Research Article

Effects of a Registered Nurse (RN) Transition Course on Preparedness and Performance on the National Council Licensure Examination - Registered Nurse (NCLEX-RN)

Diane Christensen, DNP, RN, CCRN and Carrie Wissmar, DNP, MBA, RN*

University of Akron, School of Nursing, Ohio, USA

Abstract

Background: Each year, approximately 3,000 nursing school graduates fail the NCLEX-RN exam and are unable to enter the workforce. Nursing schools are responsible for adequately preparing students for practice while maintaining high NCLEX-RN pass rates.

Method: To battle declining pass rates, one public, metropolitan institute of higher education created a mandatory senior-level course. The course included a variety of interventions, including Kaplan standardized tests. This study examined the effectiveness of the course on preparedness and performance on the first attempt of the NCLEX-RN.

Results: Analysis of the data revealed significant relationships between baseline and final Kaplan readiness tests scores, and between final Kaplan readiness test scores and first attempt of NCLEX-RN outcomes.

Conclusion: Findings supported the RN transition course effectiveness in preparing students for successful performance on the first attempt of the NCLEX-RN.

Keywords: NCLEX-RN preparation; Remediation; Review Course; Standardized examination

*Corresponding author: Carrie Wissmar, University of Akron, School of Nursing, Ohio, USA, Tel: +1 3306710221; Email: cap@uakron.edu

Introduction

Each year, approximately 3,000 nursing school graduates fail the licensure exam and are unable to enter the nursing workforce [1]. No proven methods of preparation for the NCLEX-RN examination have been documented. This lack of documentation is concerning, especially when considering the stakeholders. The stakeholders (educators, administrators, accreditors) are troubled with issues of public safety, reputation, recruitment of qualified students, competition, and accreditation. To ensure public safety is protected, the National Council of State Boards of Nursing (NCSBN) updates the NCLEX-RN testing plan every 3 years [2]. A significant increase in testing rigor was implemented with the 2013 updates. As a result, many educational programs experienced a substantial decline in their overall NCLEX-RN passage rates because of the increase in testing rigor that came with the 2013 NCLEX-RN test plan update [3]. Numerous nursing schools continue to struggle with the pressure of maintaining high NCLEX-RN pass rates.

Literature Review

In order to prepare students for the NCLEX-RN, educational institutions focus on standardized testing, preparatory courses, test taking strategies and remediation as common approaches related to NCLEX-RN success. Although some research has reported increases in pass rates after initiating standardized testing [4-7], others reported no change in NCLEX-RN results after incorporating standardized testing [8,9]. Further studies found an increase in scores by combining standardized testing with supplemental interventions to evaluate NCLEX-RN success [10,11]. Some found that elective courses including faculty mentoring, journaling, tutorials, various self-directed student activities proved successful in NCLEX-RN preparation [12,6]. While others found no significant improvement in scores on achievement exams or NCLEX-RN pass rates after initiating an NCLEX-RN prep course [13,14].

Deficient skills in taking tests and studying are recognized as having a negative impact on NCLEX-RN scores [15]. Results were found to be inconsistent when additional methods to improve NCLEX-RN success such as managing testing anxiety, learning prioritization skills, building confidence, reviewing forgotten or difficult nursing content, and discussing the NCLEX-RN process were scattered throughout a nursing program [16,17,6]. Research shows the use of meditation, mindfulness practices, and other reflective practices can assist students in reducing test anxiety and improving self-efficacy [18-21]. Most recently, Fiske reminds us that the focus of NCLEX-RN success has been placed primarily on academic predictors and that nonacademic predictors such as anxiety, stress, and self-efficacy have not been as widely studied [22].

Implementing faculty monitored remediation for poor performance on standardized exams is one strategy in reversing the trend of increasing NCLEX-RN failures [23-25]. Sifford and McDaniel reported increasing exit exam scores in baccalaureate senior nursing students following a remedial test taking course [17]. In addition, a

structured, individualized review and early identification of tailored needs can be used to guide the remediation process [26,27].

Background

The University of Akron experienced a decline in NCLEX-RN scores during the 2013 academic year that continued over the next two years, dropping below the national average in 2015. Unsatisfied with the declining pass rates, a mandatory one-credit, senior-level course entitled RN transition was created based on the thematic schema of standardized testing (utilizing Kaplan products), individualized remediation efforts, test-taking strategies, and faculty support and student ownership of success. Prior to the RN transition course, The University of Akron did not have an established formal preparation for the NCLEX-RN. Preparation was limited to the students completing standardized exit exams (utilizing Evolve products) prior to graduation. The authors designed the RN transition course and have collaboratively taught each section since its inception. The purpose of this study was to evaluate the effectiveness of a RN transition course on student preparedness for, and performance on, the first attempt of the NCLEX-RN examination.

Methods

A retrospective, descriptive, correlational study was designed to identify whether the RN transition course interventions had an effect on NCLEX-RN first attempt outcomes. The study was conducted at The University of Akron, a public, metropolitan institute of higher education located in northeast Ohio. The School of Nursing offers three baccalaureate degree tracks: a traditional undergraduate program; a Licensed Practical Nurse (LPN) bridge program; and an accelerated, post-baccalaureate degree program.

Student preparedness was measured by exploring the difference in scores between the baseline and final Kaplan readiness tests. Student performance was measured by comparing the outcomes on the final Kaplan readiness test to the first attempt of the NCLEX-RN. The baseline and final Kaplan readiness tests are examples of Kaplan integrated tests. Students who score at the threshold level of 65% or greater on the readiness tests have a high probability of passing the NCLEX-RN on the first attempt (~94.8%) [28]. Students pass the NCLEX-RN when their performance falls within the 95% confidence interval, or fail the NCLEX-RN when reaching this threshold is determined to be statistically impossible [29].

Students began the RN Transition course by taking the baseline Kaplan readiness test and concluded the course with the final Kaplan readiness test. Throughout the course, students were taught skills, such as test-taking, self-directed remediation, reflection, critical thinking and problem solving. Although the Kaplan product was woven into the RN transition course, the course was much greater than the sum of its Kaplan parts. The course structure; assignments; grading; learning environment; teaching philosophies and strategies collectively operationalized the course. The course started as an eight-week course, changing to a 16 week design during the traditional academic year. As the course focused on building habits, faculty hypothesized that a longer course could help solidify NCLEX preparation habits. Students were assigned in-class, group, and online activities to learn about standardized tests, including the NCLEX-RN. The course assignments focused on techniques to prepare students for tests educationally, physically, mentally and psychosocially. Students were required to share their "aha" moments, or times when something resonated with

them, after predetermined assignments. Group work involving interactive, unique methods of disseminating information on topics related to testing included: scripted skits, games with prizes and parodies of popular songs to fit the assigned topic. The final non-testing assignment involved each student to develop a personalized NCLEX study plan. Faculty support and encouragement was a constant theme and was provided in a variety of ways. Students received individualized attention in the form of verbal and written feedback and reassurance in class and privately via one on one coaching. Focus was placed on creating a positive and fun, yet rigorous, learning environment while holding students accountable for their work on a weekly basis.

In addition to the baseline and final readiness tests, Kaplan focused review and integrated tests, were strategically embedded throughout the course to highlight NCLEX-RN test plan categories. Students were required to use reflection worksheets after testing. These worksheets taught them to analyze their test performance by looking for trends in missed questions and changes in answer selection. Remediation of missed questions was a constant theme with testing assignments. Grading rubrics, with point allocation, focusing on remediation efforts, were created. The grading rubric highlighted the importance of remediation, and provided incentive for students to engage in testing activities. Better test scores resulted in higher earned points and less time required for remediation efforts.

Data were accessed from student electronic records and entered into SPSS version 24.0 software by the researchers. Student preparedness and performance on the first attempt of NCLEX-RN were studied separately. The University of Akron Institutional Review Board (IRB) determined the study met exemption criteria [30]. In total, 346 undergraduate BSN student records were utilized in the study. Demographics included: gender, ethnicity, program track, and course length and graduation cohort. The majority of nursing students were Caucasian (89.9%) females (83.2%) who were enrolled in the traditional BSN program (77.5%), completed the RN transition course over a 16-week semester (79.8%), and graduated in a spring semester (77.1%). Whether students achieved threshold levels on the final Kaplan readiness test and/or passed the NCLEX-RN on the first attempt were obtained from academic records (Table 1). Most students did not meet Kaplan's 65% threshold score on the final readiness test (79.8%). Despite this, the majority of students passed the NCLEX-RN on the first attempt (91.3%).

		Frequency	Percent	Cumulative Percent
Final Kaplan Readiness Test Threshold (n = 346)	Did Not Meet Threshold	276	79.8	79.8
	Met Threshold	70	20.2	100
NCLEX (n = 335)	Fail	29	8.7	8.7
	Pass	306	91.3	100

Table 1: Threshold and NCLEX frequencies.

Results

Student preparedness for the NCLEX-RN

A paired t-test to explore the relationship from the pre-course baseline Kaplan readiness test revealed a positive correlation ($r = 0.717$, $p < 0.001$) with a strong magnitude $[r = (0.5 < | r |)]$ (Table 2).

A significant difference existed between the baseline and final Kaplan readiness test scores (t (332) = 17.86, p < 0.001). Final Kaplan readiness test scores were 6.18 points higher than baseline Kaplan readiness test scores (95% CI [5.50, 6.86]).

One way Analysis of Variance (ANOVA) was performed to investigate variations within different groups (program track, ethnicity, graduation date, and course length) on final Kaplan readiness test outcomes. The only significant findings were related to program track (F2, 343 = 5.584, p < 0.001) (Table 3).

In evaluating the three program tracks, post hoc comparisons using Bonferroni criterion for significance indicated a significant difference in scores between traditional and LPN to BSN tracks (p < 0.05) and traditional and accelerated tracks (p < 0.05) (Table 4). However, scores between LPN to BSN and accelerated tracks did not show significance.

Student performance on the NCLEX-RN

Comparing final Kaplan readiness test scores to NCLEX-RN first attempt outcomes revealed a positive correlation between preparedness and performance, showing significance (rpb = 0.223, n = 335, p < 0.001) (Table 5). The direction of the relationship was positive, and the magnitude of the association was approximately weak r = (0.1 < | r | < 0.3).

Exploring associations between course length, graduation date, program track, ethnicity, and achieving final Kaplan readiness test threshold with student performance on the first NCLEX-RN attempt-showed significant findings in one area (Table 6). All students who met or surpassed the 65% threshold score passed the NCLEX-RN on the first attempt. While a significant association between achieving threshold scores on the final Kaplan readiness test and NCLEX first attempt passage was revealed, no significance was noted in regards to course length, graduation date, program track and ethnicity with NCLEX-RN passage rates (Table 7). Most students did not meet Kaplan's 65% threshold score on the final Readiness test (79.8%). Despite this, the majority of students passed the NCLEX-RN on the first attempt (91.3%).

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Final - Baseline Readiness Scores	6.18234	6.3151	0.34607	5.50159	6.86310	17.865	332	0.000

Table 2: Paired samples t-test between final and baseline Kaplan readiness tests.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	698.707	2	349.354	5.584	0.004
Within Groups	21458.875	343	62.562		
Total	22157.583	345			

Table 3: ANOVA final Kaplan scores by program track.

Program Track			Mean Difference	Std.Error	Sig.	95% Confidence Interval	
						Lower	Upper
Bonferroni	**Traditional BSN Program**	**LPN to BSN**	-4.63624*	1.83346	0.036	-9.0471	-0.2253
		Accelerated	-2.80922*	1.14547	0.044	-5.565	-0.0535
	LPN to BSN Program	**Traditional**	4.63624*	1.83346	0.036	0.2253	9.0471
		Accelerated	1.82702	2.05104	0.879	-3.1073	6.7614
	Accelerated BSN Program	**Traditional**	2.80922*	1.14547	0.044	0.0535	5.565
		Accelerated	-1.82702	2.05104	0.879	-6.7614	3.1073

Table 4: Post-hoc comparisons final Kaplan scores per track.

* The mean difference is significant at the 0.05 level.

		Final				NCLEX		
	Mean	Std. Deviation	n	Pearson Correlation	Sig. (2-tailed)	n	Pearson Correlation	Sig.(2-tailed)
Final	59.2692	8.01404	346	1		335	0.223	0.000
NCLEX	0.91	0.282	335	0.223	0.000	335	1	

Table 5: Point biserial descriptive statistics & correlations.

		Fail	Pass	Total
Did Not Meet Threshold	Count	29	237	266
	% of Total	8.70	70.7	79.4
Met Threshold	Count	0	69	69
	% of Total	0	20.6	20.6
Total	Count	29	306	335
	% of Total	8.7	91.3	100

Table 6: Threshold NCLEX cross tabulation.

	Value	df	Asymptotic Sig (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	8.235[a]	1	0.004		
Continuity Correction[b]	6.914	1	0.009		
Likelihood Ratio	14.074	1	0.000		
Fisher's Exact Test				0.001	0.001
Linear-by-Linear Association	8.211	1	0.004		
N of Valid Cases	335				

Table 7: Chi-Square test threshold by NCLEX.

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.97.

b. Computed only for a 2x2 table.

Discussion

The primary aim of this study was to determine if the RN Transition class effectively prepared students for successful performance on the NCLEX-RN examination. The baseline and final Kaplan readiness test scores showed a positive correlation and favorable difference in performance. The mean scores of the final Kaplan readiness test averaged 6.18 points higher than the baseline scores. Although this was a positive finding, the researchers had hoped for a greater variance between the tests.

Students in the LPN to BSN and accelerated program tracks showed better performances on the final Kaplan readiness test compared to students enrolled in the traditional BSN program. This finding could be based on previous experience with standardized test taking. Understanding that students in the LPN to BSN program track have passed the NCLEX-PN and students in the accelerated program track were required to have a baccalaureate degree in another field for admission into the program, which more than likely involved experience taking some form of standardized test.

Final Kaplan readiness scores and NCLEX-RN first attempt performance were determined to be positively correlated, although at a weaker strength than anticipated. All students who met the threshold on the final Kaplan readiness test passed the NCLEX-RN on the first attempt. Although 79.4% of the students did not meet threshold, 89.1% of the same students passed the first attempt of the NCLEX-RN.

The scores on the final Kaplan readiness test were not overly impressive when compared to NCLEX results. When students were asked about the RN Transition course, common themes were identified. Every graduate wished they had spent more time and effort on the course. The most influential theme was regarding the timing and weight of the final Kaplan readiness test accounting for approximately 20% of the overall course grade. As senior nursing students, at the end of their educational journey, many reported feeling fatigued and overwhelmed. During the weeks leading up to final exams, students reported being more short-sighted and less focused on the NCLEX-RN. However, the increasing trend of NCLEX-RN passage rates since the inception of the course, along with most students passing the NCLEX on the first attempt, despite not meeting threshold on the final Kaplan readiness test, should not be ignored.

It is important to note that the RN Transition course did not consist solely of quantifiable interventions. The instructors invested time and energy into structuring the course around continuous student support and feedback. We believe intangible educator characteristics, teaching philosophies, and motivational abilities influence student outcomes. Commitment to a positive learning environment; engaging course design; and interaction through mentoring, coaching, and instruction on anxiety reducing activities contributed to the positive outcomes. The researchers realized, but did not account for, additional considerations that could possibility effect student outcomes. Courses taken alongside the RN Transition course and NCLEX-RN preparatory activities after graduation may have expanded students' clinical knowledge and/ or critical thinking abilities. Although we acknowledge that education does not occur in a vacuum, the authors were pleased with the findings. It is highly suggestive that the RN Transition course has had a positive impact on student preparedness for, and performance on, the first attempt of the NCLEX-RN. Further investigation into the uniqueness of the RN transition course could include a follow-up qualitative study on the student experience and responsiveness to the course, with an emphasis on the non-tangible themes of learning environment structure and function; student engagement; and teaching philosophies.

Conclusion

The results of this study proved to be encouraging in showing the effectiveness of the RN transition course on preparedness and performance of first time NCLEX-RN examination attempts. More research on the effects of nursing program interventions and NCLEX-RN passage is warranted. Future studies should increase in rigor and applicability across multiple institutions. Studies should control for confounding variables and attempt to provide statistically significant relationships between individual interventions and improvement in NCLEX-RN passage rates. Until this occurs, the lack of empirical evidence may result in many nursing programs failing to meet the NCLEX-RN preparatory needs of students.

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