Research Article

Impact of Study Sessions for First Semester Nursing Students

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Abstract

Purpose: Nursing student attrition is a concern to university administrators, nursing faculty, prospective and current nursing student, as well as employers. The purpose of this project was to increase first semester nursing student success.

Background: Each semester, 80-100 students begin nursing at a traditional Bachelor of Science in Nursing (BSN) program, with an attrition rate ranging between 20-40%. It is critical to reduce nursing student attrition rates and it is felt that interventions to reduce attrition should be provided early in the curriculum.

Method: This study was designed using a convenience sample and a quasi-experimental, pre-test/post-test design. Bi-weekly moderated study sessions were developed and implemented for first semester nursing students, and a total of 78 students participated in these study sessions. These sessions included study and test taking strategies, National Council Licensure Examination (NCLEX) practice questions, and content review.

Findings: The study sessions were found to have a positive impact on student grades and there was a statistically significant impact on student progression ($p \leq .05$) when the student participated in the moderated study session within the first weeks of the semester.

Conclusion: It is recommended that the study sessions be offered early in the semester for each cohort of first semester nursing students.

Background

A private university in the Midwest offers a Bachelor of Science in Nursing (BSN) program, with nursing courses being taken over five semesters. The mission of the university supports providing under-served students the opportunity to pursue an education; therefore, the admission criteria for the nursing program is lower than many other nursing programs in the area, and students often come to this university when they are unable to meet the admission requirements at other nursing programs. The attrition rate of first semester nursing students is higher than anticipated and has captured the attention and concern of faculty and university administrators. The contributing factors of this high attrition rate are multi-faceted. This is thought to be due to more liberal admission criteria, the significant increase in first semester nursing course workload as compared to the general education courses, poor student study habits, and the intensive nature of the nursing program.

Currently, students who are struggling in their nursing coursework, defined as an exam average of less than 77%, are referred to the Program for Academic Success (PASS) program. Students meet with the retention coordinator once to discuss study and test taking strategies and subsequently attend the PASS workshop the weekend prior to final exams. This workshop provides the students with study techniques, practice with National

Council Licensure Examination (NCLEX) style questions, and content review. The PASS program initially saw a noted improvement in progression rates; however, recently there has been a gradual increase in the attrition rate. In addition to the PASS program, students are referred to a variety of resources including the Learning and Academic Resource Center (LARC), counseling services, and tutoring services. Unfortunately, these resources are frequently provided to students too late in the semester, making it almost impossible for them to be successful. Therefore, additional strategies were needed, and moderated study sessions were identified as a viable option to assist students in being successful.

Review of the Literature

High nursing student attrition rates are a concern to university administrators, nursing faculty, prospective and current nursing students, and employers. Consequences of not addressing this issue may include a decrease in admission of candidates and loss of program credibility, qualified nursing faculty, and program accreditation. There are numerous stakeholders that should be considered when seeking a solution to decrease the attrition rate of first semester nursing students [1]. The stakeholders that have been identified for improving first semester nursing student success at this university include the college of nursing dean, undergraduate director, coordinator of retention, nursing faculty, current and future nursing students, university administration, and the Commission on Collegiate Nursing Education (CCNE). A better understanding of factors influencing nursing student success is needed to improve nursing student retention. A review of the literature was completed, and it was noted that nursing student success is multi-faceted. Greater than 50 articles from 2007-2014 related to retention, attrition, and success of nursing students were reviewed. The following themes were identified when searching for ways to reduce nursing student attrition - faculty support, early identification of at-risk students, and strategies to support student success.

Faculty Support

Shelton [2] acknowledged that in addition to attracting qualified candidates it is important to provide students with the necessary support and tools to be successful. Support includes the faculty being available for students to ask questions in a non-threatening environment, demonstrating an interest in the student as a person, and exhibiting caring behaviors. The researcher found the more faculty support students perceived, the more likely they were to be successful in the nursing program. In addition to providing support, demonstrating caring and providing a caring environment can have a positive impact on nursing student retention. McEnroe-Petitte [3] identified a caring environment as one that is nurturing, mentoring, and instilling self-confidence in students.

At-Risk Student Identification

Early identification of at-risk nursing students and the variables that contribute to their success consisted of 19 predictor variables that were used to examine the likelihood that students would be successful in their nursing fundamentals course [4]. These academic and non-academic variables included standardized testing scores, Grade Point Average (GPA), learning style, and personal stressors. The findings demonstrated a correlation between SAT score, high school GPA, and nursing entrance test scores, specifically reading and math, with nursing student success. It is suggested that using these predictors for early identification of at-risk students provides the opportunity to better support these students to be successful.

Strategies to Support Student Success

Several studies have shown that additional group meetings and targeted courses during the semester improved student success [5-7]. These strategies were implemented in addition to the traditional courses that nursing students were required to complete. In the study by McGann and Thompson [7], contributing factors of success and academic failure in senior nursing students was investigated. At-risk students attended an additional weekly class that included discussions, additional content review, and assignments. Discussion topics included learning styles, time and stress management, test taking strategies, and content reviews. The findings supported faculty mentoring and recommended including interventions, such as a regular group meeting and faculty mentoring, earlier in the nursing program. Participants had a statistically significant improvement in their GPA (p < .0001) and an 87% NCLEX pass rate [7].

Harris et al. [6] implemented a student success program that was targeted to at-risk students. This program incorporated group meetings and individual mentoring sessions over the course of a 16-week semester. The group sessions included modules that focused on study skills, test taking strategies, time management, and problem solving. This approach had mixed results that did demonstrate promise for students that were identified as at-risk academically. Harding [5] implemented a targeted class to assist students over the course of the semester. The supplemental instruction did have an impact on student success during the immediate timeframe, although the benefit was not apparent over time. In a study by Lockie, Van Lanen, and McGannon [8] transfer status, chemistry grade, and participation in supplemental instruction course impact was evaluated on student success and NCLEX pass rates. Students that attended greater than six supplemental instruction sessions had a higher course grade than those that attended six or less sessions, although there was not a significant difference in the number of sessions attended and NCLEX pass rate.

Early interventions such as support groups, time management strategies, stress management strategies, test taking strategies, and content review can assist students in being successful in their nursing courses [2,4,9]. Several studies identified supplemental instruction as having a significant impact in enhancing the success of student nurses [5-8]. Therefore, moderated study sessions were developed and implemented for first semester nursing students in an effort to reduce attrition and increase nursing student success.

Project Objectives

The purpose of this project was to provide moderated study sessions to first semester nursing students to enhance their understanding of study strategies, test taking strategies, and a review of the content being covered in the nursing courses. The clinical question posed was: In first semester nursing students, how does attending moderated study sessions affect student success, as compare to students who do not attend, as measured by increased progression rates within their first semester in the nursing program?

Several assumptions were identified for this project:

- First semester nursing students would participate in the moderated study sessions.

- Participants would have improved study strategies and gain an understanding of test taking strategies for NCLEX style questions.

- There would be an overall increase in first semester nursing student retention rate to greater than 70% with a corresponding decrease in attrition rate to less than 30% during the 2013-2014 academic year.

Theoretical Framework

The use of the Appreciative Inquiry (AI) model was utilized for this project [10]. AI is a process to facilitate change that builds upon what is currently working. Richer, Ritchie, and Marchionni [11] noted that AI can be used as both a theory and a method for facilitating change by building on the success, creating an energy and enthusiasm for change. Discovery, dream, design, and destiny have been identified as the four phases of appreciative inquiry [11]. In the discovery stage a review was completed to assess what was currently being done to enhance student success; this included participating in the PASS workshop this past year. It was discovered that there was a significant amount of valuable information that was provided to the students in this venue. Using the positive aspects of the current program, new ideas were developed that built upon what was currently being done to enhance student success. The idea, or dream, that was formed included the concept of moderated study sessions.

The design phase involved creating innovative ways to reinforce content and provide the students with test taking and study strategies. Implementation and evaluation of the study sessions occurred during the destiny stage. It was anticipated that the use of this model would have a twofold effect. AI would take into consideration the positive aspects of the current processes that faculty have developed and are invested in, hopefully increasing faculty support of any proposed changes. It was also anticipated that students would gain insight into their own learning style, explore new ways to be successful, and implement changes to their study habits.

Method

It was critical that faculty would see moderated study sessions as an additional resource and not as a replacement to the current resources that are in place to assist with student success. This required finding a model for change that would incorporate aspects of the nursing program that are currently working into the project intervention. It was also important to have any developed intervention be a valuable resource for the students. Study sessions were designed and implemented, along with the creation of a plan to evaluate the impact of this intervention. These study sessions were moderated by a nursing faculty that had a solid understanding of first semester student content and provided the student with multiple resources. Quantitative and qualitative data were subsequently collected to evaluate effectiveness of the moderated study sessions on student retention rates along with participant feedback. A quasi-experimental, pre-test/post-test design, with a convenience sample was utilized. Institutional Board Review (IRB) expedited approval was received from the project site.

Study Session Design

During the 2013-2014 academic year, all first semester students were invited to participate in a series of study sessions which met every other week, lasting for 90-120 minutes. Each study session content included a discussion on test taking and study strategies, a review of content currently being covered in health assessment and fundamental nursing courses, group activities and case studies, practice with National Council Licensure Examination (NCLEX) style questions and learning how to interpret this style of question, as well as time for questions and general discussion. This design was based on the findings from several studies that supported the benefits of providing additional instruction to nursing students [5-7]. The availability of these study sessions was promoted through flyers, a personal presentation by the involved faculty member, and an email reminder the day before each study session. Nursing faculty that taught theory, skills lab, and clinical for the intended audience also promoted the study sessions and encouraged students to attend.

Data Collection

Data collected included the pass rates of first semester nursing students, number of study sessions attended, and participant feedback. Pass rates were collected for all first semester nursing students during the fall 2013 and spring 2014 semesters. The data gathered included overall first semester nursing student progression rate along with health assessment and fundamentals course pass rates. Demographic data was also collected for the students that attended the study sessions which included ACT score, admission GPA, Kaplan Admission Test (KAT) math and reading scores, science prerequisite grades, and identified transfer students and those who began the nursing program as traditional freshman students. The data were analyzed using SPSS (Version 22) using nonparametric tests; frequency distributions, t-tests, and chi-square. Participant feedback and evaluations were also collected at each study session through an evaluation tool that was specifically designed for this project. These evaluations were reviewed concurrently to ensure that the study sessions were meeting the participants' needs and expectations. Study session activities were subsequently adjusted based on student feedback with more NCLEX questions and specific topics, such as pediatric health assessment and math for medication review, being incorporated in future sessions.

Findings

There were a total of 78 students who participated in the moderated study sessions, 38 in the fall 2013 semester and 40 in the spring 2014 semester. Mean test grades increased as the semester progressed for study session participants. Fall fundamental and health assessment course mean exam scores went from 78.29 to 80.39 and 76.38 to 82.37, with spring exam grades increasing from 81.29 to 83.66 and 81.17 to 83.91, respectively. Table 1 highlights the number of students that participated in the study sessions each semester, with the number and percentage of students who were successful in passing the health assessment and fundamentals course. It was also noted that there was a statistically significant impact on student pass rates ($p = .001$) when the student participated in the moderated study session during the spring 2014 semester (Table 2). This was thought to be due to the study sessions being offered within the first weeks of the semester, and prior to any health assessment or fundamentals examinations. These findings are consistent with previous studies [5-8] in which an additional group class that reviewed targeted content and concepts, over the course of the semester, had a positive impact on student success.

	Semester		Total Number Pass / Fail
	Fall 2013	Spring 2014	
Pass	N= 23	N= 41	64
	63.90%	93.20%	
Fail	N= 13	N= 3	16
	36.10%	6.80%	
Total for Semester	36	44	80

Table 1: Pass / Fail Numbers and Rates by Semester.

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2 sided)	Exact Sig. (1 sided)
Pearson Chi-Square	10.619	1	.001*		
Continuity Correction	8.867	1	.003*		
Likelihood Ratio	11.068	1	.001*		
Fishers Exact Test				.002*	.001*
Linear-by-Linear Association	10.486	1	.001*		
N of Valid Cases	80				
*p < .05					

Table 2: Statistical Significance for Spring 2014 Semester.

Pass rates for the past six semesters were collected for comparison: two semesters prior to a curriculum change, two with the new curriculum in place, and two semesters of moderated study sessions being offered. Pre-curriculum pass rates for health assessment and fundamentals were between 58-79%, post-curriculum changes 77-88%, and 78-92% during the semesters the moderated study sessions were offered. The new curriculum appears to have had a positive impact on student success, while the spring 2014 semester indicated that the study sessions had a statistically significant ($p = .001$) impact on the number of students that were successful in their nursing courses.

The participant evaluation tool provided insight regarding their perception of study strategies, test taking strategies, understanding content, collaborating with classmates, getting their questions answered and feeling like they had faculty support. Students were asked to rate these topics as very helpful, somewhat helpful or not really helpful. The feedback was overwhelmingly positive with 72-90% of participants selecting the very helpful

rating for most of the topics (Figure 1) and everyone stated that they would recommend the moderated study sessions to their classmates. Students comments on the evaluation tool included "The study strategies and analyzing questions were great!" "Incredibly Helpful," and "NCLEX questions were very helpful." These results are congruent with those by Shelton [2], in which students that felt supported by faculty were more likely to be successful.
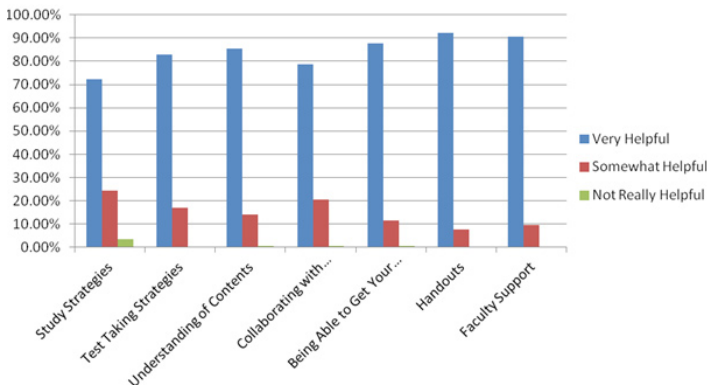

Figure 1: Moderated study session participant evaluation.

Discussion

Providing an additional resource, such as the study sessions, appears to have a positive impact on Sophomore II student success. The fall 2013 study sessions did not demonstrate the same impact as the spring 2014 cohort, indicating that providing study sessions in the first few weeks of the semester may have a greater impact. Early exposure to study strategies and test taking strategies assists the students to apply these newly learned techniques before taking any exams. Several challenges came in trying to find a day and time that would be convenient with the first semester nursing student courses. Staggered theory and skills lab schedules limited the times when all first semester students would not have a conflict with their nursing classes. Another challenge is getting the students to see the value in participating in these additional sessions. The most common reasons that students provided for not coming were - they needed to use the time to study for their upcoming exam or they did not see the need to attend. Unfortunately, many of the students that were at-risk and were most likely to benefit from the study sessions did not attend, or did not come until they realized that they were at significant risk of not passing their health assessment and/or fundamentals course.

Limitations

Pass rate data was looked at retrospectively for four semesters prior to the implementation of study sessions as there was a curriculum revision two semesters prior to this project and it was important to take into account the impact that the curriculum

revision may have had on student progression rates. As previously noted, there was an increase in student retention after curriculum changes during the previous semesters. Although there was a further increase in student success with the implementation of the study sessions. Due to a delay in IRB approval, the study sessions were scheduled to start in early September 2013 but were not able to be started until October, and by that time the students had already had at least two exams prior to the first study session. Another interesting limitation was the weather. The study sessions were held every other Monday in the afternoons starting at 3:00pm and during the spring 2014 semester there were several snow days that impacted two of the study sessions. For the first session, more than half of the first semester nursing students needed to do make up classes during the time of the study session. Due to this, that study session was offered in the afternoon and again in the evening. Surprisingly there were a total of 39 students who attended one of those first sessions. For the second study session, shortly after the start of the study session, the university closed early, due to snow, and the attendance was only 8 participants that day. The small sample size of students who attended all the study sessions is also considered a limitation and further study should be done to evaluate the impact of study sessions on nursing student retention.

Implications

Students did better in their health assessment and fundamentals nursing courses when participating in at least one study session early on in the semester, as noted by a 92% and 90% pass rate, respectively, during the spring 2014 semester. Finding ways to increase nursing student retention and progression is critical to the success of any nursing program. Student feedback and increased pass rates for the first semester nursing students indicate that study sessions appear to be a viable option for the students in this program. Based on this information, the study sessions were continued for the fall 2014 and the spring 2015 cohort. Ongoing data collection will monitor progression and pass rates for first semester nursing students, as well as monitor for any changes in the progression and pass rates for students in upper level nursing courses.

Conclusion

Concern over attrition rates of first semester nursing students prompted a review of the literature and the subsequent development of study sessions. These study sessions incorporated the themes identified when searching for ways to reduce nursing student attrition - use of support groups, faculty support, strategies to support student success, early identification of at-risk students, and teaching strategies. Findings from the implementation of study sessions included an increase in mean exam grades, a significant increase in pass rates when students attended study sessions early

on in the semester, and very positive participant feedback. Study sessions have continued beyond this project due to the positive response and success of participants. It is recommended that this project be incorporated with each cohort of first semester nursing students as well as explore the possibility of expanding moderated study sessions to other levels of nursing students.

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