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General Education Course Enrollment Patterns in a Community College Baccalaureate RN-To-BSN Program

Dennis Gregory, Jason Krupp and Mitchell Williams

This quantitative study utilizes ex post facto data to examine the graduation rates and time to degree of 240 students enrolled in a bachelor of science in nursing (BSN) program at a community college in Florida. The findings indicate that students who completed all general education requirements before entering the program were more likely to graduate in three years than students who completed some general education requirements after entering the program.

This investigation of patterns of general education requirement course completion was initiated within the context of three national phenomena: an effort to graduate more college students, the growing presence of community college baccalaureate programs, and the labor-market demand for Registered Nurses (RNs) with Bachelor of Science in Nursing (BSN) degrees. Additionally, in response to a changing health care system and patient needs, the Institute of Medicine (IOM) of the National Academies (2010) stated RNs must increase their levels of training by earning bachelor's degrees before or soon after entering the workforce. Currently, there are three educational options to becoming a registered nurse: a nursing diploma, an associate degree in nursing (ADN), and a BSN. The most popular educational option is the ADN program, which is found in community colleges (Institute of Medicine of the National Academies, 2010). ADN programs are typically two to three years in duration, and prepare students to take the National Council Licensure Examination for RNs (NCLEX-RN). There are two types of BSN degrees: the pre-licensure BSN program and the RN-to-BSN program. Pre-licensure BSN programs are typically four years in duration, and also prepare students to take the NCLEX RN exam to become RNs after graduation.

The RN-to-BSN program allows RNs who completed Associate Degrees in Nursing to return to college and earn BSN degrees by completing additional general education courses and

junior/senior-level non-clinical nursing courses. The RN-to-BSN program may also be referred to as a BSN-completion program. According to the Health Resources and Services Administration (HRSA) (2010), about 50 percent of all RNs had a BSN or higher degree in 2010. The IOM proposed a goal of having 80 percent of the RN workforce with BSN degrees by 2020. With only 21 percent of ADN graduates continuing their education to earn a bachelor degrees (HRSA, 2006), there appears to be a large potential for growth in RN-to-BSN programs.

This capacity for growth is important to leaders of community colleges and universities because the registered nurse occupation is expected to have the largest national growth of any occupation, with a projected 22.2% increase, or 581,000 new jobs between 2008 and 2018 (BLS, 2009). According to the Health Resources and Services Administration (HRSA) (2010), about 50 percent of all RNs had a BSN or higher degree in 2010. The IOM proposed a goal of having 80 percent of the RN workforce with BSN degrees by 2020. RN-to-BSN programs provide avenues for RNs who graduated from Associate Degrees in Nursing (ADN) to complete their BSN degrees.

The current study included an analysis of enrollment data of 240 students enrolled in an RN-to-BSN program at a community college in Florida between Fall of 2002 and Spring of 2004. The graduation requirements of the RN-to-BSN program included some general education courses and some upper-division nursing courses. Students in the program could choose to complete the general education requirement before or after entering the program.

The state of Florida requires all baccalaureate students in the state's public universities and colleges to complete 36 credit hours of general education requirements to graduate. Students who graduate from one of Florida's community colleges with an Associate in Arts degree have

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satisfied the general education requirement and may then transfer to a university to complete the upper-division requirements for a bachelor's degree. Since community college baccalaureate degrees were implemented to provide transfer options for students who earned Associate in Science or Associate in Applied Science degrees, the remaining general education requirements were integrated into the upper-division curriculum. Students who earned applied science degrees in fields such as nursing could take general education courses such as Humanities or English Composition concurrently with junior- and senior-level nursing research courses. Many researchers have demonstrated students have higher graduation rates when transferring from a community college to a university if they first complete all general education requirements (Cejda, Rewey, & Kaylor, 1998; Cohen & Brawer, 2006; Coley, 2000; Popovich, 2005). No previous research has examined the impact of completing general education requirements prior to entering a community college baccalaureate degree program.

The Study

The purpose of this study was to determine if there were significant differences in the graduation rates and time to degree completion between students who completed all general education requirements before enrolling in an RN-to-BSN program and students who completed general education requirements after enrolling in an RN-to-BSN program. If students who completed all general education requirements before enrolling in the program had higher graduation rates or graduated at a faster pace, administrators of RN-to-BSN programs and departments of education may benefit from adopting admission or progression policies accordingly.

This study was guided by three research questions:

1. When do RN-to-BSN students complete general education requirements?

2. Does completion of general education course requirements before entering an RN-to-BSN program have a significant impact on graduation rates?
3. Among RN-to-BSN graduates, does the pattern of general education course completion have a significant impact on time to degree?

Methodology

To answer these research questions, a quantitative study utilizing an *ex post facto* research design was employed. Data were extracted from the student information database of an RN-to-BSN degree-granting state college in a major metropolitan area in Florida. *The data included course enrollment history, graduation date, gender, and ethnicity of all students who first enrolled in coursework as students in the RN-to-BSN program between the Fall semester of 2002 and the Spring semester of 2004.* Student data were divided into the following groups:

- Students who completed all general education requirements before entering the RN-to-BSN program.
- Students who completed general education coursework after entering in the RN-to-BSN program.

The dependent variables of the study were student graduation rates and time to degree. The first dependent variable was the three-year graduation rate. The graduation rate was measured in accordance with the State of Florida's accountability model, which assesses graduation rates at three years after initial enrollment (*Florida Department of Education, 2008*). The three-year graduation rate was defined as the percentage of students who graduated within three years after first enrollment as juniors in the BSN program. The graduation rate was calculated by dividing the number of graduates from a cohort by the number of students who began in the respective cohort. The second dependent variable, time to degree, was defined as

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the number of terms between a student's first enrollment as a junior in the BSN program and graduation. Terms in which students were not enrolled were included in the time to degree calculations.

The independent variable was the general education coursework enrollment pattern of completing general education coursework either before entering the RN-to-BSN program or after entering the RN-to-BSN program. Descriptive statistics were used to report the graduation rates of BSN-degree-seeking students who entered the RN-to-BSN program between the Fall semester of 2002 and the Spring semester of 2004. The number and percentage of students who graduated within three years after admission to the BSN program were calculated. A Chi-square test was conducted to determine if there were significant differences in the graduation rates between the two groups, and a *t*-test was performed to determine if there were significant differences in time to graduate between the two categories of students.

Findings

The race and ethnicity of the sample were collected and summarized to help define the population examined in this study. As indicated in Table 1, the majority of students in the sample were White (74%); they were also predominantly female (88%). According to the Bureau of Labor Statistics (BLS), approximately 91% of the employed RNs are female, 10.4% are Black, 7.3% are Asian, and 5.1% are Hispanic (2011). Similarly, most students enrolled in BSN programs throughout the US are White (National League for Nursing, 2009) and female (National League for Nursing, 2009a). Since the majority of BSN students and RNs are White women, the large distribution of White women in the sample was expected.

Table 1

Ethnicity of students in sample.

Ethnicity	Frequency	Percent
Asian	7	2.9
Black	44	18.3
Hispanic	7	2.9
White	178	74.2
Unknown	4	1.7
Total	240	100

Research Question 1: When do RN-to-BSN students complete general education requirements? As shown in Table 2, of the 240 students in the sample of this study, the majority of students (193) completed some general education requirements after entering the BSN program. When given the choice, most students (80.4%) elected to begin the program before completing all general education requirements. In contrast, only 47 students (19.6%) completed all general education requirements before entering the program. Some students may not have known about the general education requirements before they applied for admission because they were not required to be completed prior to admission to the program. Other students may have previously completed all general education requirements through their pursuit of another major. Regardless of the reason for completing or not completing general education requirements before

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entering the program, the purpose of the next research question was to identify if either enrollment pattern resulted in higher graduation rates.

Table 2

Graduation Status after Three Years by General Education Completion.

<i>General Education Completed</i>	<i>Graduated</i>	<i>Did Not Graduate</i>	<i>Total</i>
<i>Before Entering BSN</i>	<i>31</i>	<i>16</i>	<i>47</i>
<i>After Entering BSN</i>	<i>88</i>	<i>105</i>	<i>193</i>
<i>Total</i>	<i>119</i>	<i>121</i>	<i>240</i>

Research Question 2: Does completion of general education course requirements before entering an RN-to-BSN program have a significant impact on graduation rates? Table 3 shows that the three-year graduation rate of the 193 students who completed some general education requirements after entering the BSN program was 45.6%, compared to a 66% graduation rate of the 47 students who completed all general education requirements before entering the program.

Table 3

Three-Year Graduation Rate of students by General Education Completion Pattern.

<i>General Education Completed</i>	<i>Three-Year Graduation Rate</i>
<i>Before Entering BSN</i>	<i>66%</i>
<i>After Entering BSN</i>	<i>45%</i>

To determine if there was a significant difference in the graduation rates between each group, a Pearson Chi-square test for independence was conducted. The test revealed a significant difference in the three-year graduation rates between the two groups, $X^2(1, N = 119) = 6.268, p < .05$. Table 4 summarizes the results of the Pearson Chi-square test. Students who completed general education requirements before entering the BSN program were more likely to graduate within three years than students who completed general education courses after entering the BSN program.

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Table 4

Chi-Square Results Summary.

<i>Statistical Test</i>	<i>Value</i>	<i>df</i>	<i>Significance</i>
<i>Pearson Chi-square</i>	6.268	1	.012*

*The difference was significant at $p < .05$

Research Question 3: Among RN-to-BSN graduates, does the pattern of general education course completion have a significant impact on time to degree? Of the 240 students in the study, 119 students graduated within three years. As indicated in Table 5, of those who graduated within three years, the mean number of semesters to graduate for students who completed all general education courses before entering the BSN program to graduate was 5.58. The RN-to-BSN program in this study was designed for students to complete all upper-division courses in five semesters if admitted in the Fall semester and six semesters if admitted in the Spring semester. Because of the difference in the time to graduate based on time of entry, the average of 5.58 semesters to graduate is what one might expect for students who completed all general education requirements before entering the program. Additionally, the mean number of semesters to graduate for students who completed general education courses after entering the BSN program was 6.08.

Table 5

Descriptive Statistics for Terms-to-Graduation.

Completed General Education	M	SD	Range	
			Lower	Upper
Before entering BSN	5.58	1.18	5	9
After entering BSN	6.08	1.33	5	9

The *t*-test results found in Table 6 indicate no significant difference in the mean number of semesters to graduate between the two groups, $t(117) = -1.86$, $p > .05$. Therefore, of the students who graduated in three years, general education course enrollment patterns did not appear to have an impact on time to degree. Graduates who completed some general education coursework after entering the program took only half a semester longer than students who completed all general education courses before entering the program.

This finding was unanticipated, especially when couched with the finding that students were more likely to graduate within three years if they completed all general education requirements before entering the program. Even though students were more likely to graduate within three years if they completed all general education requirements before entering the program, some students who completed general education requirements after entering the program were able to graduate at nearly the same pace. Further investigations to determine the

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actual number and type of general education courses taken by this group could reveal additional insights.

Table 6

t-test Results Summary

<i>t</i> value	df	Significance
-1.86	117	.066*

*The difference was not significant at $p > .05$

Discussion

Many factors contribute to student retention and graduation rates. This study was designed using the theoretical framework of Jeffreys' Nursing Undergraduate Retention and Success (NURS) model, a multidimensional approach to analyzing nursing-discipline-specific factors impacting retention of traditional and non-traditional students. According to Jeffreys (2007), retention is impacted by "the interaction of student profile characteristics, student affective factors, academic factors, environmental factors, professional integration factors, academic outcomes, psychological outcomes, and outside surrounding factors" (p. 161). Academic factors include a student's involvement with the academic process, including study skills, study hours, use of college support services, course availability, and academic advising

(Metzner & Bean, 1987). Jeffreys suggested specific investigations of each academic factor may divulge several dynamics which could impact individuals differently. This study extended Jeffreys' NURS model to include general education course enrollment patterns as an academic factor which may impact two academic outcomes: graduation rate and time-to-degree-completion. The results of this study suggest general education course enrollment patterns may be a significant component to consider as an academic factor contributing to student retention and graduation in the RN-to-BSN programs.

The significant difference in graduation rates between the two categories of students supported prior research indicating community college students who completed associate degrees prior to transferring to universities had higher baccalaureate graduation rates than students who transferred without associate degrees (Cejda, Rewey, & Kaylor, 1998; Cohen & Brawer, 2006; Coley, 2000; Popovich, 2005). This study supports the body of professional literature indicating the completion of general education course requirements prior to transferring to a baccalaureate program results in higher graduation rates. In addition, this study's findings extend the knowledge-base to include a community college baccalaureate RN-to-BSN program.

Wehlburg (2010) suggested the integration of general education courses with specialized courses may lead to higher student retention rates. This study did not support Wehlburg's argument. While this study did not directly measure retention rates, the lower graduation rate suggests a lower retention rate of students who attempted to integrate remaining general education requirements along with the junior- and senior-level nursing curriculum.

Unfortunately, there are no state level or national benchmarks for graduation rates of RN-to-BSN programs. Therefore, it is difficult to assess how students in this program performed in

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comparison to similar programs throughout the state or in the nation. The Commission on Collegiate Nursing Education (CCNE) and the National League for Nursing Accreditation Commission (NLNAC) both require schools of nursing to calculate graduation rates as a component of the program's focus on continuous improvement (Papes & Lopez, 2007). While the Commission on Collegiate Nursing Education (CCNE) defined graduation rate as the "number of students completing a program divided by the number of students entering a program" (Commission on Collegiate Nursing Education, 2009 p. 17), the CCNE allows program administrators to determine the entry point and time frames to use in graduation rate calculations. The entry point for students in this study was defined by the first term of enrollment in any course after being admitted to the BSN program. In a study by Papes and Lopez (2007), administrators at Barry University defined the entry point for students in their RN-to-BSN program as the term in which an admitted student took the first nursing course. Administrators at other schools may choose to define the entry point as the second semester of courses in the nursing program. Since there are no national standards for measuring nursing student graduation rates, and there are no central databases to access RN-to-BSN graduation rates, it is difficult to compare graduation rates of RN-to-BSN students in this study to previous research.

Implications for Leaders in Higher Education

Given the nationwide effort to graduate more students and the health-care industry's trend of requiring registered nurses (RNs) to have bachelor's degrees, leaders in higher education should consider the results of this study when examining policies and procedures related to admission requirements and/or curriculum design for RN-to-BSN programs. The methodology of this study could be used at other institutions to help determine if general education enrollment

patterns impact graduation rates with their populations of students. Due to increased accountability concerns in a financially-stressed public funding system, it may not seem like a practical business decision to deny students admission because of a few remaining general education course requirements. When great emphasis and efforts are placed on increasing the number of students who enroll in programs, admission requirements may not be as stringent as programs with limited enrollment capacities. Financial constraints and incentives should be weighed with factors which could impact student success. Short-term financial gains associated with higher enrollment numbers could be negated by lower graduation rates of less-prepared students. Delaying admission and/or enrollment in the junior-level courses by one or two semesters in order for students to complete remaining general education requirements could result in increased student graduation rates at your institution. A higher graduation rate in RN-to-BSN programs translates to a more efficient supply of BSN graduates for the RN workforce.

Recommendations for Practitioners

Students who completed all general education requirements before entering the RN-to-BSN program were more likely to graduate in three years than students who did not complete all general education requirements before entering the program. If students entering the program were aware of lower chances of graduating in three years without first completing remaining general education requirements, they might have chosen to complete them before entering the program. Whether or not program administrators decide to implement policies to require all general education requirements to be completed prior to being admitted to the program, at a minimum, the findings of this study should be considered when advising; further, students should be counseled to complete as many requirements as possible before transferring or applying for admission to a baccalaureate degree program.

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Prior to implementing a policy requiring students to complete all general education requirements before granting them admission to an RN-to-BSN program or any baccalaureate program, practitioners should ensure the degree-program classification system at their institutions can accommodate students who are missing such requirements. Some applicants may have already earned a two-year degree, and it may not be appropriate to classify them as degree-seeking for an additional two-year degree. It is important for practitioners to collaborate with the college/university administration at their institutions to establish provisional admission classifications for students to be admitted as juniors to the programs with the limitation of being permitted to enroll only in general education courses. Students classified in such provisional admission categories should be considered degree-seeking and eligible for financial assistance. Once the provisionally-admitted students have completed all remaining general education courses, then they can be reclassified as fully admitted into the program and be eligible to enroll in upper-division courses.

Considerations for further research

Metzner and Bean (1987) found the top three predictors of attrition among non-traditional students were grade point average (GPA), intent to leave, and number of credit hours enrolled. Students in this study were enrolled in a program where the curriculum was designed for them to progress in cohorts. The upper-division courses were offered about every five weeks, and students were restricted to no more than one upper-division course at a time. Because of the controlled design of the curriculum, there is not likely to be much variance in the number of credit hours in which students enroll each semester. Variance in number of credits enrolled could be attributed to general education course enrollments, which this study addressed.

Grade point average and intent to leave were not addressed in this study, however these factors could potentially impact student graduation rates of students in RN-to-BSN programs. Earlier studies suggested grade point average in science courses predicted how students would perform in nursing programs and on the National Council Licensure Examination (NCLEX-RN) (Byrd, Garza, & Nieswiadomy, 1999; Griffiths, Bevil, O'Connor, & Wieland, 1995). While students in RN-to-BSN programs have already successfully completed the NCLEX exam, it would be revealing to determine if student GPA in science courses also predicted success in BSN-level coursework among this population. If GPA in specific science courses were predictors of success or attrition in RN-to-BSN programs, students with lower GPAs could be provided with remediation opportunities to achieve desirable levels prior to admission to the program.

Although the gender and ethnicity of the students in this study were collected for reporting purposes, comparing graduation rates or time to degree by race or ethnicity was not the purpose of the study. A follow-up study to determine if there were any differences between the graduation rates based on race or gender could provide valuable information for practitioners. If certain ethnic groups have significantly lower graduation rates, program administrators may be inclined to further examine potential reasons and solutions for such discrepancies.

Some students in this study attended other community colleges prior to transferring to the RN-to-BSN program at this institution. This study did not examine differences between transfer students and native students. When students transfer from a community college to a university, there is often a decrease in academic performance, as evidenced by a lower GPA at the university. This phenomenon is known as “transfer shock” and has been studied extensively (Laanan, 2007). While transfer shock has been well-documented among students who transfer

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from community colleges to universities, such research has not been conducted to determine if there is a similar experience among students transferring from one community college to another community college's baccalaureate program. The increasing number of community college baccalaureate degree programs warrants investigations to determine if the transfer-shock phenomenon occurs in this population.

Since this study focused on students at one institution, caution should be used before generalizing the results to other schools without further investigations including other institutions. General education enrollment patterns of students in RN-to-BSN programs throughout Florida should be investigated to determine if results will be similar among the 10 RN-to-BSN programs offered in the state colleges throughout the region. When investigating other schools throughout the state, attention should be given to the curriculum design. Students in the program of this study participated in courses either online or face-to-face, and all upper-division courses were taken one at a time in a dynamically-dated course format. Most classes were approximately five weeks in duration and taken one at a time, compared to the traditional model of enrolling in multiple sixteen-week courses simultaneously. The format and timeframe of the courses could be analyzed as potential variables impacting student success rates.

Conclusion

The Institute of Medicine suggested 80 percent of the RN workforce should have BSN degrees by the year 2020. In order to adapt to a changing health-care system and patient needs, RNs must increase their levels of training by earning bachelor's degrees before or soon after entering the workforce (Institute of Medicine of the National Academies, 2010). If registered nurses (RNs) will increasingly be required to have baccalaureate degrees to work in the health-

care industry, the viability of the ADN in community colleges and nursing and hospital training programs will become questioned. While traditional BSN programs coexist with RN-to-BSN programs in the higher education community, practitioners on both sides should maintain awareness of factors to help facilitate student success in obtaining BSN degrees efficiently. This study revealed a higher graduation rate for students who completed all general education requirements before entering the RN-to-BSN program than students who completed general education requirements after entering the RN-to-BSN program. Advisors at community colleges offering the ADN should encourage pre-nursing students early in their academic careers to complete all general education requirements for their AA degrees while preparing for entry into ADN programs. Students who graduate with both ADN and an Associate in Arts (AA) degrees will be better prepared for admission to RN-to-BSN programs, and they will be more likely to graduate with BSN degrees in a timely manner.

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