

Pilot Study Article

## A Strategy for Success on the National Council Licensure Examination for At-Risk Nursing Students in Historically Black Colleges and Universities: A Pilot Study

**Jefferys, Doris Todd, DNP APRN, BC**

Assistant Professor; Fayetteville State University, USA

**Hodges, Stephanie, DNP, APRN-BC**

Assistant Professor; Fayetteville State University, USA

**Trueman, Margaret Sorrell, Ed.D. RN CNE**

Assistant Professor, Fayetteville State University, USA

**Correspondence:** Jefferys, Doris Todd, Fayetteville State University: Department of Nursing 1200 Murchison Road Fayetteville NC 28301 910-672-2424 djeffery@uncfsu.edu

### Abstract

**Background:** Attrition and failure rates remain high among minority and culturally diverse students. Attrition is defined as a loss of students from a nursing program that results in a difference between the numbers of students who begin the program compared to the number of students who finished the program (Abele et al., 2013). High attrition rates result in fewer nurse candidates testing for licensure and, therefore, fewer entering the work force. High attrition rates (a) results in loss of nurses, (b) increases the cost of educating nurses, and (c) makes it difficult to ensure a culturally diverse nurse population (Abele et al., 2013). Nursing programs are challenged to produce a well-educated student candidate to be successful throughout the program and on the NCLEX-RN.

**Aim:** The purpose of this pilot study was to determine the effectiveness of Kaplan educational modules for NCLEX-RN preparation, its impact on students' results on the Readiness Exam and implications for further program interventions to support at-risk students' success on the NCLEX-RN exam.

**Methods:** The design of this pilot study was a single-group pre-test/post-test. The students were required to participate in this new educational in-service as part of their capstone course that was part of their course of study in the nursing program. A secured pre-test assessment, the Kaplan Diagnostic Test, was administered followed by test-taking strategy educational interventions. The post-test, the Kaplan readiness test was then given to determine if the educational sessions were beneficial.

**Results:** To assess differences in performance between the Kaplan Diagnostic pre-test and the Kaplan Readiness post-test the data were analyzed using paired t-tests using SPSS software. Results revealed that there was a statistically significant relationship between the pre-test ( $M=66.6673$ ,  $SD=4.73226$ ) and the post-test ( $M= 66.2233$ ,  $SD=8.118.0$ ),  $t(14) = .213$ ,  $P=.8355$ ).

**Conclusions:** The results support the use of diagnostic testing and review to enhance testing score on the Readiness test. The Kaplan Readiness exit exam can help faculty members identify students who may not be successful on the NCLEX-RN exam and can use this information to develop a remediation plan for at-risk students.

**Key-Words:** At-risk nursing students, NCLEX-RN Predictability, Kaplan

### Introduction

Providing opportunity for at-risk students has long been a tradition of Historically Black Universities and Colleges (HBCU). The

composite of students attending these universities often reflect the diversity so often desired in institutions of higher education as well as the workforce. For programs of nursing, as reflective of the mission and vision

of the parent institution, many strategies are available to address the variables inherent to program failure for this population inclusive of orientation/semester acclimation, learning communities, mentoring, remediation, and studying/testing skills (Igbo et al., 2011). Within programs of nursing, the “end goal” of course, is success on the NCLEX-RN, the licensure exam to be a Registered Nurse. Carrick (2011) points out that despite a plethora of teaching strategies and best practices that the problem still exists between student achievement and NCLEX-RN success. Carrick recommends that a readiness testing program be utilized and that structured learning assistance is provided. The purpose of this pilot study was to determine the effectiveness of Kaplan educational modules for NCLEX-RN preparation, its impact on students’ results on the Readiness Exam and implications for further program interventions to support at-risk students’ success on the NCLEX-RN exam.

### **Background**

Attrition and failure rates remain high among minority and culturally diverse students. Attrition is defined as a loss of students from a nursing program that results in a difference between the numbers of students who begin the program compared to the number of students who finished the program (Abele et al., 2013). High attrition rates result in fewer nurse candidates testing for licensure and, therefore, fewer entering the work force. High attrition rates (a) results in loss of nurses, (b) increases the cost of educating nurses, and (c) makes it difficult to ensure a culturally diverse nurse population (Abele et al., 2013).

Within this nationwide shortage of nurses and healthcare providers are low numbers of minorities who enter the nursing profession. The National League for Nursing (NLN, 2009) report a gradual increase of minority students who enrolled in nursing programs; however, there remains a large gap between the minority

population of the United States (25%) and the minority population of nurses (9%) (Duerksen, 2013). Nationally, only 16% of RNs are minority or of culturally diverse backgrounds (AACN, 2012). The AACN (2012) reported that, in 2011, a total of 2,685 students were enrolled in a Baccalaureate program; 1,845 were Caucasian and 656 were (a) African American, (b) Hispanic, (c) Asian, or (d) American Indian. There seems to be significant interest among potential multicultural candidates for nursing programs; however, the number completing these programs remains low. Therefore, there is a growing need for culturally diverse nursing workforce to provide quality competent patient care (AACN, 2012). Culturally diverse nurses are underrepresented and therefore are in demand in all areas of the country. National nursing and healthcare organizations, including the NLN, the AACN, the Institute of Medicine (IOM), and the American Nurses Association (ANA), agree that increasing the racial and cultural diversity of students in U.S. nursing programs is a high priority (Loftin, et al., 2012).

Despite the need for a more diverse nursing population, a lack of consistent documentation regarding attrition rates remains, estimates for minority nursing students have ranged from 15% to 85% (Loftin et al., 2012). By improving retention and graduation rates of minority nursing students, nursing programs could facilitate increased minority representation in the nursing workforce. Student attrition rates affect the overall shortage of RNs in the workforce. Colleges and universities are continually looking for ways to bolster their programs to attract and retain nursing students, especially minority and culturally diverse students.

### **The Study**

The purpose of this pilot study was to determine the effectiveness of Kaplan educational modules for NCLEX-RN

preparation as measured by its impact on students' results on the Kaplan Readiness Exam. The Null hypothesis for the study was: There will be no significant differences in the pre-test and post-test performance of students completing the test-taking strategy sessions.

The design of this pilot study was a single-group pre-test/post-test. The students were required to participate in this new educational in-service as part of their capstone course that was part of their course of study in the nursing program. A secured pre-test assessment, the Kaplan Diagnostic Test, was administered followed by test-taking strategy educational interventions. The post-test, the Kaplan readiness test was then given to determine if the educational sessions were beneficial.

*Sample/Participants:* The purposive sample was participants were from an accredited school of nursing at a public HBCU in the Southeast United States. Student demographics of the institution include 16% White, 67% Black, 1% Hispanic, 2% Native American, 1% Asian, 1% International, and 6% not reported. The study's participants were a purposive sample which included 15 (N=15) undergraduate nursing students. Participants were candidates for graduation, and this process was included in their curriculum as part of their Capstone completion course. The sample included all candidates for the Bachelor of Science Nursing (B.S.N.). The mean age of the cohort was 29 years of age, 80% were female, 20% male, and the racial demographics showed that 53% were Caucasian, 33% were African American with the remainder 13% were Asian and 1% represented other minority groups. All 15 candidates (100%) participated in the Kaplan Readiness module sessions and pre and post testing.

### **Methodology**

Following institutional review board approval for the study, the Kaplan Diagnostic exam (pre-test) was given near the end of the

program, prior to the review course. The test consists of 180 multiple choice questions, and the students were allocated three hours to complete the test. The Kaplan Diagnostic exam is designed to identify an individual student's strengths and weaknesses and provides students detailed feedback on their overall performance and areas needing remediation. Kaplan (2011) reports students scoring 70% on the Kaplan Diagnostic exam had a high probability of passing the NCLEX-RN exam; students who scored 60% had a low risk of failure and scores in the 50% range were at some risk of failure on the NCLEX-RN exam; scores below 50% indicated a moderate risk for failure of the NCLEX-RN exam. The review course was conducted over a four-day period, 6-hour days each with an hour lunch break. The thrust of review dealt with critical thinking and clinical judgment skills essential to generalist nursing practice. It incorporates a strategy called "The Decision Tree" to help students decipher information in test questions and prioritizing answer choices. After completion of the review course students then took the Kaplan Readiness test (post-test). This exam consists of multiple choice comprehensive questions covering a wide-range of nursing objectives and focuses on critical thinking and clinical judgment. The Kaplan Readiness exam is designed to predict the likelihood of passing the NCLEX-RN exam on the first attempt.

To assess differences in performance between the Kaplan Diagnostic pre-test and the Kaplan Readiness post-test the data were analyzed using paired t-tests using SPSS software. Results revealed that there was a statistically significant relationship between the pre-test ( $M=66.6673$ ,  $SD=4.73226$ ) and the post-test ( $M= 66.2233$ ,  $SD=8.118.0$ ),  $t(14) = .213$ ,  $P=.8355$ ). The pre-test had a highly negative skewness (-.669) in the population, while the post-test (1.794) had a positive skewness. These results suggest that the test-taking strategy module did have an overall effect on

the post-test. Specifically, eight (53%) of the 15 students completing the modules had improvement in their post-test scores, one student (1%) had no change in scores and seven (46%) did not have an increase in post-test scores.

The overall cohort performance demonstrated both an improvement in some aspects of the decision making process of nursing care and content areas but also a decrease in others. The overall cohort showed improvement in the aspects of nursing decision making of (a) assessment 0.6%, (b) implementation, 2.3%, and (c) evaluation, 1.6%, and a decrease in (a) diagnosis, -1.9%, and (b) planning, -6.6%. The post-test scores showed improvement in the content areas of (a) children, 2.6%, (b) safe and effective care environment, 13.3%, (c) health promotion and maintenance, 3.6%, (d) management of care, 13.4%, (d) safety and infection control, 9.8%, (e) pharmacological/parenteral therapies, 2.3%, and (f) health promotion and maintenance, 3.6%. The students showed a decrease in (a) adult, -2.8, (b) women, -4.6%, (c) psychosocial integrity, -9%, (d) basic care and comfort, -12.7%, (e) reduction risk potential, -7.9%, (f) psychosocial integrity, -3%, and (g) physiological adaptation, -17.7%.

### Discussion

Although the pilot study addressed its intent, there were several limitations to the study that may impede its ability to be generalized in nursing education. The cohort size was very small, only 15 participants. Larger cohorts as well as a cumulative use of subsequent cohorts would strengthen the results of the study. In addition, the pace of the four day review, each a 6 hour day may have not been pedagogically sound for student learning and retention. A longer review period with shorter days may be more supportive of a positive effect of the intervention.

The results did support the use of diagnostic testing and review to enhance testing score on

the Readiness test. According to Hyland (2012) most faculty members rely on some type of standardized test, such as the Kaplan Readiness exit exam to determine whether students are prepared to take the NCLEX-RN exam. The Kaplan Readiness exit exam can help faculty members identify students who may not be successful on the NCLEX-RN exam and can use this information to develop a remediation plan. Kaplan (2014) reported students who scored 60% or higher on the Readiness 2010 Exit Exam only had a 1%-3% probability of failing. Students that scored between 50%-59% had a 6% to 12% of failing the NCLEX-RN. Scores below 50% suggested an increased risk of failing, with about 28%-30% of those students failing.

### Conclusions

Overall, the diagnostic, review and readiness testing was felt to be a viable strategy to help with NCLEX-RN success for the at-risk student. The cohort of 15 participants did go on to have a 100% passage rate on the NCLEX-RN. Results indicate that revision of the process of the strategy would be beneficial to the students and program outcomes for NCLEX-RN success.

Further faculty dialogue needs to be done to explore the areas that were impacted in a negative way after completion of the review course. Using testing results is vital to curriculum revision and therefore strengthening of the program of study for the students.

Integration of support and remediation strategies for NCLEX-RN success through continuous program planning is predicated on the evaluation and revision of the structural components of the curriculum (Serembus, 2016).

### Place of research

Work completed at Fayetteville State University 1200 Murchison Road Fayetteville, NC 28301

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