

Making the Grade through the Front Door: Evaluation and Innovation in a Registered Practical Nurse to Bachelor of Science in Nursing Program

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Abstract

Background: Education of nurses from a diploma to a degree is a global phenomenon. However, bridging is often seen as a ‘backdoor’ route to becoming a Registered Nurse and very little evaluation data exists to challenge this notion. **Objectives:** This research project was undertaken to explore student characteristics, academic performance, outcomes, and experiences in an RPN-to-BScN Bridging Program. **Design:** A mixed method design was employed. Student admission and registrarial data were examined in relation to student characteristics and academic performance. Secondary data analysis was conducted on focus group interviews with 110 students that explored their perceptions of the impact of the program on their lives. **Setting:** Data was collected through University databases and face to face focus groups. **Participants:** Admission and registrarial data for all students admitted to a nursing bridging program in Ontario, Canada, from 2005-2011 were analyzed. Participants in the qualitative focus group interviews included 110 students across all years of the program. **Methods:** Descriptive and analytical statistics provide insight into student performance and characteristics. Qualitative data analysis was conducted using NVivo 9 with multi-member teams. **Results:** Data analysis reveals important insights into student academic performance, including exploration of relevant variables such as ongoing and cumulative GPA, entrance GPA, and program completion. Qualitative analysis provides insight into how studying in the program affects students’ lives. **Conclusions:** RPN-to-BScN education is not a “back door” to a nursing degree. Rather, it is a front door, as rigorous and as personally and professionally transformative as we expect a 4-year BScN Degree to be.

Keywords: educational innovation, program evaluation, curriculum-building, student experience, bridging education

1. Introduction

Bridging/accelerated nursing programs are the most rapidly growing educational offerings in North America and are in existence globally (Cook et al., 2010; Cubit and Lopez, 2011; Miller and Leadingham, 2010; Rapley et al., 2008). Registered Practical Nurse (RPN) to Bachelor of Science in Nursing (BScN) bridging programs have been in existence in Ontario since 2005, starting with the University of Ontario Institute of Technology (UOIT)-Durham College (DC) program, which expanded in 2009 to include Georgian College (GC). Currently 6 universities and 10 colleges in Ontario are involved in RPN-to-BScN bridging education. Importantly, there is virtually no evaluative data available related to this type of nursing educational offering (Coffey, Lindsay, Sproul, et al., 2013a, 2013b; Suva, Sager, Santa Mina, et al., 2015).

1.1 History of the UOIT-DC-GC RPN-to-BScN Bridging Program

UOIT and DC share a common campus just east of the Greater Toronto Area (GTA) in Southern Ontario. Since 2003, UOIT and DC have partnered to offer the Collaborative BScN Program, typically admitting approximately 120 students into year 1 annually. In 2005, UOIT-DC expanded their nursing program offerings to include the first in Ontario RPN-to-BScN Program. It is important, and somewhat historically curious, to note that this new type of program offering was met with a fair amount of concern from some universities in the province offering traditional BScN

degrees. In the authors' experience, the reason often cited was the potential for RPN-to-BScN education to become a "back door" to baccalaureate education.

Starting with 36 students in 2005, the program has grown to a steady state admission of approximately 60 students annually. In 2009, UOIT and DC entered into partnership with GC, located north of the GTA and about 120 km away from UOIT-DC, to offer the UOIT-DC-GC RPN-to-BScN Program on the GC campus. This program typically admits 45 students annually. Currently, almost half of our total annual nursing program student admissions are into one of the two collaborative RPN-to-BScN programs. In 2009, the RPN-to-BScN Program offered by UOIT and DC received a full seven year accreditation through the Canadian Association of Schools of Nursing (CASN). In the fall of 2013, the UOIT-DC-GC RPN-to-BScN program underwent CASN accreditation review, again receiving a full seven year accreditation ranking for the program.

Students apply to the program through the Ontario University Admissions Centre, designating whether they are applying for the UOIT-DC Program (Oshawa site) or the UOIT-DC-GC (Georgian site) Program. All courses in the program, including the "bridge" term, are offered at the university level. The three bridge courses include a focus on developing writing skills, a nursing science bridge course, and a focus on university level natural science knowledge. In order to remain in the program beyond the bridge, students must earn a minimum grade of 60% in each of these 3 required courses. If successful in the bridge, students complete a program of study that is offered in either full-time or part-time options (depending on campus of study). Students at the shared Oshawa campus of UOIT and DC take a large portion of their program courses in integrated classrooms with other university nursing students (Collaborative BScN) and Health Sciences students from a variety of programs. Students at GC's Barrie campus take courses largely in a cohort model with more limited opportunities for integration both with other nursing students and other university students.

Admission requirements include completion of an Ontario (or equivalent) diploma in Practical Nursing with a minimum GPA of 2.7 (B) and registration with the College of Nurses of Ontario as a Registered Practical Nurse. Students are granted 33 block transfer credits upon admission. Additional transfer credits may be awarded on a case by case basis depending on previous post-secondary credits earned. To date, 41% of students have been awarded additional transfer credit, most commonly an additional 3-6 credits that may be applied to their elective requirements.

The RPN-to-BScN Degree program of study consists of 9 bridge term credits and 78 additional university credits. Most courses are 3 credits with integrated theory-practice courses worth 6 credits. Students enroll in courses that focus on nursing, health, and the biological sciences as well as elective courses which broaden their exposure to disciplines outside of the nursing profession. The program of study is based in the Caring Curriculum (Bevis & Watson, 2000), with a strong focus on social justice, relational practice, advocacy, and interprofessional learning and practice. Throughout the program students are immersed in practicum courses which focus on their role transition from RPN to Registered Nurse (RN) in a variety of practice environments.

2. Methods

In December 2011, the Collaborative RPN-to-BScN program offered in partnership by UOIT, DC, and GC received funding from the Ontario Council of Articulation and Transfer (ONCAT), previously known as the College-University Consortium Council. The funding was granted for a proposal to conduct a 3-phase program evaluation of RPN-to-BScN education offered through our three-partner collaboration, exploring student academic performance, student characteristics, and experience of bridging education and outcomes for our graduates.

Data collection and analysis took place over 12 months, from January 2012 to December 2012. The robust research team was led by two faculty members from UOIT, and comprised of faculty members from all three post-secondary partner institutions involved in delivering the program, two Nursing Program alumni as Research Assistants, and one part-time Research Coordinator.

Phase 1 of the study, summarized in this paper, examined student performance and behaviours, referring essentially to registrarial and student tracking data. Elements examined included admission and ongoing grade point averages (GPA), comparative overall GPA and specific course performance for students enrolled in the RPN-to-BScN program versus students in the traditional 4 year BScN program and other UOIT Health Sciences programs, amount of transfer credit granted, time to degree completion, and retention rates. Basic demographic information included in program applications was also analyzed, along with data relating to previous academic experience and performance. Additionally, focus group interviews with program students conducted the year prior to this study were transcribed and analyzed. Phase 2 of the study explored the context of students' lives, and the experience of completing the RPN-to-BScN Degree Bridging Program. Finally, Phase 3 of the study focused on the impact of completing the program for graduates, including both personal and professional implications. For all phases of data collection and analysis, research ethics board approval was granted from each of the institutional partners (UOIT, DC, and GC).

3. Selected Highlights of Phase 1 Quantitative Data Analysis

Student performance, student tracking data analysis and student experiences were examined. Quantitative analysis included data from a total of 432 students, including all students admitted to the program from its inception in 2005 until 2012. Data sources included application information, assessment of transfer credits once admitted, student performance (course performance including comparison with other nursing and health science students, term by term, and ongoing cumulative GPA), length of time to program completion, and attrition rates. Data from focus group interviews with 110 students conducted in 2009-2010 were also analyzed.

3.1 Student Academic Performance

Results indicate that term over term, year over year, students enrolled in the RPN-to-BScN bridging program are outperforming their Collaborative BScN and Health Science Program student counterparts.

Table 1. Comparison of Overall GPA for RPN-to-BScN Students and Collaborative BScN Students

| | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011 | Total |
|---|---------|---------|---------|---------|---------|------|-------|
| RPN-to-BScN Overall GPA | 2.82 | 2.97 | 3.04 | 3.06 | 3.00 | 2.96 | 2.99 |
| Collaborative Nursing Overall GPA | 2.77 | 2.80 | 2.77 | 2.90 | 2.93 | 2.80 | 2.86 |

Table 1 provides an overview of the overall GPA for RPN-to-BScN Program students compared to 4-year collaborative BScN Program students on a scale ranging from 0 - 4.3. Overall GPA for both the RPN-to-BScN Bridging Program students and the Collaborative BScN students fell into the B- range (2.70-3.00), with the bridging students typically close to or above the B range (3.01-3.30) for most years. These findings represent a significant diversion from the expectations of academic performance of nursing bridging students.

3.2 Transfer Credit, Retention, and Time to Completion

Students who entered the RPN-to-BScN program between 2005 and 2007 were granted 30 block transfer credits based on completion of their Practical Nurse diploma and having current registration as a Registered Practical Nurse with the College of Nurses of Ontario. Starting in 2008, students were granted 33 transfer credits in recognition that it was reasonable to give greater credit to students for their previous learning in the areas of health assessment and pharmacology. This change was accomplished through merging two separate 3-credit courses into one course and providing an additional 3 credits as transfer credit. The minimum number of additional transfer credits was 0 credits (0 courses) and the maximum was 54 (18 courses). Analysis of admission and progression data over the 7 years under review indicated that over 40% of students earned additional transfer credit beyond the basic block transfer amount awarded upon admission.

With UOIT residency requirements including a minimum 60 new credits earned toward a degree, and the necessity to complete the required courses in the curriculum, students who were granted a very high number of transfer credits were not able to count all of them toward their degree completion. In most instances, students are using the additional transfer credit to lighten their course load on a semester-to-semester basis, as it generally does not assist in shortening their overall program length of time given scheduling of required courses and the defined pre-requisites.

To date, a total of 148 students have successfully completed the program. All of these program graduates have passed the Canadian National Registration Exam, with a typical pass rate of 92-100% on graduates' first attempt to write this exam. At the same time, we can identify that 85 students have withdrawn from the program (either voluntarily discontinuing enrolment for greater than 3 consecutive terms or through failure to maintain academic requirements). This number represents close to 20% of the students admitted since 2005. Of the remaining 199 students, 154 (77%) were currently enrolled in courses at the time of the study and 45 (23%) had not enrolled in any courses for the previous 2 terms.

Student performance and behaviours for RPN bridging students differs from traditional nursing students in both the pattern of program completion (with larger numbers following alternate programs of study and taking short leaves from the program and later returning) and in the pattern of program withdrawal. Of those students who had left the program (85), more than 50% left in good academic standing, possessing cumulative and term GPAs that would allow them to continue their program in the future. Additionally, we are able to identify that approximately two-thirds of students who had withdrawn from the program did so in the bridge term (either not continuing to the second term of the bridge when it was offered as two terms or not continuing to the rest of the degree). Of these students, approximately half were not able to continue in the program due to failure to meet minimum GPA requirements, while the other half did not continue

despite meeting progression requirements. This pattern of early withdrawal at the point of the bridge term and program departure despite good academic standing indicates important areas for further exploration. Following the identification of these patterns, an ad hoc committee was struck to further explore student experiences in the program. One of the first priorities of this committee is to follow-up with students who chose not to continue their studies in order to determine the factors that may lead to this decision and to identify any additional student supports that may enable learners to continue in the program.

While academic regulations allow for students to complete the program on a part-time basis in up to 6 years, the overwhelming majority of graduates (almost 80%) have completed the program following a full-time program map, over 8 consecutive terms. The longest time to completion thus far has been 6 years. However data suggests that if a student does not complete the program within 5 years, s/he is not likely to finish the degree.

3.3 Age and Gender

A review of data for all student files revealed typical gender distributions for nursing programs and the profession, with only 7% of students being male. Average age at time of application was 32 years, with year by year variation of average age typically falling within approximately 10% above or below the overall average. Despite the relative consistency in average age at program entry over time, the data reveals a high variation between the minimum and maximum age. At the time of application to the RPN-to-BScN program, ages ranged from 18 to 58 years. The average age difference between the youngest and oldest student admitted to the program was 32 years. This finding highlights the generational differences both within the RPN-to-BScN program population, as well as the differences between the RPN-to-BScN students and the Collaborative Nursing Program students who more typically enter the program directly out of secondary school.

3.4 'Years Out', Practical Nursing Program of Origin, and Past Academic Performance

'Years out' refers to the number of years between completion of a PN diploma program and application to the bridging program. As the data for student age would suggest, there is also a degree of variance around the number of 'years out' amongst applicants. The average student has completed his or her PN program 3.2 years prior to commencing the RPN-to-BScN bridging program. The number of 'years out' ranges from zero, in which students move directly from completion of a practical nursing program into the bridge program, to a high of 30 years out.

Of the 432 students whose application information from 2005-2011 was tracked, close to half (46%; $n = 199$) completed their practical nursing diploma at one of three Ontario Colleges (George Brown College, Georgian College, or Durham College). It is noteworthy that the RPN-to-BScN program has admitted graduates from all 23 of the English-language PN diploma programs in Ontario.

Admission GPA data are available for 428 of the 432 students admitted during the period of 2005-2011. Overall, admission GPA across all years and both sites was greater than 80% or 3.38 on a 4.3 GPA scale. Admission average was examined by year and by program location. There was a fairly consistent average admission GPA just above 80%, with a high of 85% (Oshawa Campus, 2005) and a low of 80% (Oshawa Campus, 2010). In 2008, a small number of students ($n = 14$) was admitted to the Oshawa Campus as a pilot project, with the provision that learners would be able to complete their practicum experiences in their home community, approximately 75km to the north-east of Oshawa. Admission data for this group of students is somewhat anomalous, with an average admission GPA of just 73%. With only half of these students completing the program, there is no evidence to support this type of off-site offering. For all other students, the average admission GPA has been consistent across years. Additionally, there is a fairly consistent representation of maximum and minimum GPA across each admitted cohort for the period of 2005-2011.

3.5 Statistical Analyses to Explore Success in the Program

Student "success" in the RPN-to-BScN Program is most easily defined through 4 indicators. Two indicators relate to the bridge term: a) completion of the bridge term with a passing grade of C or higher in each course (the requirement to continue into the rest of the degree), b) GPA in the bridge courses. Two additional indicators relate to completion of the program: c) whether a student graduates from the program or not, and d) cumulative GPA at graduation. In moving beyond descriptive analysis of our data, it is important to determine where relationships exist between student characteristics and performance in the program. To this end, we will provide analysis here of the first 5 of many research questions that we will continue to explore.

3.5.1 Question #1: Is there a Relationship between Entrance GPA and Bridge Term GPA?

Statistical analysis was conducted using 413 observations. The entrance or admission GPA and bridge term(s) GPAs were converted to percentages and if one assumes a linear relationship between these two variables, a weak, yet significant, positive correlation is obtained (Pearson correlation coefficient of 0.268 and P value of 1×10^{-8}). While the fact that there is only a weak relationship may indicate to us that we might want to look for other factors, it remains

reasonable that we continue to use Practical Nursing program cumulative GPA as part of a process for determining eligibility for admission into this program.

3.5.2 Question #2: Is there a Relationship between “Years Out” and Bridge Term GPA?

Statistical analysis was conducted using 417 observations. The number of “years out” and bridge term(s) GPAs converted to percentage were explored. If one assumes a linear relationship between these two variables, a weak, yet significant, negative correlation is obtained (Pearson correlation coefficient of -0.15 and P value of 0.002). While the intent of this analysis was not to add “years out” as an admission factor, it provides important insight in terms of both advising and supporting students. Making students aware that the number of years between completion of a previous PN diploma and starting the RPN-to-BScN program may be one of several factors that impact their success may be helpful in supporting them to prepare more fully for transition into the program. Greater exploration of the challenges faced by students who have been out of school for longer periods of time will also enable the program to develop more tailored approaches to support learning for non-traditional students. It would also be interesting to explore if the college to university transition is similar or different to the high school to university transition of our Collaborative BScN students.

3.5.3 Question #3: Is there a Relationship between the Amount of Additional Transfer Credit Awarded and Bridge Term GPA?

Statistical analysis was conducted using 417 observations. The amount of additional transfer credit awarded upon admission calculated as whole numbers (where 1 = one 3-credit course equivalent) and bridge term(s) GPAs converted to percentage were explored. If one assumes a linear relationship between these two variables, a weak, yet significant, positive correlation is obtained (Pearson correlation coefficient of 0.204 and P value of 3×10^{-5}). We are able to say that there is a statistically significant positive relationship between the amount of additional transfer credit awarded upon admission (and hence the amount of previous relevant post-secondary education) and bridge term(s) GPA.

3.5.4 Question #4: Is there a Relationship between Entrance GPA and GPA at Graduation?

Statistical analysis was conducted using 91 observations. While at the point of completion for this study, a total of 148 students had graduated from the RPN-to-BScN bridging program, cumulative GPA at graduation data was only available until the end of 2011. The entrance GPA and cumulative GPA at graduation were converted to percentages and if one assumes a linear relationship between these two variables, a significant positive correlation is obtained (Pearson correlation coefficient of 0.403 and P value 8×10^{-5}). From the acquired data, we are able to say that there is a statistically significant positive relationship between the entrance GPA and the cumulative GPA at graduation *for those students who complete the program*.

3.5.5 Question #5: Is there a Relationship between Entrance GPA and Program Completion?

This analysis was completed with 231 data sets. The data sets were comprised of 83 students who had withdrawn from the program and 148 students who had completed the program. Mean entrance GPA for program completers was 81.30 and for the group who withdrew from the program, the mean entrance percentage GPA was 80.33. From the acquired data and at 95% confidence level, we are not able to say that there is a statistically significant difference in mean entrance data between these two groups.

Considered together, the results of data analysis for question 4 and question 5 provide us with an interesting beginning picture of both the value and limitations of traditional predictors of success when applied to bridging students. While entrance GPA was shown to have a statistically significant relationship with GPA at graduation for those who completed the program, it was not shown to be a good discriminator of whether a student would complete the program or withdraw. Given the higher level of attrition in this program than is seen in traditional 4-year direct entry nursing programs, understanding more completely what factors best predict success will be an important undertaking. The most relevant starting place for this will be detailed analysis across all 4 identified criteria (completion of the bridge component, GPA in the bridge component, completion of the program, and cumulative GPA in the program). Ongoing data analysis will continue as we work to develop greater insight into the unique characteristics and performance of our RPN-to-BScN Program students.

4. Selected Findings of Phase 1 Qualitative Data Analysis

Funding for this research also enabled the research team to transcribe and analyze focus group interviews conducted with 110 students the year prior. Research ethics board (REB) approval was granted by all three program partners for secondary data analysis of these interviews for the purposes of this study. Thematic data analysis was conducted by multi-member teams using NVivo9. Teams presented findings to the entire research team for discussion and validation of findings.

Table 2. Impact of the RPN-to-BScN Program on the Lives of Students

| Interview Question | Identified Themes | Student Quotes |
|--|--|--|
| In what way is your life different because of your participation in the program? | Positive Impact on Nursing Practice | "I have a deeper understanding of how to use nursing theory in practice." "I now have knowledge to better understand nursing actions." "I have greater ability to work in various practice settings." "I'm able to work in a setting I love." |
| | Negative Impact on Financial Situation | "I'm more financially stressed." "...student debt and lower income from working fewer hours." "Money is really tight now; it's not easy." |
| | Change in Source of Social Support | "I no longer have any social life outside of the program." "Creating support inside the program has been important." "It's a change - you need to make sure you find your friends in the program; not just rely on your old supports." |

As part of the focus group interviews, students were asked about the impact of entering the RPN-to-BScN Program on multiple dimensions of their lives. As Table 2 presents with selected student quotes, students perceive entering the program to have positively impacted their experience of their nursing practice (new opportunities, new knowledge, and newfound confidence and professional impact), to have negatively impacted their financial situation (decreased income and accumulation of student debt), and to have led to a general change in the source of social support from outside the program to within the program. How these impacts are significant to the work place and the role of education in ameliorating perceived role difference enactment (Limoges & Jagos, 2015) is a topic for further study. Expansion of our understanding of the students' experience was revealed in Phase 2 of this innovative program of research and will be presented in greater detail in subsequent publications.

5. Discussion

Registered Practical Nursing education began in North America in the 1939; Ontario was the first in Canada to offer a six-month program in 1941 (Pringle, Green, & Johnson, 2004). Contemporary bridging education continues this innovative role. Understanding the academic performance, life context, and educational experiences of RPN-to-BScN Bridging Degree students provides important insight into the barriers and facilitators to both education and career mobility. The findings have the power not only to refine admission criteria, but to provide insight into ways in which students may more effectively be advised and supported. The findings may also indicate important trends that apply to bridging students beyond this program and this field (nursing). As we develop greater evidence-based insight into students who undertake non-traditional paths to university education, including bridging programs, understanding that they arrive with both life experience and life demands that play into academic success may be critical to both curricular development and student support. At this point, key findings from this study compel us to move forward with program change. With a strong pass rate on the national registration exam and recognizing that students in this program are working full-time, studying full-time, and still out-performing their Collaborative BScN and Health Sciences student counterparts, we are confident in our decision to increase the amount of transfer credit awarded upon admission. Planning is underway to accomplish these changes as quickly as possible.

Additionally, increasing flexibility of program offerings is a priority. We plan to accomplish this goal through offering more hybrid courses that allow for both some face-to-face student-faculty contact, while still enabling students to study in part at a time of their choosing. Finally, the data analysis undertaken through Phase 1 of our study enables us to more effectively advise both prospective and current students. Through various knowledge translation strategies, we are able to share information about the general characteristics of students who enter our RPN-to-BScN program, results of our analysis of academic performance, identification of relevant factors related to performance and retention, and student experiences. One such strategy is the creation of composites, videotaped and made available on the RPN-to-BScN Program website and for viewing within their first nursing bridge course through a UOIT Teaching Innovation Fund grant (<http://tlc.apa.uoit.ca/programs/teaching-innovation-fund/>). Making findings available through this technique allows us to create an enhanced focus on transition into the program. It also fosters greater opportunity to support prospective students to explore potential program impact on various elements of their personal and professional lives prior to application or admission.

6. Conclusion

Data collected and analyzed over a 12-month period reveals important insights into student performance, behaviours, and experiences in an RPN-to-BScN Nursing Program. This paper focused on key findings related to Phase 1 of a study that explored student academic characteristics and performance. The take-away message for the research team

throughout this project has become one of admiration for students enrolled in this type of educational program. Analysis of data for RPN-to-BScN students in this bridging program reveals that they are largely working full-time, studying full-time, disrupting the social and financial stability of their lives, and, at the same time, out-performing their Collaborative Nursing Program and Health Science student counterparts.

Innovation based on evidence from a variety of key information sources is possible now that we know the parameters of successful program completion. We are also able to compare an integrated model of program delivery wherein RPNs join students in the Collaborative BScN Program for upper year courses in either a part or full-time program map and a cohort model that is off-site and where the group progresses through the program course-by-course together. Our results show us directions for the future – more credit transfer, maintaining the bridge courses as part of the degree, accessibility for mature students who are working, have family responsibilities, and are at school (mostly full-time), and reducing the required clinical courses/hours.

Most fundamentally, we are confident in our analysis which reveals that RPN-to-BScN education is not a “back door” to a nursing degree. Nor is it a side door. It is a front door, as rigorous and as personally and professionally transformative as we expect a 4-year BScN Degree to be. We welcome our nursing colleagues through this innovative academic front door to build on their previous Practical Nursing education and experience and to continue to contribute to society’s well-being as they become Registered Nurses.

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