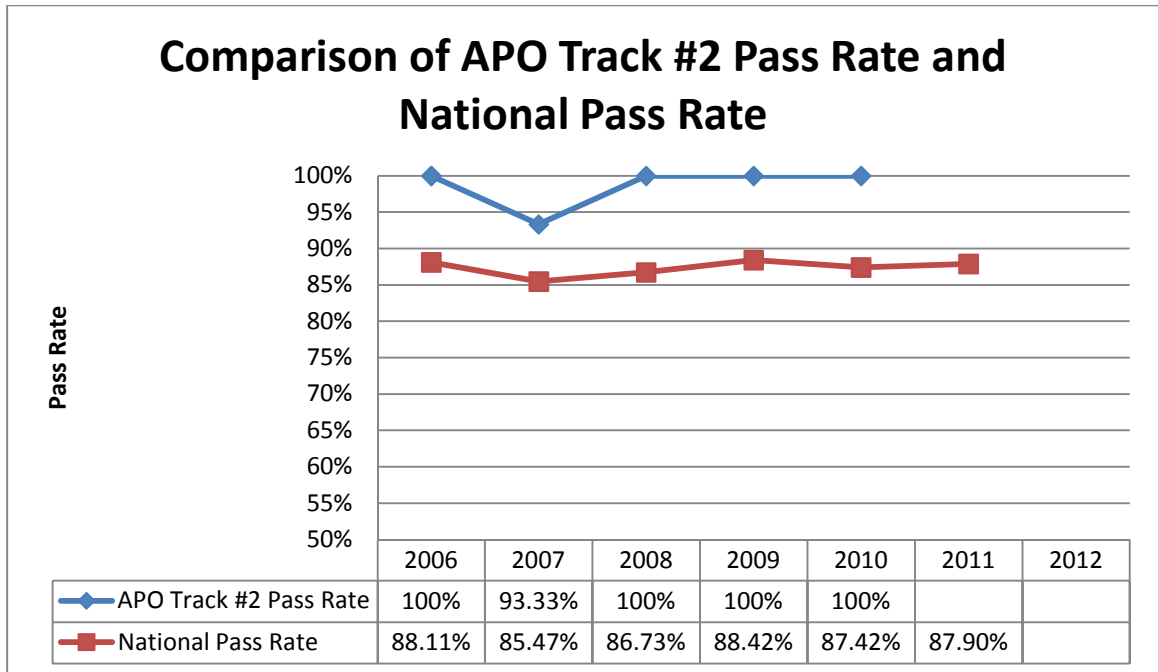
Figure 5. *Comparison of APO Track #2 Pass Rate and National Pass Rate.*

Note: No APO students were enrolled in Track #2 in 2011 and 2012. The national 2012 pass rate has not been calculated at this time as it is not the end of the calendar year.

In 2006 through 2010 the APO Track #2 graduates pass rates were greater than the National pass rates.

c.   How does the pass rate of Track #3 (graduates who were required to repeat one or more courses) compare with the national pass rate?

Table 12 presents the APO Track #3 graduates' (who repeated one or more courses to complete the nursing curriculum) and national pass rates.

Table 12. Advanced Placement Option Track #3 Pass Rate and the National Pass Rate

Year	APO Track #3 Passed	APO Track #3 Tested	APO Track #3 Pass Rate %	National Pass Rate %
2006	None	None	N/A	88.11
2007	1	1	100.00	85.47
2008	5	8	62.50	86.73
2009	2	2	100.00	88.42
2010	5	12	41.66	87.42
2011	5	8	62.50	87.90
2012	4	5	80.00	No Data

Note: No APO Track #3 graduates were enrolled in 2006. The 2012 national pass rate has not been calculated as the calendar year has not ended.

There were no APO Track #3 graduates in 2006. In 2007 and 2009, the APO Track #3 graduates' pass rates were at 100% well above the national pass rates. In 2008, 2010 and 2011 the APO Track #3 graduates' pass rates were below the 10 percentage points of the national pass rates. The 2012 APO Track #3 graduates appear to be within the 10 percentage points of the national pass rate is not yet available.

Figure 6 presents information about APO Track #3 graduates who repeated one or more courses to complete the nursing curriculum and the national pass rates.

Comparison of APO Track #3 Pass Rate and National Pass Rate

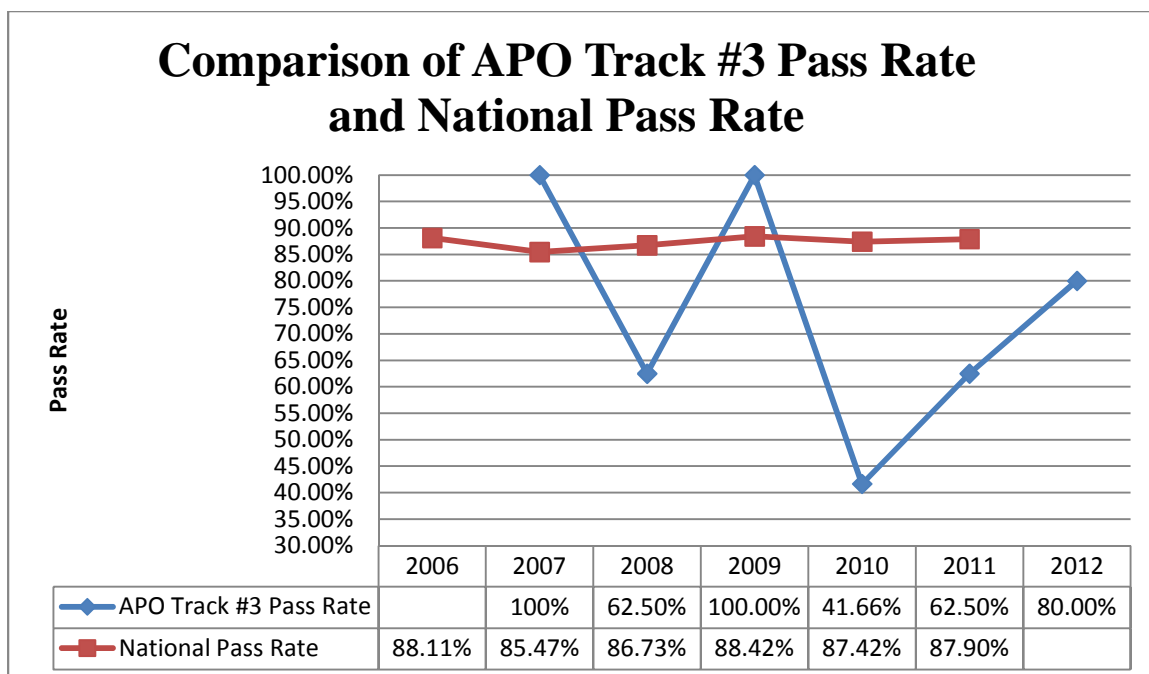|	2006	2007	2008	2009	2010	2011	2012
APO Track #3 Pass Rate		100%	62.50%	100.00%	41.66%	62.50%	80.00%
National Pass Rate	88.11%	85.47%	86.73%	88.42%	87.42%	87.90%	

Figure 6. Comparison of APO Track #3 Pass Rate and National Rate.

Note: No 2006 students participated in Track #3. The national 2012 pass rate has not been calculated at this time as it is not the end of the calendar year.

The APO Track #3 graduates' pass rates were at 100% in 2007 and 2009. The pass rates of the APO Track #3 graduates were below the 10 percentage points of the national pass rate in 2008, 2010 and 2011. It appears the 2012 pass rate will be within the 10 percentage points of the national pass rate although the national pass rate is not yet available.

Figure 7 presents information about APO Tracks #1, #2, #3 and national Pass Rate.
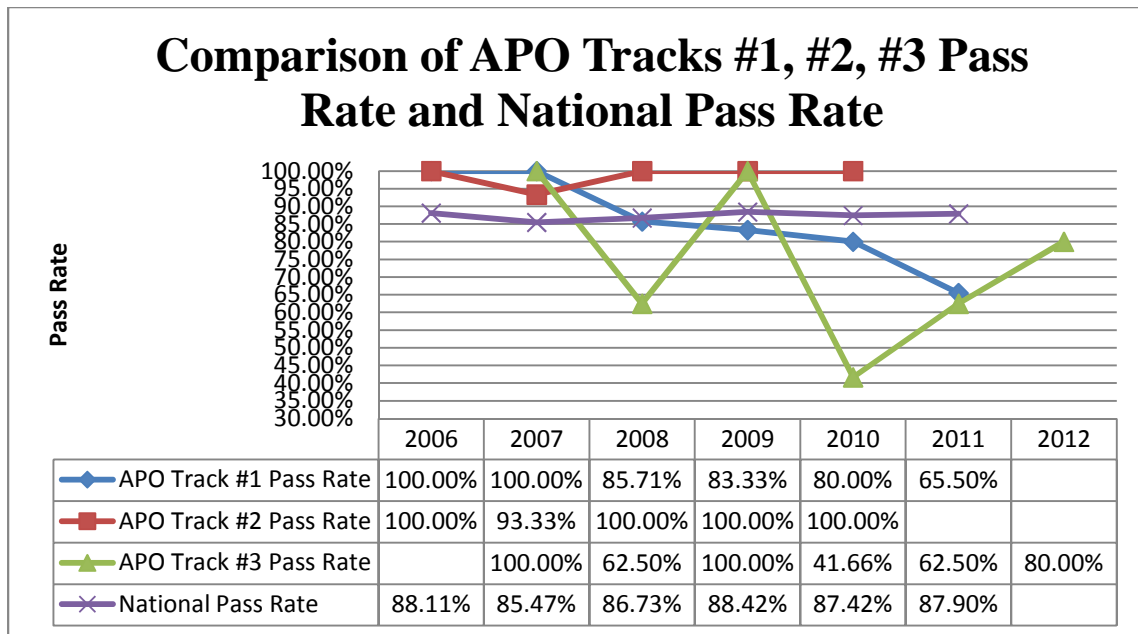
Comparison of APO Tracks #1, #2, #3 Pass Rate and National Pass Rate

	2006	2007	2008	2009	2010	2011	2012
APO Track #1 Pass Rate	100.00%	100.00%	85.71%	83.33%	80.00%	65.50%	
APO Track #2 Pass Rate	100.00%	93.33%	100.00%	100.00%	100.00%		
APO Track #3 Pass Rate		100.00%	62.50%	100.00%	41.66%	62.50%	80.00%
National Pass Rate	88.11%	85.47%	86.73%	88.42%	87.42%	87.90%	

Figure 7.   *Comparison of APO Tracks #1, #2, and #3 Pass Rate and National Pass Rate*

Note: APO Track #1 2012, Track #2 2011 & 2012, Track #3 2006 No Graduates Enrolled. National Pass Rate 2012 has not been calculated as it is not the end of the calendar year.

Figure 7 presents the National yearly pass rate for 2006 through 2011. The National pass rate is utilized by the Oklahoma Board of Nursing and accrediting agencies as an indicator of nursing program successful outcome. The nursing program pass rates must be within at least 10 percentage points of the National pass rate. Pass rates are calculated by the calendar year the graduate took the NCLEX-RN. APO Tracks #1, #2 and #3 are also in the figure to present the study data in a different format to assist in clarity of the findings.

APO Track #2 graduates, who tested out of one to three courses in the nursing curriculum, achieved 100% pass rates in 2006 and 2008 through 2010. In 2007 the APO Track #2 pass rate was above the national pass rate. In 2011 and 2012 there were no

Track #2 graduates. APO Track #1 graduates, who completed the entire nursing curriculum, achieved 100% pass rates in 2006 and 2007. In 2008 through 2010 the APO Track #1 pass rates were below the national pass rates but within the required 10 percentage points. In 2012 there were no Track #1 graduates. APO Track #3 graduates, who repeated one or more courses in the curriculum, had no graduates in 2006. In 2007 and 2009 the APO Track #3 graduates achieved 100% on both pass rates. In 2012 the Track #3 pass rate is 80 percent but the national pass rate has not been calculated as the year is not completed. In 2008, 2010 and 2011 the APO Track #3 graduates' pass rates were below the national pass rates.

Summary

The demographic data for this study included only the age of Subpopulation 2 individual members as of 6-21-12. The highest percentage of students existed in the 30-39 age group. The smallest percentage of students was in the 60 plus age group. The data contained in the findings indicated there were times that the APO graduates had met the pass rate requirements and other times they had not. Track #2 graduates experienced the highest pass rates. The Track #3 graduates had the lowest pass rates. The traditional graduates' pass rates were more consistent and in this data were all above the National pass rates. Not all of the three tracks of the APO graduates were above this measure. Chapter V contains implications and recommendations for future research and practice based on this data.

CHAPTER V

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Discussion

Health care in the United States is currently experiencing a nursing shortage. In an attempt to increase the Registered Nursing numbers, nursing educators are developing nursing education formats that lead to accelerated movement from an LPN to an RN. Nursing programs offering accelerated formats have no difficulty recruiting students. The LPN frequently works full-time and is in need of an educational format that will be completed quickly. Are the options which allow the student to move at a faster pace through the nursing curriculum leading to the student successfully achieving the outcome of passing the NCLEX-RN to obtain RN licensure?

This quantitative study was conducted to analyze archived data of an LPN-RN Advanced Placement option and explore information related to a possible relationship between nursing curriculum options and performance on the National Council Licensure examination for Registered Nurses (NCLEX-RN). Archived data was gathered, placed in specific groups and analyzed following obtainment of IRB approval.

The study focused on the NCLEX-RN pass rates of a community college associate degree program (population; $N=765$). Two subpopulations existed within the overall 765 students. Subpopulation 1 consisted of those prepared in a more traditional

manner referred to as Traditional (TRAD; n=578). Subpopulation 2 consisted of those

enrolled in the Advanced Placement Option (APO; n=187) with (APO; n=147)

subsequently graduating. Subpopulation 1 was referred to as TRAD and Subpopulation 2

was referred to as APO. For purposes of this study, the findings reported for

Subpopulation 1 were limited to the overall pass rate and findings for Subpopulation 2

included pass rate as well as additional information.

Summary of Findings

Size of the Subpopulations

Subpopulation 1 (TRAD; n=578) was a larger group than the Subpopulation 2

(APO; n=187) with (APO n=147) subsequently graduating. The TRAD option has been

in existence for a longer period of time having begun in 1971 and did have more faculty.

APO started in the early 1980s. The researcher did not have a knowledge base in terms

of what might have been done in the early part of the Advanced Placement option to

recruit students or to market the program. When Subpopulation 2 was divided into groups

the total number of group members was small for example n=5. According to Frankel and

Wallen (2006) "with studies using only 15 subjects per group should probably be

replicated, however, before too much is made of any findings" (p. 104).

Gender Information

Unfortunately prior to IRB approval, the researcher was not aware of the ability to

access to gender information. As a result, this information was not included in the IRB

approval processes for the community college or the University. Because of this fact, no

further reporting of data or discussion was made by the researcher concerning gender.

Age of Subpopulation 2 as of 6.1.12

The largest group of APO students was between 30-39 years of age. The smallest

group of students was 60 years or older.

Initially these data were somewhat surprising considering the increased

information and research concerning the "Graying of America." Slade (2012) related in

2010 that the U.S. population was aging due to the first group of baby boomers turning

65, and by 2030, 72 million people would be over the age of 65 (p. 6). After further

reflection, the researcher realized that the data reflected the age the students were when

they began the program and not when they entered the workforce. In other words, the

age given was the age of the students in that APO subpopulation and not the age of the

health professionals in the current workforce. Much of the literature reflected the age of

the professional in the current workforce. For example, the various reasons a student had

chosen to enter either the TRAD or the APO were not part of the study and were

unknown. It could not be determined if the students in the program had already had a

career in another area in the workforce, if this career choice was a second career, or if the

student pursued this program in an effort to be more upwardly mobile in the workforce.

Research indicated that the median age of registered nurses in the current

workforce was 46 ("Nursing Shortage" 2012). If one would speculate that a 30-39 year

old student would have taken approximately one to one and half years to complete the

program, then this individual might have up to an additional 20-30 years to be in the

workforce. Certainly the investment of one and one-half years of schooling would be a small price for increased productivity if, in fact, such increased productivity occurred.

Research Question #1

What is the performance of each of the 13 APO cohorts on the NCLEX-RN exam?

a. What is the NCLEX-RN pass rate on the first round for graduates who took the exam?

The pass rates of each APO cohort were between 57.15% and 100%. The overall average pass rate was 81.69%. Low pass rates using a 75% benchmark were found in five of the 13 cohorts sporadically spaced throughout the semesters.

Closer analysis of the data represented in Research Question #1 was mixed. Three themes emerged from the data as follows: 1) lack of data about any contextual issues within a cohort year, 2) number of students per cohort and its relationship to the pass rate, 3) number of students who enrolled and the number of students graduated per cohort, which indicated possible attrition and retention issues. It was evident from the data that not every cohort had met the 75% standard identified. The lack of contextual data within a cohort year led to a lack of knowledge about what might have happened during a cohort year. For instance, was the faculty in those years less qualified? Were other factors such as the entrance levels of the students different? The researcher simply cannot make any statements about this issue because of the lack of data. Without more contextual data, it was difficult for the researcher to discern what the situations might have been in the five cohort years when APO graduates have not met the standard.

The number of students an individual faculty would have been responsible for in a given cohort varies widely. The assumption had been made previously that perhaps a smaller cohort of students would have received more individual help and as a result would have had a higher pass rate. This assumption did not hold true with the data.

For example, two of the largest cohorts were Cohort 5 and 11. Cohort 5 had 20 enrolled students and a pass rate of 94.44%. Cohort 11 had 18 students enrolled and a pass rate of 88.24%. Conversely, Cohort 4 had 7 enrolled students and a pass rate of 60%.

Two cohorts had a 100% pass rate with a varying number of students in the cohort. Cohort 1 had only 5 students which was the smallest number of students in all 13 cohorts and had a 100% pass rate. Cohort 2 also had a 100% pass rate with 5 who had finished the program and tested.

Cohort 4 had a 60% pass rate and had 7 students who had begun the program with only 5 who finished the program and could have tested. Cohort 8 had a 75% pass rate with 12 who graduated, 12 who tested, and 9 who passed the NCLEX-RN.

There did not appear to be any relationship between the size of the cohort and the pass rate for the cohort. It might be reasonable to expect that smaller cohorts would have received more individual help and thus have a higher rate of success. This expectation did not appear to hold true.

There were no research questions related to attrition. However, when analyzing the data, it was found the attrition rates for each of the 13 cohorts ranged from zero to 50%. Cohort 2 started with ten students and five students graduated which led to a 50% attrition rate. The next highest attrition rate was for cohort 13. Fifteen students started the

program, 8 students graduated, and the attrition rate was 46.67%. The overall average attrition rate for the 13 APO cohorts was 28.78%. In other words, one third of the students who begun the program have not completed the program. The Oklahoma Board of Nursing (2012) provided completion rates of the Oklahoma ADN programs. Based on the completion rate available, an attrition rate of 38.80% was calculated for the combined TRAD and APO students in 2011.

The process of what happens when a student has made the decision to leave the program either because of failure of a course or personal issues has been faculty-driven. The faculty member teaching the course the student will be leaving is responsible for completing the exit interview document. The exit interview has been designed to provide pertinent data about the issues of the student, and the goal has been for the interview to take place in a timely manner, particularly after failure of a course. The exit interview document has included such items as a self-reflection about the program, the reading scores of the student, GPA, and any previous academic issues in any of the nursing courses. Individuals on the nursing faculty have conducted exit interviews to gather the data. One of the issues in the past has been that a student may or may not comply with being interviewed as they exit. This has often happened because students have been emotionally upset after being told they have been dropped from the program due to academic performance. This system has also relied on individual faculty members having submitted the data from these exit interviews in a timely and usable manner. Other issues have been that some students simply stop coming to class, and so it has been an impossibility to interview them. Another issue has possibly been that students might not be comfortable honestly describing their experiences with the interviewer who has

been their teacher. The faculty then turns in the completed exit interview to one specific faculty member who has been assigned the task of compiling data from exit interviews and reporting that data to Faculty Council.

Recently at this institution, a retention committee has been formed to analyze data concerning numbers of students enrolled in both program options and possible implications of the retention rate. This committee has included current faculty as well as graduates of both options of the nursing program. This committee holds potential to provide meaningful data to those who administer and teach in the nursing program.

b. What is the percentage of graduates who <u>never</u> test for the NCLEX –RN exam?

The total number of graduates who never tested was five. One graduate in 2011 and one graduate in 2012 were still able to take the test after the conclusion of this study. The percentage of graduates who never took the NCLEX-RN ranged from 3.45% in 2010 to 20.00% in 2012.

Reasons for not testing were not available. The researcher has suggested several reasons that might have occurred. These have included the choice by the graduate to not test, anxiety about testing, perhaps a wrong career choice by the student, moving to another state to test, or not receiving permission to test from the Board of Nursing due to not meeting a criteria to test. In the case of out of state testing, the Board of Nursing in that state must send the information back to the state in which the student graduated. No data existed to determine whether or not the relating of information from one state to another happened consistently. For example, a graduate might have tested in another state, but the program in the state where they had graduated was never informed. If a

student had a criminal issue that would result in a positive background check, the student would be required to report it on both the admission and licensure application. In some instances, this issue precludes ever being admitted to the nursing program or taking the exam. In other instances, education might be required by the Board of Nursing and would delay testing.   This information was not available to the local nursing instructor or the researcher and as a result was not considered in this study. It is sheer speculation to consider why a graduate might not test.   Also, only 3% of the 147 who graduated did not test, and this did not indicate any major issue about not taking the NCLEX-RN exam following graduation.

c. **What is the percentage of graduates who do eventually pass on**
    subsequent attempts?

The percentage of those graduates who passed on subsequent attempts ranged from 75 to 100% percent. There were 27 graduates who did not pass on the first testing attempt. There were 22 of the 27 or 81.48% of the graduates who passed the test when the test was repeated. The total number of graduates who never passed was five. Two of these five graduates were still able to test according to the Board of Nursing.

The majority of students do pass when they retest. Of the 27 who did not pass on the first round, 19 of those graduates or 70% were in the years 2010 and 2011. Of the 27 who did not pass on the first round, 22 eventually passed on subsequent rounds of testing. Again, only 3 of the 27 who had to retest never were able to pass the licensure exam and two of those still have the allowed two years in which to test. Again, this data does not indicate a major issue about the retesting group of students.

Data indicated two years in which there was a much higher failure rate. In spring

2010, the passing standard for the licensure exam was raised. A separate committee

makes recommendations to the National Council of State Boards of Nursing every three

years concerning a 'test plan' to either maintain, lower, or raise the passing standard or

make other changes. These changes could include changes such as the number of

questions in various areas and feedback from practicing nurses and recent graduates who

successfully passed the licensure exam. These changes appear to have affected years

2010 and 2011 but only for the APO option only. The data indicated that there was no

relationship between the testing plan changes and the pass rate for those students in the

more traditional option. It is not known what might have led to the TRAD graduates

being able to maintain high pass rates in the time frame when the increase in the NCLEX-

RN passing standard took place and the APO graduates achieving low pass rates.

The researcher did further analysis of the data and found in 2010 five of the 11

students who failed the test on the first testing were in Track #3. Track #3 consisted of

students who had repeated a course. The lowest pass rate 58.33 percent for Track #3 was

seen in 2010 and the second lowest pass rate 62.5% was in 2008 and 2011.

Research Question #2

What is the difference between the NCLEX-RN pass rates of the advanced

placement option graduates with those of the traditional program graduates

(calculated by calendar year)?

The pass rate of the TRAD graduates was calculated on the calendar year as

required by the Board of Nursing and the NLNAC. The pass rate ranged from 91.35% to

98.89% for years 2006 to 2012 respectively. All pass rates were well above the national pass rates for the same years. Calculations for 2012 were not for the complete year as 2012 had not ended at the time of the study.

The TRAD graduates maintained a pass rate greater than 90% for all of the years of testing analyzed. Faculty members teaching in the TRAD option have some similar characteristics as follows: full time faculty, faculty members who have taught the same courses over many years, faculty at the same institution for a longer period of time, and more than one faculty member who has the responsibility for a given course. There were some adjunct faculty members who did teach in the clinical area. Most of the TRAD students' clinical experiences were during the week which led to a more varied clinical experience. The varied clinical experience of the TRAD students could lead to more opportunities to learn nursing content and skills.

The APO graduates pass rates for 2006 to 2012 ranged from 41.66% to 100%. The TRAD graduates pass rates for 2006 to 2012 ranged from 91.35% to 98.8%. The pass rate calculations for 2012 were not complete as the year 2012 had not ended. Clearly, some of the APO graduates were not prepared to pass the NCLEX-RN. There are many reasons that could be identified as to why these graduates were not prepared. The APO students have clinicals only on Saturdays. These clinicals are often limited by the low patient census and low numbers of Registered Nurses working who could be role models for the APO students. Most of the APO students work full time while attending the nursing program. This data was not part of the study but the researcher has seen in her own schooling experience that working full time does lead to less time for studying.

The APO pass rates for 2010 and 2011 were much lower than the TRAD pass

rates for the same years. The reason for the low pass rates in these two years again can

be further analyzed by reviewing the number of students in specific tracks. Five of eleven

students failed in Track #3. Track #3 had low pass rates in 2008, 2010, and 2011. Data

regarding the years of 2011 and 2012 needs to be cautiously analyzed because the actual

number of APO graduates who tested in those years was not reflected in the calculations;

only the cohort graduates were included. To clarify, some of the APO students who

entered the nursing program semesters following the 2009 fall semester were able to

graduate and take the NCLEX-RN exam in 2011 and 2012, but because they were not in

Subpopulation 2, they were not a part of the calculations.

Research Question #3

> **How do the pass rates of the three tracks of the APO compare to the national**
>
> **pass rates on the NCLEX-RN in the first round?**
>
> a. **How does the pass rate of Track #1 (graduates who complete all of the**
>
>   **courses with no repetition or testing out) compare with the national pass**
>
>   **rate?**

The APO Track #1 graduates pass rates ranged from 62.5 to 100%. In years 2006

to 2007, pass rates were 100%. In years 2008 to 2010, pass rates were below national

pass rates but within 10 percentage points of the national pass rate. In 2011 the pass rate

was 62.5%, below the 10 percentage points of the national pass rate. There were no APO

graduates in Track #1 in 2012.

The APO Track #1 graduates achieved NCLEX-RN exam pass rates that met the

Board of Nursing criteria for five out of the six years of test data analyzed in this study.

This finding leads the researcher to conclude that students completing all of the courses

in the nursing curriculum are very likely to pass the NCLEX-RN the first time tested.

Because students are not learning in vacuums, there is no doubt that other variables also

influenced the APO Track #1 graduate achievement. Perhaps what the LPN student

brought to the learning situation was her past experience in health care. Also, it is

important to remember the post-positivist perspective of this study leads one to know

further study will be needed analyzing other variables that might be relative to the

NCLEX-RN pass rate.

    b. How does the pass rate of Track #2 (graduates who test out of the

        permitted one-three courses) compare with the national pass rate?

The pass rates for the APO Track #2 graduates for 2006 to 2010 were from 93.33

percent to 100 percent. All pass rates were above the national pass rates for the same

years. There were no APO graduates in Track #2 in 2011 or 2012.

The APO graduates who completed the option by testing out of one to three

courses achieved pass rates of 100 percent in 2006, 2008, 2009 and 2010. In 2007, the

graduates pass rates were 93.33 percent again well above the national pass rate.

There was a possibility to move through the APO curriculum faster if a student

tested out of at least one to three courses. Graduating earlier may have led to taking the

NCLEX-RN test when nursing content was more recent in the graduates' minds. The

three courses available for Track #2 were obstetrical, pediatric, and psychiatric nursing.

These areas of nursing were considered specialties and the perception was that fewer NCLEX-RN questions related to this specific content.

Perhaps the students who took advantage of Track #2 were students who possessed more academic and study skills, had stronger support systems, had experience in those courses, had higher levels of self-confidence or were self-directed learners. The entire program contained a total of six courses. Theoretically, a student could have tested out of 50 percent of the option. This data was surprising as the researcher had assumed that a student who had tested out of courses would actually not do as well as those who had taken all of the courses. This assumption did not hold true. In fact, the reverse was indicated by the data; the students who were in Track #2 consistently had higher pass rates than Tracks #1 and 3.

c. **How does the pass rate of Track #3 (graduates who were required to repeat one or more courses) compare with the national pass rate?**

The APO Track #3 pass rates ranged from 58.33% to 100% for 2007 to 2012. A pass rate of 100 percent was achieved in 2007 and 2009. The pass rate was below the 10 percentage points of the national pass rate in 2008, 2010 and 2011. There were no APO Track #3 graduates in 2006. The 2012 APO Track #3 pass rate is calculated on a partial year as 2012 has not been completed. Likewise, the 2012 national pass rate has not been calculated as 2012 has not been completed.

The students who had to repeat courses were doing so because they had not achieved a grade of C or above for the course. Possibly, the failure of the course led to possibly emotional and financial stress. The student had not learned the correct content and was required to return and repeat the course if graduation was the desired outcome.

The student possibly experienced discomfort resulting in cognitive dissonance. Festinger (1957) related that the discomfort cognitive dissonance created was not something the person wanted to endure. The person would be willing to try to do something to no longer experience the discomfort. Interventions that students would possibly have put into place to resist the discomfort might be to physically or psychologically distance themselves from the cause of the discomfort. These actions could lead to not returning to repeat the class. It could also lead to returning just long enough to learn the correct content to pass the course but not enough to pass the NCLEX-RN.

The student who experienced the necessity of repeating a course was not given the ability to retake the course in a different format or the course in different modality. It was simply a repeat of the same course. The student who failed a course was given a prescription, which is an assignment to study the course content by completing a workbook that accompanies the course text or answering practice NCLEX-RN questions related to the course content. The student was allowed to return to the failed class if the prescription was successfully completed and submitted by the assigned due date. Informally a faculty member might have helped the student identify the problematic areas of the course but no systematic method of assessing weak areas and providing remediation was in place at this time. It was assumed students were not able to pass the course because they could not or do not understand the content. In fact, this might not be the reason.

Upon close reflection and analysis of the data, the researcher has suggested some overall conclusions and possibilities in terms of administration of the program as well as recommendations for future research. Several basic conclusions emerged from the data.

These conclusions included the possibility of an additional track in the APO option, the completeness of theoretical perspective, the areas in which data seemed to be insufficient, and the strength of the traditional option. Following is clarification for each conclusion.

Possible Track #4

Upon analysis of the data, the researcher found three students who actually were part of track #2 and track #3. In 2009, one student tested out of courses and repeated courses. This student did pass the NCLEX-RN the first time. In 2010, two students tested out of courses and repeated courses.   Unfortunately, these two students were not successful in the NCLEX-RN licensure exam.

This possible combination was not previously considered by the researcher but yet did not yield useful information; 3 students out of 147 graduates over a 13-semester period of time do not provide adequate data on which to make reasonable decisions. In fact, these three students were clearly not the norm.

Completeness of Theoretical Perspective

This study utilized a post-positivist theoretical perspective. There is a need for additional theory to move from a perspective to a framework. Perhaps the use of educational theories would strengthen this study. First, Gagné's (1985) Conditions of Learning could have been utilized as a filter to assist in understanding why some graduates were not successful when they tested. At the beginning of this study this researcher thought students who tested out of one to three courses would not be successful on the NCLEX-RN exam because they did not experience any of Gagné's nine

instructional events referred to in Table 1. The data did not suggest this to be true. But perhaps the theoretical filter was not applied to the proper APO student data. The last semester of the option is delivered almost entirely through the Internet. The content in the last semester is a large portion of the medical-surgical nursing content which is on the NCLEX-RN exam. Maybe the students are graduating with a lack of content knowledge because they are not in a classroom environment. Another possibility could be the lack of the use of Gagné's conditions of learning because they are not being put into place in the Internet course. These conditions of learning could easily be utilized in the Internet course.

Another educational theory that could possibly be utilized as a filter is Festinger's (1957) cognitive dissonance theory. In this theory cognitive dissonance develops when a person encounters a belief that is different than his belief. The person will experience feelings of discomfort and try to decrease the dissonance. The attempt to decrease the dissonance could include avoiding the belief. The APO students who must repeat courses are very likely to experience cognitive dissonance and perhaps that is why they are not achieving the NCLEX-RN pass rates when they graduate. With this possibility in mind nursing faculty could make a point to determine if the student is experiencing cognitive dissonance and assist the student in dealing with it and enhancing his learning. The cognitive dissonance theory could apply to any of the APO students as all are likely to encounter beliefs that are different than theirs.

Finally an adult education theory could be utilized in this study. Knowles's andragogy model could be used as a filter as all of the APO students are adults. Knowles (et al. 2011) related assumptions to adult learning. Examples include adult learners

needing to know why they must learn, being responsible for their own decisions, bringing

their experiences to the learning, and responsing to external motivation. Looking at the

data through this filter may have led to better analysis. The researcher could investigate if

the andragogy model was being utilized and if not look deeper to determine how this

possibly affects the learner.

Insufficient Data

There were some areas of the study where the researcher found the need for more

data to fully analyze the proposed research question. For example, the area of APO

NCLEX-RN failure could have been understood more fully if graduate self-reflection

information related to reasons for failure had been available. Also the study did not

attempt also to distinguish between students in Track #3 in terms of how many courses

were repeated.

Strength of Traditional Option

It was found that the TRAD graduates maintained NCLEX-RN pass rates that

were stable and above the national pass rate for all of the years in the study. This finding

was not expected by the researcher. One can only speculate that perhaps the clinicals

offered during the week and at various health care facilities for the TRAD students might

have led to the pass rate achievement.

Another possibility for the APO graduate not achieving adequate NCLEX-RN

pass rates every year was the 19 hours of articulation credit received by the APO student.

These courses contained medical surgical content and a clinical component. Because the

APO students were not in the courses they were not taking the complete medical surgical content and clinicals the TRAD students took. The TRAD students were able to cover of all medical surgical content and participate in clinicals that provided opportunities for the students to be visually and physically exposed to content thus enhancing their learning.

Recommendations

Recommendations for Practice

- Until this study, a systematic organization and analysis of APO data in this manner had not been completed. When the researcher began at the institution, the APO pass rate appeared to be a magic hidden number only accessible to an elite few. Informing the APO faculty of graduate outcomes should lead to a stronger program with graduates who can pass the NCLEX-RN. The findings related to the APO could then be added to the systematic program of evaluation along with TRAD findings.

- A comprehensive assessment plan of the three Tracks available in the APO should be continued and include the paramedics who have recently been granted admittance. This more detailed and appropriate assessment plan would adequately address the important pieces of information that would be helpful in the decision making process.

- Data is available from those who do not pass the exam. This data indicates areas where the graduate is below the passing standard; near the passing standard; or above the passing standard. These areas could be reviewed along with the current curriculum to determine if there is a need for any changes to the curriculum. A

comprehensive assessment plan would allow this information to be accurately interpreted and fully utilized.

- An area to be studied would be the 19 hours of articulation credit which is given to the APO student because they already hold the PN licensure. Determining the content in these courses and comparing it to the information from the graduates' who do not pass the NCLEX-RN could lead to informed curriculum revisions.

- What is the marketing plan – would this data be helpful in showing the promise of the APO? A person was hired to conduct marketing for both options of the nursing program and created several materials to inform the public about nursing program options. This person has recently left the college but the administration recently notified the nursing department that money has been allocated to hire a replacement for the position.

- Evaluate the faculty status of the APO. Findings in this study did not suggest a relationship between NCLEX-RN failures and faculty issues; however, the TRAD graduates are passing the NCLEX-RN above the National pass rate every year that was studied. The TRAD has full-time faculty teaching every course, at least two faculty members are assigned to the courses taught by one faculty member in the APO.

Recommendations for Future Research

- A future study could include gaining access to gender information to see if differences exist between male and female students and success in the program and on the NCLEX-RN exam.

- The researcher has started a self-assessment instrument being used with students who enter the program concerning relevant work and educational experience. An example question would be the following: When you had completed this particular skill, did you need additional practice or instruction or would you be able to complete the skill independently without supervision? Also, students are asked the following regarding their current work situation: full-time or part-time, number of dependents at home, caring for elderly parents or relatives, and caring for other family members such as grandchildren. A careful review of this information would allow a faculty member to be more aware of individual situations that might impact program and licensure success.

- Another area for additional research concerns the testing of students in terms of the NCLEX-RN exam. Ideas such as possible ways to follow up or intervene to assist students in applying for testing and scheduling of testing could be employed as students are asked only informally to follow up with faculty at this point.

- Information regarding pre-requisites taken prior to the course could possibly yield important information. These courses are required as are general education courses but might have been taken much earlier. For example, a student might take English Composition I (a prerequisite) 10 or more years prior to starting the program. The program does require sciences such as anatomy and physiology be taken within the last five years prior to starting the program. Again, an arbitrary number of years were established, in this case five, without an apparent justification for such a length of time. A possible area of research would be to

identify when a student had taken the prerequisites and determine if five years seems to be an appropriate span of time.

- Recently the program has allowed paramedics to access the APO option. Only one student has graduated to date but data collected from this group might prove to be useful.

- A qualitative study could add to the data and assist in analysis. Perhaps interviewing graduates who have failed the option or the NCLEX-RN would add additional insight into the experience.

- Research that focuses on delivery of content. By the last semester students are asked to work a great deal online with no in-class lecture. Are these students prepared for this type of educational delivery? Does the online format help nursing students learn? Are faculty members knowledgeable about and prepared to teach online courses?

- The study discovered some areas in which more research about attrition might prove to be useful. Questions such as what happens to students who do not finish were not explored in the study. Approximately 40 out of 187 students never graduated from the program. This number would be approximately 21% of the APO students or in other words, approximately three students per semester.

- Additional research might also study the most optimal faculty to student ratio based on data.

- Another possible study could explore the faculty. It is not known about qualifications or longevity of faculty or possible implications that might have.

The program has used a number of part time or adjunct faculty and the impact on part-time versus full-time faculty is not known.

- It is imperative that nursing faculty keep abreast of testing plan changes. For example, only by accident did the researcher realize that the new testing plan for 2013 is now available online. The current nursing faculty is involved in curriculum revision work, and it is not known if the faculty involved in this important work is aware of the new testing plan.

- Another consideration might be the kind of test questions being used in the program. Are they similar to the higher order thinking skills types of questions that might be on the licensure exam or are the test questions used in the program at the lower levels of Bloom's taxonomy? A testing task force does exist and is available to faculty for test question revision. The program has specific guidelines for review of test results and assessment and data results. Decisions are made based on the assessment data.

- Why a two year window to test? What was the rationale of two years? Why was two years more favorable than one year?

- It is not known why the Board of Nursing and NLNAC do not allow graduates who take the exam more than one time to be included in calculations for accreditation. Further exploration of this issue might be warranted.

- The more recent knowledge acquired is more likely to be remembered. A possible study could review the length of time between graduation and the testing date to see if any relationships exist.

- Additional studies should be carried out using educational theories to inform the study. These theories could assist the researcher in analysis of the findings.

Conclusion

Efforts to mitigate the nursing shortage are multiple in our country. The APO option was designed to assist LPNs by decreasing the amount of time spent as they continue their education to be able to practice as Registered Nurses. Data from this study provided a beginning look at this option. It is valuable to know what the APO pass rates are as curriculum revision is taking place. This is the first time a close evaluation of the different tracts has taken place. The findings about the tracks could be a starting point as the process of decision making related to course delivery system, number and type of faculty, specific day to offer the option and the appropriateness of the current option tracks. Viewing this study through the post-positivist lens reminds this researcher that one study will not find all the answers or may not find the right answers. Much more research is needed in order to determine the usefulness of this model. The APO pass rate did not indicate a consistent high level of success with the NCLEX-RN while the more traditional model had a much more consistent high level. Does this indicate that efforts to be more student centered are not working and that there is much merit in the more traditional forms of instruction? Future research could illuminate that question and many others.

Another reason for doing research with a post-positivist perspective can be to generalize the findings to similar populations. The lack of some demographic data does not lend to generalizing the findings of this study. However as other nursing program

administrators and faculty make decisions related to offering an advanced placement option or revising an existing option they could review the findings of this study for possible suggestions.

Finally and most importantly is the unspoken question all of the nursing faculty have at this nursing program and probably all nursing faculty in all nursing programs have. Are the graduates of the program achieving the final outcome of passing the NCLEX-RN at or within ten percentage points of the National pass rate and practicing as Registered Nurses? The study findings may have at least answered the question for this nursing program faculty in this small window of time. The TRAD graduates are achieving this outcome in the years studied by this researcher. The APO graduates did not achieve the outcome every year. This indicates there is work to be done to improve the APO nursing student experience. When more APO graduates are able to practice as Registered Nurses it will ultimately lead to a decrease in the nursing shortage.

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APPENDICES

APPENDIX A

SEQUENCE OF COURSES

	Sequence of Courses	
TRACK #1	**TRACK #2**	**TRACK #3**
LEVEL 1	**LEVEL 1**	**LEVEL 1**
NURS 1393 Bridge (8 weeks) NURS 2512 Psychiatric Nursing (8 weeks)	NURS 1393 Bridge (8 weeks) NURS 2512 Psychiatric Nursing (8 weeks)	NURS 1393 Bridge (8 weeks) NURS 2512 Psychiatric Nursing (8 weeks)
Articulation Credit	Articulation Credit	Articulation Credit
NURS 1401 Nursing I & P 1 NURS 1421 Nursing I & P 2 NURS 1431 Intro: Pharmacology & Dosage Calculations NURS 1446 Foundations of Nursing Practice NURS 1457 Nursing of Adults with Major Health Disruptions NURS 2453 Nursing Promotion of Quality of Life	NURS 1401 Nursing I & P 1 NURS 1421 Nursing I & P 2 NURS 1431 Intro: Pharmacology & Dosage Calculations NURS 1446 Foundations of Nursing Practice NURS 1457 Nursing of Adults with Major Health Disruptions NURS 2453 Nursing Promotion of Quality of Life	NURS 1401 Nursing I & P 1 NURS 1421 Nursing I & P 2 NURS 1431 Intro: Pharmacology & Dosage Calculations NURS 1446 Foundations of Nursing Practice NURS 1457 Nursing of Adults with Major Health Disruptions NURS 2453 Nursing Promotion of Quality of Life
LEVEL 3	**LEVEL 3**	**LEVEL 3**
NURS 2423 Nursing of Childbearing Families (8 weeks) NURS 2433 Nursing of Children (8 weeks)	**Student May Test Out Or Take** NURS 2423 Nursing of Childbearing Families (8 weeks) NURS 2433 Nursing of Children (8 weeks)	NURS 2423 Nursing of Childbearing Families (8 weeks) NURS 2433 Nursing of Children (8 weeks)
LEVEL 4	**LEVEL 4**	**LEVEL 4**
NURS 2543 Transitions to Novice Nurse (16 weeks) NURS 2564 Advanced Medical Surgical Nursing (16 weeks)	NURS 2543 Transitions to Novice Nurse (16 weeks) NURS 2564 Advanced Medical Surgical Nursing (16 weeks)	NURS 2543 Transitions to Novice Nurse (16 weeks) NURS 2564 Advanced Medical Surgical Nursing (16 weeks)

APPENDIX B

IRB APPROVAL FORM

Oklahoma State University Institutional Review Board

Date: Tuesday, July 10, 2012

IRB Application No   ED12108

Proposal Title: Relationships of Course Repetition and Competency Test-Out LPNs to
                          Outcomes on the National RN Licensure Examination in a Community
                          College

Reviewed and   Exempt
Processed as:

Status Recommended by Reviewer(s): Approved   Protocol Expires: 7/9/2013

Principal
Investigator(s):
Teresa Frazier   Mary Jo Self
606 S. Pine   261 Willard
Oologah, OK 74053   Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the
rights and welfare of individuals who may be asked to participate in this study will be respected, and that the
research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR
46.

g The final versions of any printed recruitment, consent and assent documents bearing the IRB
   approval stamp are attached to this letter. These are the versions that must be used during the
   study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol
    must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring
    approval may include changes to the title, PI, advisor, funding status or sponsor, subject population
    composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and
    consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar
    year. This continuation must receive IRB review and approval before the research can
    continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are
    unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the
authority to inspect research records associated with this protocol at any time. If you have questions about
the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell
North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Shelia Kennison, Chair Institutional Review Board

Sincerely,

Subject APPROVAL - Institutional Review Board Application # IRB-120628

From: k_david@tulsacc.edu (k_david@tulsacc.edu)

To: teresasf44@yahoo.com;

Cc: tfrazier@tulsacc.edu; CHebert@tulsacc.edu;

Date: Monday, July 9, 2012 3:42 PM

Tulsa Community College's Institutional Review Board
Proposal Title: Relationships of Course Repetition and Competency Test-Out of LPNs to Outcomes on the
National RN Licensure Examination in a Community College
Application # IRB-120628

Dear Ms. Frazier,

Your research proposal has been approved by the Institutional Review Board at Tulsa Community College. This email will serve as your official approval notification. You are authorized to begin your research under the auspices of TCC's IRB on the start date listed on your application or the date of this communication, if your proposed start date has passed. Your project approval is valid until the end date listed on your application or for one year after the approval of your study, whichever is earlier. After this approval period, you will be required to submit a continuation or renewal request for board approval, if you wish to continue your research project. This project has been approved as described in the IRB application. Any changes to the research project, such as the use of additional questionnaires or data, will need to be approved by the IRB.

Please contact us if you have any questions regarding your IRB approval. We wish you luck in

your research. Sincerely,

Drs. Kevin David and
Connie Hebert IRB
Co-Chairs

Kevin M. David. Ph.D.
Director, Planning and Institutional Research Tulsa Community College 6111 E Skelly Drive. Room 408
Tulsa. OK 74135-6198 (913)595-7925

VITA

TERESA STARK FRAZIER

Candidate for the Degree of

Doctor of Philosophy

Thesis: RELATIONSHIPS OF COURSE REPETITION AND COMPETENCY
TEST-OUT OF LPNS TO OUTCOMES ON THE NATIONAL RN
LICENSURE EXAMINATION IN A COMMUNITY COLLEGE

Major Field: Education

Biographical:

Education: Completed requirements for the Bachelor of Science in Nursing at
University of Texas, Houston, Texas, 1982; completed requirements for
the Master of Science in Nursing University of Oklahoma, Oklahoma
City, Oklahoma, 1989; completed requirements for the Doctor of
Philosophy degree from Oklahoma State University, Stillwater,
Oklahoma, December, 2012.

Experience: Tulsa Community College, Tulsa, Oklahoma, Assistant Professor
of Nursing, (2010-2012); Community Home Health, Claremore,
Oklahoma, Field Nurse, (2009-2010); Langston University, Langston,
Oklahoma, Assistant Professor of Nursing, (2008-2009), Northeast
Technology Center, Pryor, Oklahoma; District Coordinator of Health
Occupations, (1995-2007); Trinity Home Health, Grove, Oklahoma,
Manager of Branch Office, (1994-1995).

Professional Memberships: Omicron Theta Tau, American Nurses Association,
Oklahoma Nurses Association.