North Carolina Central University
Department of Nursing

Program Assessment and Improvement Plan for Low
NCLEX Pass Rate

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Introduction

The Department of Nursing at North Carolina Central University (NCCU) provides an essential service to improve the quality of life for all people through outstanding educational programs, research and scholarly endeavors, and community service. The nursing profession plays a key role in meeting the care and medical needs of a diverse population. The critical role of nurses is even more evident as the health care system continues its transformation into an affordable, accessible and quality system.

The baccalaureate nursing program at NCCU, a constituent institution of the University of North Carolina, is a critical contributor to an effective healthcare future for the state as well as the nation. As part of its mission to prepare students to be excellent nurses in a variety of care settings, the Department of Nursing offers four leading nursing options, resulting in a Bachelor of Science in Nursing degree: traditional, accelerated, veterans, and RN – BSN. The Veterans nursing option was implemented in the summer, 2016 as a result of a Health Resources and Services Administration (HRSA) grant. This nursing degree option follows the same curriculum as the traditional nursing option. The RN-BSN nursing option is available only to nurses who have an Associate degree in Nursing or a diploma. Many of these students' courses are transferred from their previous education. The students are already licensed as a registered nurse; thus this program is not impacted by the licensure results of the North Carolina Board of Nursing (NCBON). The program assessment and improvement plan discussed herein therefore will focus only on the traditional nursing and the accelerated nursing options, of which the 2015-2016 graduates were enrolled.

Overview of the Department of Nursing

The Department of Nursing has the physical, technical and financial resources and services that are essential to support the success of the program. The course of study takes place in a 68,000 square foot state-of-the-art building that is housed with technologically smart classrooms and computer laboratories. The department also has a Clinical Learning Resource Center consisting of the Skills and Simulation Labs that supports the instructional program of NCCU's Department of Nursing by providing a facility for faculty to incorporate simulated patient experiences and nursing skills into the students' clinical experience before they encounter real patients. The 12,272 square feet Clinical Learning Resource Center, a "realistic hospital setting" known as Eagle General Hospital, is a state-of-the art simulation environment. The space contains three clinical skills training labs ("hospital wards"); four simulation labs (individual care rooms); three observational/control rooms (with one-way mirrors associated with the "individual care rooms") and two debriefing rooms. Each room is equipped with enhanced video-taping and replay capabilities (Learning Management System). There are high-fidelity simulators (six adults, one child, and two infant) and a birthing simulator that provide a variety of simulated clinical experiences ranging from homecare to critical care - allowing for a realistic and safe practice environment. In addition, ten static manikins and/or low-fidelity simulators (in training labs) provide for endless possibilities for clinical/skills simulations that may range from a few minutes to days and weeks in length. Thus, the environment is enhanced with resources to facilitate the students' learning and professional success.

The Department of Nursing has fifteen full-time and three part-time faculty in the classroom and ten clinical adjuncts. There are currently two vacancies for full-time faculty positions. Five of the full-time faculty members hold a doctoral degree and ten of the full-time

faculty members hold a master's degree (two hold non-nursing masters). Two of the part-time faculty members hold doctoral degrees and the remaining eight faculty members hold masters in nursing degrees. The faculty with the non-nursing master's degrees assist faculty to support the simulation and laboratory experiences. The majority of the faculty members have been employed in academia for greater than three years. There are three new faculty members who began January 2017, and who are "new" to academia.

The department is led by a full-time chair who is credentialed and who has fourteen years of experience in academia. Non-teaching workload hours are supported by NCCU's administration to allow the chair sufficient time for program organization, administration, and continuous overview of the nursing program. In the chair's previous role, she served in both faculty as well as administrative positions and was coordinator for global studies in nursing as well as the coordinator for senior experiences, facilitating activities to help enhance critical thinking.

Performance of the Department of Nursing

The department has undergone recurring leadership change over the past six years. During these years, the department experienced four different chairs either in permanent or interim positions.[1] As a result, faculty and student expectations have varied due to the changes in admission criteria, as well as academic and operational policies that are affected with each new leader's approach and philosophy. We believe this pattern has contributed to the department's unstable NCLEX pass results for the past few years. The 2010 – 2012, three-year average was 85 compared to the 2013 – 2015 three-year average of 76. It appears that the success rates of the

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[1] From 2009-2011, an interim chair served until a chair was selected in 2011. That chair served until June 2014. A faculty member again served as interim from July 2014 – June 2015. From June to August of 2015, there was not a chair or interim chair in the position. The current chair accepted the position as chair in August 2015.

program have declined since 2012 as indicated in Table 1.

Table 1. NCLEX Year-End Passage Rates for NCCU 2010-2016

2010	2011	2012	2013	2014	2015	2016
81	81	93	70	90	68	68

Changes in leadership may have negatively impacted both faculty performance and overall program outcomes during this period. At the end of 2015, the average NCLEX pass rate was 90% and the three-year average (2013 – 2015) pass rate for the bachelor's degree in Nursing graduates was 76%, whereas 95% of the three-year average national pass rate for NCLEX-RN is 79%. (Table 2).

In reviewing the data for 2015, it should be noted that for the 3rd quarter of 2015, there were only three first-time takers and neither of them were 2015 graduates. They all failed the exam resulting in zero percent for that quarter. These students graduated in 2013 and 2014, and their poor performance negatively affected the end-of-year results and three-year average. As a result, NCCU presented an Improvement Plan to the North Carolina Board of Nursing in March 2016.

Table 2: NCLEX 3-year Average 2013 – 2015

	2013	2014	2015	3 YR average
National pass rate	83	82	85	83
NC pass rate	79	78	81	79
NCCU pass rate	70	90	68	76

Actions Taken During the 2015 – 2016 Academic Year

As part of the Improvement Plan, the department implemented strategies specifically for the 2016 senior students to enhance their critical thinking skills and readiness for the NCLEX. At the beginning of the fall 2015 semester, the department's priority goals were to complete an overall assessment of faculty, students and the curriculum. The chair met with 51% of the seniors scheduling one-on-one meetings to obtain input from them as to their perception of their education program as well as their strengths and weaknesses. She then met with each faculty member to understand their experiences, challenges and goals. Town hall meetings occurred with the 2016 seniors at multiple times throughout the academic year.

From the meetings held with senior students, it was evident that they were dissatisfied with the changes in testing policies for the Department of Nursing. They stated that test administration was inconsistent, as well as the test format. The format varied from course to course, as well as even within the same course. Specifically, the English as a Second Language students requested additional time on exams. The revised testing policies provided a time limit for test administration as well as test structure to align more with the nursing licensure exam that students are required to complete after graduation. Students were concerned with "not having enough time" to complete an exam. While the time frame for testing varied from 1.5 to 2 minutes per question, NCLEX allows only 1.35 minutes per question. The revised testing policy at NCCU now allows only 1.2 minutes per question so that students are better equipped to move through the NCLEX exam. Consistency in testing is crucial to success.

The accreditation agency requires that the curriculum is consistent to meet the End of Program Student Learning Outcomes (EPSLO). According to the criteria of the accrediting agency, evaluation competencies must measure the achievement of EPSLOs. There was no

consistency in terms of how many questions to use on tests or exams as this varied from faculty to faculty. Faculty were using test items from a test bank rather than writing their own test items. Faculty constructed test items are better aligned with the scope of each course. Faculty acknowledged that they were not comfortable writing test items. Faculty were also inconsistent in the amount of time given to students to complete quizzes and exams. It is critical that exams are constructed in a manner that mirrors, as close as possible, the type of questions on the National Council Licensure Exam (NCLEX). Several exams were reviewed to discover that many of the questions, even at the senior level, were constructed as "knowledge-based" versus a higher level of thinking (application, synthesis, analysis and evaluation of information), as reflected on the licensure exam. Students begin the junior year completing "knowledge-based" questions and then advance to application, synthesis and evaluation, as indicated in Bloom's taxonomy.

Pedagogical styles used by faculty in the classroom were not actively engaging the students; instead, faculty members were generally just reviewing power point presentations which they provided to the students. Students thus relied on power points for memorization and preparation of the test, rather than reading the text books for understanding of critical concepts. Students acknowledged that the fall 2015 semester was the first time they were exposed to higher-level thinking questions. Lastly, from conversations with students and faculty, it was apparent that the clinical evaluation tools were used inconsistently in scoring and evaluating students in the clinical setting.

Based on this information, the department updated its policies and approaches to address these areas of concern. A plan was put in place to assist the students to be more successful in the classroom and on the NCLEX. As examples, faculty were provided tools to assist in writing well

developed NCLEX–style questions on an application and synthesis level. Several workshops occurred for faculty to learn how to enhance their teaching styles in order to better engage students to think critically.

Students were also provided access to assessment programs with several practice questions. They all took a comprehensive predictability exam, and students who scored below the benchmark were assigned a "faculty mentor" to assist them in strengthening their weaker areas. The students were also asked to complete an assignment developing a plan to strengthen their identified weaker areas as indicated on a comprehensive predictability exam. In addition, students who scored below benchmark were presented a plan that included practicing at least 50 NCLEX style questions daily with time for remediation of questions missed.

Despite these efforts and the prior feedback from the students, many of the senior students did not 'buy into' the plan and did not rigorously follow the approaches described above. We found also that some students tend to wait too long prior to taking the NCLEX, despite efforts to encourage them to take the exam by the end of July. Research reveals that the longer a student waits to take the licensure exam post-graduation, the lower the success rates, as is the case with most standardized exams.

There were many challenges with the 2016 graduating class. The 'stronger' students completed the NCLEX in June and the second quarter results showed 28 first-time takers with 23 passing, yielding 82% for that quarter. However, the third quarter report from 2016 reflected a decrease in that while again 28 students took the exam (first time) only 14 passed, resulting in 50% for that quarter. Of these 14 graduates, three (21%) failed at least one nursing course. Eight (57%) were non-native English speakers. At the end of 2016, four May 2016 graduates still had not taken the NCLEX (Table 3).

Table 3: NCLEX 2016 Quarterly results

QUARTER	NUMBER 1ST TIME	NUMBER PASS	NUMBER FAIL
1st (Jan 1 -March 30)	1	1 (100%)	0
2nd (April 1 – June 30)	28	23 (82%)	5 (18%)
3rd (July 1 - Sept 30)	28	14 (50%)	14 (50%)
4th (Oct 1 - Dec 30th)	0	0	0

As a result of the poor student performance on the 2016 NCLEX, the final result for that year was 66%, resulting in two years in a row of not meeting the benchmark as established by the NCBON. The three-year average for 2014 – 2016 was 75%, which was lower than 95% of the national average (Table 4).

Table 4: Three Year NCLEX results (2014 – 2016)

	2014	2015	2016	3 YR average
National Pass rate	82	85	85	84
NC pass rate	78	81	81	80
NCCU pass rate	90	68	68	75

Addressing NCCU's Declining NCLEX Scores

As a first step in addressing its students' declining NCLEX scores, the department initiated a close monitoring of the 2013-2014 graduating classes' performance on the NCLEX. The goal is to identify the best predictors of student success, as well as to identify contributing factors for low NCLEX scores in order to effect positive outcomes for current and future students. A graduate assistant began work with the Department of Nursing in fall 2016 to analyze data on graduates since 2013. Correlation tests are being used to identify relationships between NCLEX success and first time math and science success, pre-assessment scores and GPA upon nursing admission and at graduation. In addition, final grades in critical courses (Medical-Surgical) and completion of practice exams recommended for success also have been analyzed. Initial data of each cohort does show some correlation to strong "math/science" skills and GPA as predictors of success. In addition, students who completed assessment exams and practice NCLEX questions as recommended passed the NCLEX more often than graduates who did not. More analysis is currently occurring to gain aggregate data of all cohorts combined (2013 – 2016).

Improvement Plan

The department conducted an overall review of the department's curriculum in fall 2015, the results of which informed the implementation of a revised curriculum in 2016-2017. We expect this revised curriculum will improve the students' ability to make connections between courses. As discussed further below, the revised curriculum, improvement of teaching styles of faculty, revision of departmental policies, and the faculty's ability to develop relevant and representative items for the exams are the cornerstones of the improvement plan that will enhance NCLEX success.

Nursing Curriculum

A departmental task force was established in September 2016 to undertake a thorough evaluation and review of the current curriculum. The task force was provided information from three main sources: the Baccalaureate Essentials, the IOM competencies for nursing education, and the 21st century skills competencies. They were asked to read and review the material prior to the second meeting. Every course in the curriculum was reviewed and compared to content within these three resources. The task force also reviewed nursing curricula from three other nursing schools whose programs were in good standing with NCLEX pass rates. The task force reviewed each course for its purpose as it relates to preparing our students for 21st-century nursing. In addition, clinical adjuncts were included in some of the discussions related to clinical experiences and evaluations. Faculty input was solicited throughout the review process.

After a thorough review, the task force identified a lack of or minimal amount of information on the topics of leadership, health policy, finance, informatics, and quality and safety. As examples, information on geriatrics was not consistently taught/integrated throughout the curriculum; the accelerated track curricula differed from that of the traditional track in the types and placement of courses; there were variations found in the syllabi for different nursing courses; accelerated students were taking senior level courses without completing the junior level; and essential content was not integrated throughout the curriculum.

Another possible contributing factor for low NCLEX scores may be that some courses were only offered once per academic year. If students failed a course, they had to wait a year before repeating the course, without a remediation plan to assist the student to retain information learned in previous courses.

The task force presented recommendations to strengthen the nursing program, such as:

- Offering core courses each semester (rather than once a year);

- Requiring students who are not enrolled in nursing courses for more than one semester to take an independent course to remediate;

- Adding a course to focus on the care of the older adult;

- Expanding the Leadership and Management course for seniors to include topics on health care policy, finance and ethics; and

- Creating a policy that establishes the number of times students can take the pre-admission assessment exam.

Faculty Improvement

Senior students stated in 2015 and also in 2016 that teaching styles of the faculty varied and many times the class presentations were read from power point slides. Students acknowledged that they had participated in an external exam for assessment, but no one reviewed the results with them and they had not seriously reviewed the results to identify weak areas. Faculty were not consistently available for the students to address questions related to content taught. According to the students, clinical instruction was not integrated with what they learned in the classroom. If critical thinking is not enhanced in the clinical setting, and classroom and clinical teaching is not integrated, this could contribute to low NCLEX scores. To address these concerns and help improve faculty teaching, faculty were required to attend the following workshops:

- Pedagogical workshops – Dr. Malone, Spring 2016

- Writing NCLEX style questions –Loretta Manning, August 2016

- Teaching & Learning Series - Dr. Sarah Reives, October–December 2016 (2 per month)

- NCLEX testing workshop – Dr. Lawrence, November 2016

- Teaching students to think critically - January 2017

- Engaging students in the classroom – Dr. Kagan, January 7-8, 2017

Also in fall 2016, the department implemented a plan for mentoring of new faculty.

Revision of Policies

A policy and advisory committee was established to review all departmental policies. Policies related to students and instruction were reviewed as the first priority. Policies reviewed included focus on attendance, course progression, admission, testing guidelines, grading, and clinical evaluation. The review indicated that the attendance policy for class and clinical was not stringent enough to decrease clinical absences and that students were frequently missing clinical with very little or no consequences. Clinical experiences enhance critical thinking and assist the students to apply what they learn in the classroom, thus attendance in clinical is critical.

The course progression policy was not adhered to in that students were allowed to fail courses in lower division or in nursing and still progress. In the fall semester of 2015, the chair was approached by approximately ten students who had failed courses or taken medical leave with a request to return to the nursing program. Some of these students had been out of nursing courses for two years or more. Three of these students had already been told and presented evidence that they could return to nursing. The lapsed time since the students had completed nursing courses was very concerning. Some of these students had failed courses, but because of different circumstances were allowed to return to the program (as seniors), which is not in compliance to the course progression policy. In 2014, nine students failed a course, and were permitted to retake the course in summer 2014. Four (44%) of these students failed the first time and two of them completed the exam in fall 2015. One of the students who was admitted to begin the nursing

program in the fall 2015 had failed three lower-division courses, but was allowed to continue. In addition, students were allowed to float from the traditional option to the accelerated option if it resulted in their continuing the program. For example, if a student failed a course in the traditional option, the student was allowed to take the course in the accelerated option.

As a result of the review, the department adopted policies designed to decrease these practices. Attendance policies were enforced for clinical. Students must remediate if absent from nursing for a semester. Orientation for clinical adjuncts is required at the beginning of each semester to ensure that all faculty understand policies and procedures, scope and sequence of the curriculum and operating on one accord.

A review of admission criteria revealed that adherence to the policy was not consistent. Although criteria for admission were established, faculty members confirmed that some students were allowed to be admitted with special consideration. One of the criteria for admission is scoring a specific score on an assessment. Faculty members noted that, occasionally, students were allowed to repeat this test up to three times in order to get a score that will meet the admission guidelines.

The admission policy for accelerated students, changed to admit stronger students, was implemented in fall 2016. The admission criteria will be revisited at the spring retreat in 2017, after the data is compiled and completely analyzed.

The admission process for veterans is the same as the traditional nursing students. RN-BSN students receive General Education credits from their previous education. Since these students already have registered nurse license, the admission GPA of 2.5 is congruent with the university admission policy.

Summary of Actions Taken to Strengthen the Nursing Program

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Curriculum Update

In summer 2016, the department implemented ATI testing and resources to integrate throughout the curricula to assist with identifying weaknesses and strengthening knowledge. Beginning with the fall 2016 semester, departmental courses are taught each semester to assure orderly progression and knowledge retention. Thus, if a student fails a course, the student will not have to wait an entire year to repeat the course. In addition, teaching the same courses each semester will assist faculty to become more competent in their teaching, resulting in stronger faculty. We believe that these changes will assist in graduating a stronger student and better nurse.

Faculty Improvement: Improving Pedagogical Strategies

Current faculty, though better prepared, are not fully experienced in pedagogical strategies, based upon input from them as well as the students. The department is working with the Office of Faculty Professional Development to provide continued support for enhancing pedagogical strategies. All clinical evaluation tools were reviewed and a pilot was implemented in summer 2016.

Policy Implementation and Revisions

Testing Policy

A departmental testing policy did not exist as of the current chair's arrival in 2015. As a result, faculty were inconsistent in test administration due to lack of guidelines. Policies were constructed for test development, a consistent test format, test administration and review. The implementation of the testing policy occurred in January 2016. Concurrent with the policy's implementation, all faculty were educated about testing principles and analysis of a test question. Faculty must write test items for each class and faculty members may no longer use the test bank.

Test items must be written using higher level of Bloom's taxonomy. Students are not permitted to have access to their test or exams during review, which will avoid students writing down questions and memorizing answers. Faculty were educated about testing principles and how to conduct an item analysis.

Admission Policy

With regard to the department's admissions policy, the admission criteria for the accelerated option were revised to require a minimum overall GPA of 3.0 and a minimum math and science GPA of 2.8 to assure that the students admitted to this condensed program are prepared for the schedule. Students are not automatically enrolled in the accelerated option, but must meet admission criteria and be given the option. The policy was also revised to include a limit to the number of times a student can complete the admission assessment. This revision is designed to assure that the stronger students are enrolled in this program option.

Plan for 2017 Graduates and Fall 2018 Incoming Students

In addition, the following strategies were implemented to enhance the experience, knowledge, and skills of the department's 2017 graduates:

- The chair conducted regular focus groups with seniors to build relationships;

- All seniors who did not meet the benchmark on the predictability exam were enrolled in an independent study course to increase their critical thinking in spring 2017;

- An assessment tool was integrated into a Synthesis of Nursing concepts to provide more practice with NCLEX style questions and students are required to complete over 1500 questions this semester;

- One hour "Snack & Learn" sessions are provided for seniors twice a week to discuss NCLEX style questions and to assist the students in thinking critically as they respond;

- Faculty are asked to integrate critical thinking case studies and questions in their lectures;

- Alumni volunteers are encouraged to meet with students for tutoring in areas of weakness;

- The minimum GPA for Fall 2018 incoming students was raised to a 3.0 from a 2.7; and

- The department is examining the impact of an English Proficiency Requirement for ESL students.

Conclusion

Through the program assessment, we have identified several contributing factors to low NCLEX scores for the nursing program. As discussed throughout this report, these factors include change in departmental leadership, curriculum needs, faculty pedagogy, inconsistencies in practice, policies, grading in clinical, testing and test administration. Other factors could have been the relatively constant change in leadership over the past six years, as well as weak faculty pedagogical strategies in both clinical and classroom settings. Actions are already underway to develop stronger faculty and students and an overall successful program. We are confident that these actions will address the recent NCLEX score declines and better prepare our graduates to be excellent nurses in a variety of settings in North Carolina and beyond. We are committed to continually assessing our progress and performance to assure our nursing program is successful.

References

NCBON (2015) North Carolina Trends in Nursing Education: 2010-2014 retrieved on March 10, 2016 from

https://www.ncbon.com/myfiles/downloads/nursing-education-trends-2014.pdf