Impact of Embedded Remediation in Literacy Skills for
First Semester Practical Nursing Students in one Ontario College Program

by

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A thesis submitted in conformity with the requirements
for the degree of Doctor of Philosophy
Department of Leadership, Higher Education and Adult Education
Ontario Institute for Studies in Education
University of Toronto

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IMPACT OF EMBEDDED REMEDIATION IN LITERACY SKILLS FOR FIRST SEMESTER PRACTICAL NURSING STUDENTS IN ONE ONTARIO COLLEGE PROGRAM

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Abstract

The purpose of this research study was to explore whether first semester Practical Nursing (PN) students who received embedded remediation performed better academically than their colleagues who did not, and the relationship between those students’ demographic characteristics and their performance in the intervention. More specifically, the study examined the relationships between the PN students’ communication skill level and academic performances as reflected in their performance in two core nursing courses and end of semester retention rates.

This was a post ex-facto intervention case study of Urban College (pseudonym). Forty-eight students participated for a response rate of 42%. Cohort I consisted of 25 participants (11 remedial and 14 non-remedial) and Cohort II included 23 participants (12 at-risk and 11 non-remedial). It compared the performance of the experimental group which had experienced a remedial intervention with that of the at-risk control group that had not experienced the intervention. Demographic characteristics of these two groups were compared with those of their colleagues who had been designated as non-remedial.
The quantitative data analyzed supported the main finding that participation in embedded remediation had a positive impact on the retention of participating students. The descriptive data captured the perceptions of these students and the themes that emerged maintain that academic and social integration is important to student attainment. The findings support the theoretical frameworks that grounded this study: Tinto’s Student Integration Model and Learning Communities in Higher Education.

The findings in this study have implications for practice, policy and further research aimed at improving the success rate of those students who enter PN programs with inadequate communication skills. Addressing these issues is crucial so that the learning needs of all students are met; particularly those preparing to enter the health care field where communication skills are critical for providing safe patient care. College of Nurses of Ontario applicants are expected to be proficient in the four language skills of writing, reading, speaking and listening.

Although the findings of this case study are not generalizable, I hope the findings will be of interest to other educators wanting to assist underprepared post-secondary students struggling with communication challenges.
Acknowledgements

There are a number of individuals I would like to acknowledge for the contributions made to this thesis. Thank you to the staff and my professors from the Department of Leadership, Higher Education and Adult Education at the Ontario Institute Studies in Education. I am particularly grateful for the support received from my thesis advisor Dr. Katharine Janzen for her ongoing feedback, guidance, encouragement, and tremendous patience through this academic journey. This journey has provided me with an incredible learning experience and the chance to apply the knowledge I gained through the Community College Leadership Program curriculum to the practical setting where I teach every day.

I would like to extend my sincerest gratitude to the other members of my thesis committee, Dr. Peter Dietsche and Dr. Catherine Drea. I find it very fitting that Catherine was the first professor I had when I started the Master of Arts in Education: Community College program and Peter was my first Community College Leadership program professor. As my committee members, you were both there from start to finish during my graduate studies.

I am also thankful to my “It Takes a Cohort” colleagues. By sharing your knowledge and experience with me, each and every one of you has contributed to my learning repertoire. Even when we were not together in class, there was always someone available by email. You were all a wonderful support system throughout this entire process.

Thank you to my colleagues, especially Linda Bamber for her input, suggestions and guidance regarding remediation and issues surrounding teaching and learning English as a second language in higher education. A great deal of thanks to the Practical Nursing students who showed an interest in my educational endeavour by taking the time to participate in this study and share their valuable insights with me. As well, thank you to the Employee Tuition Assistance program at my place of employment, your financial generosity and support was greatly appreciated. I hope that Urban College will benefit in some way from this research project.

"I can no other answer make, but, thanks and thanks."

~ William Shakespeare~

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Dedications

The following quote came from a fortune cookie right around the time I started the Community College Leadership Program and it resonated with me so much that I attached it to my laptop as a source of inspiration during my academic journey. I found it helpful on the days when I doubted my abilities to continue on and finish the program. I would like to dedicate the following quote to all current and future students for those days when you just think you can’t do it anymore:

“Believe it can be done”.
“When you believe something can be done, really believe, your mind will find the ways to do it”.
~ David Joseph Schwartz ~

I dedicate this work to my family for their continuous support. To my dad Earl who strongly believed in higher education and because of that, both of my sisters and I are proud to have been called first generation students. I only wish he could have been here to see my achievement. I know he would have been so proud. To my mom Marianne who fiercely informed my Grade 13 English teacher, “There is absolutely no doubt in my mind, Andrea will prove you wrong” when she was told I would never amount to anything in life. I believe I have proved that teacher wrong.

I would like to mention my sisters Susan and Brenda, their families and my extended family of in-laws for always providing love, support and many words of encouragement during the last five years.

Finally, but most importantly, I dedicate this work to my husband François; thank you for your unlimited patience and words of encouragement. I am grateful to you for tolerating the personal sacrifices we had to make as a couple so I could achieve this goal. I could not have done it without you. Thank you for always believing in me and loving me.
Chapter One: Introduction

The purpose of this research study was to explore whether students who received remedial support performed better academically than their colleagues who did not. Embedded remedial education can be defined as the alignment and coordination of a remedial instruction course, such as reading and writing, with a college-level core content course, such as Anatomy and Physiology. Embedded remediation in Ontario higher education institutions is used to target specific needs of students; in this study the focus of the embedded remediation is on literacy skills. The use of pre-admission screening tests can identify students who are “at risk” or academically underprepared because of language deficits. Koski and Levin (1998) found that when scholarly solutions such as paired courses are implemented into remedial curriculum that the language proficiency of the learners improved. Measurement of progress is reflected in increased success of students’ communication abilities and program retention rates. When students are supported adequately in their program of study they will also have stronger communication skills when they enter into the workforce after graduation. This study explored, in one Ontario College Program, the relationship between first semester Practical Nursing (PN) students’ communication skill level and academic performance as reflected by their performance in two core Nursing courses and the retention rates at end of semester. In this chapter I describe the background of the problem, the purpose and rationale for the study, the research questions, theoretical framework grounding this study, and its scope and limitations.

Background

This case study focused on one remedial program embedded in the PN program at one Ontario College of Applied Arts and Technology that is referred to by the pseudonym, Urban College throughout this report of the findings. Over the past few years, many Urban College PN
and Communications faculty members have noticed a large number of the students in their classrooms did not possess the adequate communication skills that are needed to succeed in the PN program. “This observation was supported by the statistical data collected by the College’s Assessment Centre, which revealed that more than 1,595 (45%) of the 3,545 students tested in the fall of 2005 were placed in remedial English courses” (The 2006 Study, 2006, p. 8). The professors expressed concern that unless the needs of the students in this group were recognized promptly and addressed properly, numerous students would continue to find it challenging or even impossible to successfully complete their studies.

A major research project was conducted at Urban College in 2005 and is referenced throughout this study. However to protect the anonymity of that College, the study will be referred to as the 2006 study (pseudonym). And, an additional report presenting findings from a linked course pilot project will be referred to as the 2008 interim report (pseudonym).

In 2005, Urban College undertook a study, conducted by three researchers, to determine the language skills of students in the first semester of three distinct programs: Practical Nursing, Pre-Health Sciences (PHS) and one other program in the College that was not health related. According to the 2006 study report, the findings indicated three levels of ability across communication skills (speaking, writing, and reading): post-secondary, remedial, and developmental.

The 2006 study report suggested that performance at the post-secondary communication skills level indicated that a student had developed the knowledge and/or skills needed to take the college entry-level courses in a specific subject area. The authors of the 2006 study also suggested that performance at the remedial level would be defined as communication skills that are below the required post-secondary skills level, but where supplemental instruction (such as
embedded remediation within a program) could still be effective by students successfully passing their course/program, because they were able to improve on their established basic literacy skills. According to the 2006 study, the developmental level refers to introductory language skills that are substantively below the required post-secondary level. At the developmental level, an adult student may completely lack the needed skills upon entry into higher education, and at that level, a remediation program would be ineffective.

All three levels were identified in students enrolled in the PN program. Based on her research, Perin (2011) recommended the use of contextualized content as effective alternative approaches to traditional remedial courses. The Urban College PN program first piloted and then adopted a series of remedial communication courses across three semesters (Literacy Skills: Semesters 1, 2 and 3) (pseudonym) to support the language needs of its student population assessed at the remedial level. These embedded remediation courses targeted the development of remedial language skills using content from various core nursing courses. The Literacy Skills courses were mandatory for students identified at a remedial communication level based on their admission and placement testing related to writing and listening skills; they received a letter grade at the end of the course, and that grade was included in the overall course grade calculation. The series was piloted for four successive semesters (September 2007 – January 2009) and upon completion and review of the pilot, the Literacy Skills program was adopted for an additional four semesters (September 2009 – January 2011).

Due to financial constraints, the additional academic hours that the courses from the Literacy Skills program placed on students (for a total of over 35 hours per week), as well as the lack of valid and reliably demonstrated findings, the Literacy Skills program was discontinued by Urban College (Personal communication with a Program Chair, May 17, 2011).
September 2011, the linked course series was phased out by the program and no longer offered to remedial PN students.

After the Literacy Skills program was phased out in September 2011, the PN faculty began feeling pressure from administration to help improve the declining retention rates. “Student retention has been a substantive concern in the PN program, the attrition rate for Semester 1 is very high, it is 37%”, explained the Associate Dean in our personal communication, February 21, 2014. According to Ascend Learning, LLC (2012) student attrition has become a systemic worry for post-secondary health programs, such as nursing. Key Performance Indicators (KPIs) data between 2011 and 2013 for Urban College identified that the PN program graduation rate declined by 6.6% over those two academic years.

The number of students who were actually retained and completed the program decreased substantially. All PN students are required to pass the Canadian Practical Nurse Registered Exam (CPNRE) for entry to practice, and they are eligible to write the exam only after they have graduated from a recognized PN program. The CPNRE is created and administered by the College of Nurses’ of Ontario (CNO). Table 1 represents the numbers of students who were eligible to write the CPNRE between 2010 and 2013. Between 2010 and 2013, there has been a 51.3% decline in the percentage of total writers from Urban College (CNO, 2013 and Entry to Practice Assessor, personal communication, May 29, 2014). Gillis (as cited in Ascend Learning, LLC, 2012) reported that “when students drop out of programs, often times, their “seats” remain empty for the duration of the program which means that when the program is completed, there are fewer graduating professionals entering the workforce…to meet the health care needs of society…” (p. 2).
Table 1

*Number of CPNRE Writers from the Urban College Practical Nursing Program, 2010 to 2013*

<table>
<thead>
<tr>
<th>Exam Writing Year</th>
<th>Number Admitted</th>
<th>Number of Writers</th>
<th>Percentage Declined</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>383</td>
<td>267</td>
<td>69.7%</td>
</tr>
<tr>
<td>2011</td>
<td>300</td>
<td>211</td>
<td>70.3%</td>
</tr>
<tr>
<td>2012</td>
<td>387</td>
<td>156</td>
<td>40.3%</td>
</tr>
<tr>
<td>2013</td>
<td>414</td>
<td>130</td>
<td>31.4%</td>
</tr>
</tbody>
</table>

It is an interesting finding that the percentage of writers between 2010 and 2013 declined after the embedded remediation intervention was discontinued from the PN program. Although there is no data to support, based on my professional experience, I would speculate that because admission and placement testing is not part of the admission process, the number of underprepared students being accepted into the program may not meeting the language benchmarks. Also, without remedial support, students reported they felt frustrated by the lack of or little support provided by faculty, especially with respect to assignments (i.e., scholarly papers) that require strong language skills in order to be successful. There was a change to the types of test questions administered on course tests in the fall semester of 2009, which changed from strictly multiple choice questions to a combination of multiple choice and short answer/essay questions. Furthermore, based on anecdotal comments, faculty were just as frustrated as the students because they felt challenged in their ability to help students with literacy skills in order to be successful, since they were not qualified language specialists. In addition to the language concerns, faculty felt additional pressure as they had to learn how to adapt to the increasingly diverse student profiles, which were much different from what they were used to even a decade ago. The demographic diversity among students enrolling in higher education today is not the same as it was years ago when colleges in Ontario first opened the door. According to Richmond (2013) students who participate in higher education today are “the most diverse bunch
to ever walk the hallowed halls of academia – racially, ethnically, linguistically and geographically. There has been a major demographic shift on campuses and it is very evident” (para. 3). Although Richmond’s comments were American based, the Canadian experience has been similar. Choi (2005) reported that post-secondary institutions in Canada are also seeing unprecedented growth in students with cultural and linguistic diversity accessing higher education programs, as did Fisher and Hoth (2010).

Because of their dual professional identities, faculty openly expressed that they felt conflicted between their duties as both registered nurses and educators. As a nursing educator in the PN program for the past 14 years I have had similar experiences, and the same conflicted feelings that the faculty reported. Of great concern to the faculty was that without the proper supports to help students with their language challenges, faculty felt students who cannot communicate effectively, could potentially pose a risk to patient safety (PN Faculty Member, personal communication, February 21, 2014). The majority of faculty stated at a faculty meeting in February 2014 that their top priority was to ensure that patients receive safe and competent care. However, they did understand Urban College was their employer and felt obliged to ensure students are successful in their academics (PN Faculty Member, personal communication, April 2, 2014). These concerns raised by faculty presents an ethical dilemma, which is having students with literacy skill challenges being promoted through the program and potentially not being successful when they write their regulatory body licensing exam.

Based on my conversations with the faculty, in addition to literacy challenges, and lack of remedial support, faculty stated they were experiencing an increase in their workload and a higher intake in student numbers, which resulted in much larger class sizes (i.e., 80 to 120 students per class). Furthermore, the increased student intake had contributed to an overall
change in the student demographics as the 21st century student population is extremely diverse (Choi, 2005) and no longer represented the traditional students of the past.

From the student’s perspective, high student numbers had resulted in them feeling frustrated as they had to compete for their professor’s attention when they required additional help outside of scheduled class hours. As well, students complained that their workload was very heavy, and added to the other stresses they attempted to balance as students (such as, working, supporting a family, English as a second language (ESL), and living in a new country). However, without a flexible alternative model, extending the program from four to five semesters and with no remediation courses to turn to, many faculty considered “dumbing down content” would be one approach in order to help deal with literacy issues because of the recommendation from administration to revise the marking criteria to be less stringent in order to increase retention.

What would the impact of “dumbing down content” be on student learning? An example from a nursing theory class at one Ontario College will be used to show that reducing content to accommodate linguistically underprepared students does have the potential to have a negative impact on developing their language skills. The module related to female and male genitourinary systems was extremely detailed and it seemed each semester this instructor had more and more difficulty covering the concepts because students had more difficulty understanding the content, which then took away from the already limited lecture time. She stated that she usually concluded the lecture by informing the students that the remainder of the lecture notes that she was not able to cover in class was their “homework responsibility”. Knowing that many of the students were already challenged with the demands of the program and language issues, the instructor reported feeling somewhat guilty leaving the students to learn the content on their own. The instructor further reported she had attempted using the strategy that was suggested in
the research by Pitts, White and Harrison (1999), which was to reduce the quantity of content instead of leaving the students with the task of independent learning. She reflected back on her own nursing practice and decided that if she had to delete one section from the module, it would be the content related to urine colour and output assessments. How hard could it be to match a colour name to an actual colour and hoped that with basic math, they would understand millilitres when measuring urinary output. How did that decision turn out? Based on the feedback that was shared at a faculty meeting that I attended, this simple decision had negative consequences. One of the clinical instructors reported she had an issue with one of her linguistically underprepared students when the student was asked to describe and analyze her assigned patient’s urinary output, which was in a catheter bag at the end of the shift. The student responded with “the peepee is like sun colour”. Removing that small amount of content from the theory curriculum obviously had an undesirable effect on this particular student’s language knowledge. And, the student was not able to provide any further information, such as how much urine, the actual colour name and an explanation for the colour and possible nursing interventions.

**Problem Statement**

In my literature review, I found limited Canadian literature about remediation, language and literacy issues at the post-secondary level in general, or more specifically about the education of Practical Nurses. This would suggest that such issues are not well understood, and indicates a need for more applied and exploratory research such as: changing trends in the demographic profile of the applicant pool, determining the quality of post-secondary academic preparation, cognitive skills and their impact on college success and retention rates. There is also a need for a comprehensive review of existing policies and current thinking about remediation
and second language education within the Urban College context which is the focus of this case study. Furthermore, there is a need to explore remediation strategies that are effective in the PN education context, such as reinstating admission and placement testing in order to easily identify, monitor and support students who are underprepared in language skills. It is this gap in the literature and need that warranted the assessment of the effectiveness of the remediation model that is the focus of this study.

**Purpose of the Research**

The overall research question for this study was: How does the academic performance of students who experienced embedded remediation curriculum compare with that of their colleagues who did not receive this remediation? And, what is the relationship between participating students’ demographic profile and their performance in two courses required in the Practical Nurse Program in the study college?

The purpose of this study was to determine what if any, was the effect of embedded remediation on the academic performance of first semester PN remedial students, and the relationship between these students’ characteristics and their performance in the embedded remediation. In the interim report of 2008, which analyzed the efficacy of the Semester 1 Literacy Skills I course on academic performance, the author concluded that underprepared students who engaged in embedded remediation did achieve greater academic outcomes than their non-remedial counterparts who were not required to participate in the embedded remediation course. This current study differed from both the 2006 study and additional findings from the 2008 interim report because this study actually compared the characteristics and performance of remedial students who actively participated in the embedded remediation intervention course.
with those of the at-risk students who were also assessed as needing remediation but did not receive the remedial intervention because it had been phased out of the PN program.

Based on my personal observations in teaching PN students for the past fourteen years, underprepared students often find it challenging to achieve equal or greater academic success than their “at college level” counterparts. The purpose of this research was to explore the effects of participation in the first semester Literacy Skills I course on participating students’ academic performance. More specifically, this project compared two cohorts of first semester students for this effect: the Experimental Remedial Group (Cohort I, Fall 2011) and the Control At-Risk Group (Cohort II, Winter 2011). Cohort I, consisted of the remedial and non-remedial sub-groups, and Cohort II consisted of the at-risk and non-remedial sub-groups. The At-Risk Group in Cohort II had met the same admission criteria as the Remedial Group in Cohort I, but were labeled at-risk instead of remedial because they were the first group of students who did not receive the embedded remediation curriculum. Assignment to these groups was determined by the assessment results from two language tests: writing, as assessed by the National Literacy Secretariat/Urban College Writing Sample (NLS/UCWS) (Appendices A and B) and listening, as assessed by the COMPASS or Accuplacer Listening Test (ACLI) (Appendices C and D). Permission was granted (Appendix E) by the Assessment Centre Manager to use the NLS/UCWS descriptor bands for the purpose of this study.

In addition to the issue of academic under preparedness, the demographic of college students is changing. Fisher and Hoth (2010) reported that in the 21st century, the contemporary Ontario classroom no longer represents a homogeneous population. Studies have indicated that there is “a substantive correlation between the persistently high college dropout rate and the level of academic under preparedness characteristics of a substantive proportion of beginning students,
including language challenges faced by students arriving from non-traditional pathways, adult learners” (p. 26).

According to Day, Paul, Boman, McBride and Idriss (2005), financial need, high levels of personal responsibilities and lack of academic preparedness were the main factors responsible for students leaving post-secondary nursing programs. And, Miller (2003) reported that inappropriate admission criteria accounted for up to half of the nursing student attrition rate in the state of California.

For these reasons, this study also explored the relationship between student characteristics, such as those mentioned by Day et al. (2005), and the impact of embedded remediation on academic performance. Various demographic factors were examined also for their predictive value with regard to attrition. These factors included age, gender, pre-entry education level, academic and employment workloads, childcare responsibilities, residency and citizenship and language scores (i.e., L1/L1.5/L2) on admissions, as assessed in writing and listening tests.

Rationale

Why was it Important to Study this Issue?

The issue is important to study because of the impact of students entering into the post-secondary education academically underprepared and lacking language proficiency skills. Proficiency in language skills has been recognized as an essential component for student success in higher education and in their employment. Fisher and Hoth (2010) stated that, “Postsecondary underachievement, failure, and attrition are highly correlated with academic under preparedness, especially with respect to deficits in language proficiency. Language proficiency constitutes an indispensable component of student success in Ontario colleges and the workplace” (p. 3).
Language proficiency is not only critical for academic success, but also for the provision of nursing care. The College of Nurses of Ontario (CNO) (2010) stated, “The ability to communicate in English or French is essential in providing safe and effective nursing care in Ontario” (p. 1). The PN program is a professional program that expects that prior to admission; students meet the essential communication requirements in order to provide safe nursing practice. The entire curriculum is based on that expectation.

More importantly on January 1, 2013, the CNO implemented as part of the application process for professional registration the use of Canadian Language Benchmarks Assessment for Nurses (CELBAN). The purpose of using CELBAN is that it provides a descriptive scale of the expected language and communicative proficiency required of all applicants who are applying for registration in the nursing profession in Canada. All applicants are expected to be proficient in the four basic language skill areas of writing, reading, speaking and listening while employed in a health care setting in Ontario. According to Pawlikowska-Smith (2000), in 2002 the Ontario Ministry of Training, Colleges and Universities funded a team of consultants to conduct the first national benchmarking project to evaluate the language demands required by the nursing profession in Canada. This project was followed by the development of a national test using Canadian Language Benchmarks (CLB), which is a specialized English language assessment tool, to evaluate the communication skills of internationally educated nurses seeking registration in Canada. As of 2013, all applicants to the College of Nurses of Ontario are responsible to provide evidence they are not only proficient but actually do meet the minimum CLB test scores of in the four language skills of: Writing (i.e., 7), Reading (i.e., 8), Speaking (i.e., 8) and Listening (i.e., 10).
I also believe this issue was important to study because in September 2011, the PN program at Urban College no longer provided remedial supports for students who tested with a score of, or below, \( \text{NLS} \leq 2 / \text{UCWS} \leq 6 \) and \( \text{ACLI} \leq 89 \). A \( \text{NLS} \leq 2 / \text{UCWS} \leq 6 \) score indicates the use of language is generally accurate but is constrained by a somewhat limited vocabulary, structure, mechanics and fluency. There are major errors in tense or sentence structure and writing is weak. An \( \text{ACLI} \) below 89 indicates that listening comprehension is acceptable for academic purposes in four areas: office hour interactions, discussions, classroom presentations, and lecture note taking. However, there would be a level of difficulty with proficiency in understanding everyday situations (especially in nursing practice) and other types of academic contexts.

The interim report (2008) revealed that participating remedial students achieved a +2.61% grade point average advantage in the Nursing I core course and a +7.54% grade point average lead in the Anatomy and Physiology core course compared with their non-remedial peers. The findings reported in the 2008 interim report supported by studies conducted by Batzer (1997) and Bailey (2009), in which both researchers found that embedded remediation was an innovative approach that had a positive effect on academic performance.

Discontinuing a remedial support program without knowing what the effects were on academic performance could very likely lead to an increase in student attrition. Furthermore, since students were no longer required to undergo admission testing, the PN program no longer had any baseline language data on their students. There were no more writing and listening scores that the department could use to help identify at-risk students with language issues. This was true for all students entering into the program - whether through direct admission through the Ontario College Application Service (OCAS), through articulation agreements with Urban
College’s bridging programs to the PN program, or through Urban City District School Board (UCDSB)’s Adult Learning Campuses (pseudonyms) students (Personal communication with a Program Chair, June 1, 2011).

Urban College had an articulation agreement with its own PN program in which students from the personal worker pathway to PN program and pre-health program were automatically eligible to be admitted into the first semester of the PN program. The only requirement was that students achieve a 3.0 to 3.4 Grade Point Average (GPA) in completing either of these programs. Since 2005, the students from these two programs had been required to undergo admission testing for the purpose of streaming into the Literacy Skills program. However, since the linked courses were discontinued effective September 2011, the students from those two programs were also exempt from placement testing because it was never stipulated as a requirement in the initial articulation agreement. Data presented in the 2006 study, indicated that at that time the remedial rates for these two groups of students were 65% and 20% at the developmental level, based on the pre-admission test results, and in need of remedial intervention if they were to be successful in the PN program.

In my personal communication with a program coordinator (June 6, 2011) she stated, “Any post-admission investigation will not have the required data if (they are) not collected at the start of the program. Admission testing is important for any evaluation and/or revision to existing articulation agreements; it is also important to protect against racially motivated judgements.” With no more testing, the students from the personal support worker pathway to PN Program and pre-health services could not only “fly under the radar” but very likely “fly out of the program.”
Fisher and Hoth (2010) suggested that in order to keep students from dropping out, post-secondary institutions need to focus their attention on identifying all students who are “at risk” of not completing their program of study because they are not academically prepared to do so, especially with regard to insufficient language skills. Furthermore, Roueche and Roueche (1994b) state that:

Colleges must require entry-level assessment of all entering students to determine if skill levels are adequate for college-level courses. Test data should be used to keep students from enrolling in classes where they have no chance of success and to place them where their skills could be developed to appropriate levels. (pp. 3-4)

This study was important because it sought to provide data in order to evaluate whether embedded remediation was effective for enhancing academic performance and increased retention rates in participating first semester PN students. It was anticipated that the findings would show the importance of the Literacy Skills program and probably any other English remedial course. Finally, as a nurse educator, I believe this issue was important to study because literacy skills are not only essential for academic success but for safe patient care.

Press (2012) stated, “While the Canadian population remains the smallest among The Group of Eight (The G8), it is by far the fastest growing, with a 5.9% growth rate in the past five years; the growth is fuelled primarily by immigration” (para. 1). Furthermore, the 2013 KPIs of Urban College indicated declining graduation rates from its PN program (Table 2). These statistics suggest the retention of academically underprepared students, especially those with literacy challenges is not only an issue now but will continue to be a part of post-secondary education challenges. However, it is also worth considering that the graduation rates presented in Table 2 could be higher, especially if students completed the program later then the KPI algorithm indicates.
Table 2

*Urban College Practical Nursing Program Graduation Rates, 2011 to 2013*

<table>
<thead>
<tr>
<th>Graduation Year</th>
<th>Graduation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>80.5%</td>
</tr>
<tr>
<td>2012</td>
<td>78.9%</td>
</tr>
<tr>
<td>2013</td>
<td>73.9%</td>
</tr>
</tbody>
</table>

Developing retention interventions for academically underprepared students at the institutional level is important because these interventions could help students increase the probability of them receiving post-secondary credentials, which would then in return allow them to contribute more effectively to the economy and enhance their quality of life. According to the Ministry of Training, College and Universities (2012), a key objective of Urban College was to ensure that student learning would look to focus not only on the hard skills (i.e., technical skills) but the complimentary and much in-demand soft skills (i.e., oral, written and cross-cultural communication).

**Personal Interest in the Research Topic**

The personal interest that I have in this research topic is partially related to a comment that my Grade Thirteen English teacher once made in regards to my future; she suggested that I would not amount to anything. In addition to that comment, I only ever received destructive feedback on my assignments or tests from her; there was never any mention of what I had done well or feedback that was constructive to help me to amount something. The accumulation of negative comments during my last semester of high school was not the most confidence building support I required just before I was to start a college level nursing program. I can easily recall how I questioned my abilities to be successful in college because of that one incident.

All throughout high school I was under the impression that my language skills were acceptable but because of that one comment from my English teacher, I found myself
questioning whether I would be successful in college. Based on my college admission and placement testing, I did not require remedial supports, however, I still required guidance from my program and faculty. I was fortunate enough to have had a nursing professor who was incredibly encouraging with her feedback, overall support and availability to help clarify concepts and instructions with assignments. My professor was available because her student census was not overloaded. By my professor showing a vested interest in my success, my confidence increased and, I found I was on track sooner rather than later, which I believe contributed to my success in the program. However, having had the opportunity to teach in three different nursing programs since I graduated with my post diploma degree in nursing, I have been able to reflect upon my own experience when I was a student and compare it to that of the students I now teach.

After teaching in post-secondary education for the last fourteen years, I have witnessed many changes in the student demographics. When I look back on the time when I was a student, the majority of my academic colleagues were very much like me; we were Caucasian, female, under the age of 24, received financial support from a parent or parents, English was our first language, and we were Canadian citizens. What I have seen in my years of teaching is virtually the opposite, which even includes gender as there are now many more males entering into the nursing profession. Many of these males have emigrated from countries outside of Canada and are looking for a two year program and finding employment after graduation in order to support their families in their country of origin. Each semester as I was introduced to increasingly diverse groups of students during the first years of my teaching career, it was becoming more and more apparent that language was impacting the students’ ability to be successful and retained in a PN
program. When I see students crying because they have to withdraw from the program because of failing grades, I feel like the program and the faculty have failed to help them succeed.

When I started my Master’s program, whenever I had the choice to select a topic for course assignments, the focus was always related to cultural diversity and language challenges. And to further demonstrate my personal interest and ongoing passion related to this topic of literacy challenges in PN students, the title of my Master’s thesis topic was: Teaching and Learning Styles in ESL Practical Nursing Students: A Match or Mismatch? Bradshaw and Lowenstein (2011) suggested that the importance of the work of cultural and language experts cannot be stressed enough in higher education because they are able to help ethnically diverse students and ESL students overcome their academic difficulties in order to be successful.

The other change I noticed over the years was the ratio of students per professor. As a student myself, I was always in a lecture class with a maximum of 30 students and in a lab setting with eight. As a professor, I have had as many as 80 students in a classroom and typically 40 in the lab; it is overwhelming to attempt to meet the academic needs of 40 students in a lab setting. As a student I was able to comprehend the content and when I did not, I had my questions answered almost immediately because I only had to compete with seven other students. I cannot imagine how students feel who do not understand the content and then have to compete for my attention with 39 other students when they need further clarification of assignment instructions or information from a lecture. Bradshaw and Lowenstein (2011) said that, “faculty availability and interest are critical elements in developing positive learning environments” (p. 28).

Even though I was not classified as remedial during my years as a college student, I entered into my higher education journey with many doubts, fears and lacking confidence in my
language skills because of an off handed comment that my high school teacher had made years ago. However, with the support and encouragement of that one particular college professor, I was able to be successful. I could not imagine how today’s students are starting their college experience with so many personal and language challenges and feel they are not supported because their professors have increased workloads because of growing student enrollment numbers. As well, professors lack the ability to provide proper language supports because the program not only does not perform admission and placement tests but does not offer remediation. Bradshaw and Lowenstein (2011) proclaimed that “developing a welcoming and supportive environment is essential, not only for ethnic minority students, but also from other groups that are part of the diverse classroom, including single parents, age and gender disparities” (p. 28). Although I was the traditional college student and tested above the remedial level I still questioned myself about whether I had the knowledge and ability to manage the program workload.

Over the years, I have had many opportunities to listen to the background stories that students have chosen to share with me and many of them want and have to be successful because they need to support their families, and many hope the PN program is the stepping stone to building their language skills so they can apply to the Bachelor of Science in Nursing program in the hope of more employment opportunities that pay substantively higher. I have been able to personally connect to and understand the adversities these student face and try to overcome since my own mother had similar experiences because she immigrated to Canada in her twenties and tried to find work when she was not able to speak more than a few words of English. “Instructors need to be aware of potential issues, know their students, and demonstrate an interest in them and their success in the program” (Bradshaw & Lowenstein, 2011, p. 28).
As a professor, I have also experienced the impact of language issues when instructing students in the clinical setting. Some of these language issues were so extensive they caused me great concern related to patient safety, and as well, these language issues were so complex that without formal direction, such as remedial supports, I did not have the ability to give them the hours of additional language training they required.

When students cannot write or read accurately, there is the potential for miscommunication regarding a patient’s condition or documenting assessments and nursing interventions. When students cannot verbally express and/or interpret information, it can lead to misinterpretation and I have often witnessed the frustration of patients when they are trying to report a change in their symptoms or receive instructions/explanations from students. For example, I once had a patient who shared his concerns with me regarding the student who had been assigned to provide care to him for one clinical week. Although he felt the student did her best to take care of him, he felt exhausted and at times exasperated because he said he had to repeat himself many times in order for the student to understand what he was asking for. And, when he asked what the medications that he did not recognize were for, he said he did not understand one word the student said and finally, in the end had to ask the primary care nurse assigned to him what they were for. As much as I am committed to student success and program retention, I do admit I have serious concerns for patient safety as well, because the situation I just described is emerging more and more often. Based on the findings from this study I am able to make recommendations that can help these marginalized students improve their language skills and be successful in the program.

I have been a registered nurse since graduating from a diploma program in 1990 and after working eleven years in an acute care setting providing patient care; I began teaching PN
students in 2001 and continue to do so. My professional experience is both a strength and a limitation of this study. It is a strength in that I understand well the challenges related to the topic that is the focus of this case study. It is potentially also a limitation since I may have interpreted the findings through that experiential lens. For these reasons I made every effort to reduce my potential bias as much as possible; this was most relevant to my interpretation of the findings since the majority of the data that were collected were quantitative.

**Theoretical Framework**

The theoretical frameworks that ground this research study are based on two models proposed by Vincent Tinto. The first model is Tinto’s Student Integration Model (1975) and the second is the Learning Communities in Higher Education (Linked Course) Model for Remedial Students by Tinto (1998).

**Tinto’s Student Integration Model (1975)**

Ascend Learning, LLC (2012) suggested that Tinto “is credited with developing one of the first theoretical models for studying attrition and persistence in higher education” (p. 1). Implementing such a model would be helpful to first year students in achieving academic success. Draper (2008) indicated that the central component of the model was integration; how well a student becomes academically and socially integrated could predict if a student persists or drops out of college.

Tinto (as cited in Upcraft, Gardner, Barefoot & Associates, 2005) theorized that students enter into higher education with specific background characteristics and skills; it is those characteristics and skills that are linked to the student’s academic performance and as well, the connection they have to their program and post-secondary education institution.
**Characteristics of students.** The profile of students accessing post-secondary education is constantly changing, therefore making it challenging to accommodate their multidimensional academic needs. Some examples to demonstrate the prevalent characteristics that define students in today’s higher education setting are gender, age, nationality, language spoken, employment status and parental responsibilities. Other student characteristics that determine persistence are precollege academic preparation and performance (e.g., high school grades and performance on admission and placement tests) and student’s commitment to family and employment responsibilities (Ascend Learning, LLC, 2012).

**Academic integration.** According to Ascend Learning, LLC (2012) persistence in higher education is determined by the student’s background characteristics and their ability to accommodate to the demands of higher education. These determine how well they integrate into their academic work. How well they have integrated can be measured based on grade performance and intellectual development.

**Characteristics of the program.** The characteristics of the program or academic institution can either enhance or limit a student’s ability to integrate into post-secondary life. Suggested examples of program characteristics are resources (e.g., curriculum), facilities (e.g., onsite child care), structural arrangements (e.g., class sizes), organizational arrangements (e.g., admission processes) and its members (e.g., faculty) (Ascend Learning, LLC, 2012).

**Social integration.** The ability to persist in higher education is determined based on how the program and institutional characteristics influence a student’s ability to socially integrate into post-secondary education. This can be related to various factors and for the purpose of this study social integration would be influenced by “class size, course scheduling and pacing, no
admission and placement testing, insufficient feedback, inexperienced faculty and lack of student support” (Yukeselturk & Inan, 2006, p. 77).

**The impact of academic and social integration.** Tinto (as cited in Ascend Learning, LLC, 2012) said that, “attrition is often the result of the interaction between student and program characteristics” (p. 5). Student success should be based on how well a student integrates both academically and socially into their program.

![Diagram](image)

**Figure 1.** A conceptual schema for dropout from college. Adapted from “Dropout from Higher Education: A Theoretical Synthesis of Recent Research,” by V. Tinto, 1975, *Review of Educational Research, 45*(1), p. 95.

**Learning Communities in Higher Education (Linked Course Model for Remedial Students) by Tinto (1998)**

According to Koski and Levin (1998), at Sam Houston State University in Texas, nineteen remedial students enrolled in an experimental remedial reading program that was designed to coordinate existing remediation curriculum with mandatory academic courses achieved better course grades than their non-remedial academic peers. Olson (as cited in Koski
& Levin, 1998) claimed, "in terms of final grades for the semester, the developmental students did significantly better than the average for the entire class" (p. 33). Furthermore, students who participate in linked course models do better overall in the content related course and as a result their college persistence rates are comparable to students who did not participate. (Koski & Levin, 1998) also found that when a course is “linked” to content courses it “improve(s) student persistence, enhance(s) the student’s social and academic integration into the college experience, and perhaps, increase(s) academic achievement at least in the linked content course” (p. 31).

In a study conducted by Boylan (1999) regarding alternative remediation alternatives, linked courses are related to positive academic outcomes for students identified with weaker scholastic abilities. Boylan (1999) stated that, “participating in paired courses tends to show higher levels of performance and demonstrate greater satisfaction with their instructional experiences than similar students participating in traditional courses” (p. 6). In a more recent study, Boylan’s findings were supported by Walton Radford, Pearson, Ho, Chambers and Ferlazzo (2012). These researchers stated that “After a semester of accelerated academic courses integrating remedial and college-level content. An initial evaluation found students earned more first semester credits and the program had a positive impact on one-semester persistence rates” (p. 21).

Literacy skills programs aim to use the content of one course as a focus for the application of skills taught in another course. This is often used to combine basic skills with core course content. The Anatomy and Physiology and Nursing I courses are examples of literacy skills courses in the first semester of the PN program at Urban College that combined basic skills and core content, which linked remedial writing, listening and reading skills. The academic performances for both cohorts on the paired courses Anatomy and Physiology and Nursing I,
were collected and analyzed for this study. And, Kellogg (as cited in Luebke, 2002) described learning communities as a group (cohort) of students studying together in linked courses.

**Philosophical Worldview**

Because of my passionate interest in this topic and my concern for students who are deprived the support needed to be successful in postsecondary education; I selected the advocacy and pragmatic worldviews (as defined by Creswell, 2009) for the lens used in this study. I wanted to give the students who are the focus of this study a voice regarding the challenges they are confronted with when they are admitted to a program for which they are not academically prepared. And to document the impact of the supportive intervention that was the embedded remediation on these students.

**Advocacy worldview.** I considered the advocacy worldview appropriate because “At the end of the advocacy/participatory studies, researchers advance an action agenda for change” (Creswell, 2009, p. 10). Without the availability of remedial resources, this contributes to the real-world problem of students potentially not graduating from their program of study. Declining graduation rates can have economic consequences; therefore an agenda for change is needed.

The research was viewed through a theoretical lens reflecting on social, historical and political contexts. Looking through the social justice lens, it was important to consider the impact on underprepared students who would not be able to achieve their overall academic goal, which would be to graduate and find employment so they could comfortably support themselves and their families. Not graduating or failing a course generally causes stress to students, and can therefore have a negative impact on their psychosocial development. Whitman (1985) stated that “when education is seen as a threat …stress can elicit feelings of helplessness and a foreboding sense of loss. A critical issue concerning stress among students is its effect on learning” (para. 2).
The following citation was a documented example from an online blog written by a college student. The example used here demonstrates the relationship between poor academic performance and the negative impact it can have on a student’s psychosocial development.

I'm failing college and don't know what to do. If I'm lucky, I'll finish up the semester with a 1.5 GPA. I had such high hopes for college, but now I feel like everything is hopeless. I started out strong, going to all my classes and studying, but after getting lower than expected grades and being completely unable to make friends, depression hit me hard. The familiar feelings of inadequacy and hopelessness came back, so my school work suffered. I started missing classes, stopped going to the library, and gave up on life. I have thought about suicide every day for the past two months and even though I don't do my work due to lack of motivation and pessimism, I am overwhelmed by stress.

(Revolution Health, 2007, Msg 1)

I have had a difficult time imagining what the effects would be on the program when there are no further remedial supports available to the students who urgently need these. I am not only advocating for all students to have their level of academic preparedness assessed but also for them to have access to remediation based on those assessment outcomes. Ultimately, I am also advocating for patients who will be on the receiving end of underprepared students who “slipped though the foundational cracks”. The communication demands of the nursing program (and profession) drive the degree of remedial support needed (Interim Report, 2008). It was my hope that the findings from this study would enable me to advocate not just for students at Urban College, and though the findings are not generalizable, to advocate for the wider nursing education community and ultimately for the well-being of patients and society. Perin (2006) said
that, “A comprehensive effort would provide direction for the policy re-forms necessary for the simultaneous protection of standards and access goals in community colleges” (p. 25).

**Pragmatic worldview.** The pragmatic worldview was also appropriate for this study because it addresses real-world problems. Creswell (2009) declared that pragmatism addresses a real world problem. According to the 2006 study (2006), the percentage of students college-wide who tested at remedial levels in English was roughly 45% and also approximately 45% of students enrolled at Urban College do not graduate. This is a huge real world problem.

In 2007, Service Canada (as cited in Miner, 2010, p. 1) said “About 65% of all new jobs created over the next five years are expected to require some form of post-secondary education/training.” Fisher and Hoth (2010) reported that by 2015 approximately 70 percent of jobs are going to require higher education or skills preparation (i.e., analytical and interpretive skills); this also includes entry-level positions into the provincial workplace settings. However, the Canadian Council on Learning (as cited in Fisher & Hoth, 2010, p. 14) estimated that in relation to academic preparedness for college success, “Only 58 percent of Canadian adults currently demonstrate literacy levels sufficient to function in today’s economy and society.” It is reasonable to assume that, by offering admission to underprepared students and then *not* conducting skills assessment testing in order to provide remedial language support as needed; postsecondary institutions contribute to post-secondary under achievement, failure and attrition.

The attrition rate of first semester PN students from Urban College enrolled in the winter semester of 2011 was 33.6%, despite mandatory remediation courses, such as the Literacy Skills program provided by the department. This number then increased to 59.2% for first semester students who were not provided with any remedial supports (UC Administrator, personal communication, May 2014). With the administrative decision to phase out the Literacy Skills
program at Urban College, and a statistically substantive decrease in the retention rates, the PN program was seemingly not prepared to help close the gap between the existing 58% of adults with adequate communication skills, and the 70% actually needing higher education to function in the workforce (Fisher & Hoth, 2010).

Accepting students into college programs without the proper scaffolding techniques in place could prevent remedial students from succeeding, which then creates enormous losses. Substantive losses not only for individual students and their families, but also for society because they would be losing out on potentially employable college graduates to the health care job sector. For this reason, having an increased understanding related to the effectiveness of embedded remediation on academic performance based on the findings of this study has the potential for addressing this real world problem on how to assist students with their remedial language needs.

**Scope and Limitations**

This study was based on a purposive sample of only two cohorts (the Experimental and the Control Groups) in only one PN program in one of Ontario’s 24 colleges. Therefore, the findings, no matter how informative and interesting, cannot be generalized to other programs in any other postsecondary institutions.

This case study attempted to answer what impact participation in the Literacy Skills program had on the academic performance in nursing courses of study participants. It also attempted to determine what impact remedial education had on retention rates of participating first semester practical nursing students. It also identified demographic variables that may be predictive of the need for remediation in language skills development in students who are at risk of not completing a PN program successfully.
The study findings may have practical implications in that Urban College administrators may reconsider the benefits of remedial education in relation to enhancing the language and literacy skills of L1/L1.5/L2 PN students. Furthermore, the findings may be of interest to other colleges that struggle with similar challenges, and the Ontario workforce could potentially benefit if more nursing students were successful in PN programs and were able to perform effectively in the health care system. According to the CNO (2010), there was a total of 2,819 new Registered Practical Nurses (RPNs) in 2010, a decrease of 4.2 percent from 2009. The overall decline is attributable to a decrease of new RPNs graduating from programs in Ontario. Again, reconsideration of remediation could help to increase the number of students completing the program successfully.

**Summary of Chapter One**

This chapter provided an overview of the research study, which included a background of the problem; the rationale to support the selection of the study, the theoretical framework and my worldview. It described the advocacy and pragmatic worldviews (Creswell, 2009) that I adopted with the purpose of addressing a pressing problem faced by the underprepared participants and by Urban College itself. It is my hope that the findings will be useful in advocating increased remedial support for underprepared PN students in the program to enable them to complete the program and provide effective nursing care upon graduation.

Chapter Two examines relevant and current literature related to the effect that embedded remediation could have on academic performance and retention rates.

Following a review of the literature, Chapter Three describes the methodology in this study by focusing on the design, population, and data collection instruments and methods and data analysis process.
Chapter Four presents and examines the findings for research questions one, two and three, while Chapter Five reveals and analyzed the results for research questions four and five.

The discussion in Chapter Six focuses on conclusions and implications for practice and policy, as well as further research and theory development on the topic of embedded remediation curriculum and the relationship between student characteristics and their success in the remedial work.
Terms and Definitions

Adjunct

Adjunct refers to a supplementary addition to mainstream curriculum rather than a critical component in order to promote learning.

At-Risk Student

At-risk students enrolled in postsecondary institutions come from a variety of backgrounds. They would be less likely to exhibit behaviours consistent with persistence, therefore have a tendency for “dropping out” during their first year of college. These students affect the retention and graduation rates of their respective institutions (Charbonneau, 2013).

Attrition Rate

Attrition rates provide a measure of the proportion of students who are not successful due to the inability to attain mandatory grade requirements in a program at an institution each semester or academic year. It is the percentage of students who do not complete a course of study/program.

COMPASS and ACCUPLACER (ACLI) Listening Tests

The COMPASS and ACLI Listening Tests required applicants to listen to passages (conversations or lectures) and answer multiple-choice questions. The listening tasks increased in difficulty across multiple proficiency levels with the rate of speech, vocabulary, diction, and use of idiomatic and metaphorical language all increasing at higher levels. The COMPASS and ACLI Listening Tests were evaluated by assessors who are experienced English teachers who only assess admission and placement tests; these teachers do not teach within program specific curriculum. For the focus of this study, the set passing scores determined by Urban College for the COMPASS/Accuplacer listening test is ACPI ≥ 90, which classifies students at a non-remedial level.
Developmental Education

Developmental level skills assessment would be defined as communication skills that are below the required post-secondary skills level, and supplemental instruction, such as embedded remediation with a program may not be ineffective. Developmental education focuses on constructing introductory language skills that an adult student may completely lack upon entry into higher education.

L1

Refers to individuals who are first language is English – that is, someone whose first and primary spoken language is English and in whose home English was spoken exclusively.

L1.5

Refers to learners whose first language is not English and who entered the English school system anywhere between kindergarten and 16 years of age.

L2

L2 refers to individuals whose first language is not English. Many of these students arrived in Canada well-educated from their home countries.

Embedded Remedial Education

Embedded remedial education occurs when the remedial instruction course, such as reading and writing, is aligned and coordinated with the college-level core content course, for example Anatomy and Physiology.

National Literacy Secretariat (NLS)

The NLS is a writing assessment tool that assesses a writing sample using scales ranging between (two and six) based on focus, development, organization, voice, vocabulary, sentence variety, grammar and mechanics. For the purpose of this study, the set passing score determined
by Urban College for the National Literacy Secretariat writing test is NLS ≥ 3, which classifies students at a non-remedial level and with any score below that level, students are classified as remedial. The participating students were encouraged to take this test upon receipt of the testing letter in order for their application to be considered for the current admissions cycle. The NLS test is evaluated by assessors who are experienced English teachers who only assess admission and placement tests; these teachers do not teach within program specific curriculum.

**Retention Rate**

Retention rate refers to the percentage of undergraduate students who continued at school from the point of entry, which for this study is the first semester of the program, to the second semester. It is measured by the percentage of students who were assigned a passing final grade.

**Remedial Education**

Remedial education is composed primarily of sequences of increasingly advanced courses designed to bring underprepared students to the level of skill competency expected of newly admitted post-secondary students. Remedial level skills assessment would be defined as communication skills that are below the required post-secondary skills level, but where supplemental instruction, such as embedded remediation within a program can still be effective by students successfully passing their course/program because they were able to improve upon their established basic literacy skills.

**Underprepared Students**

Students whose academic skills (i.e., reading, writing and math) fall below those determined to be necessary for college success and/or any student whose college readiness skills (i.e., problem-solving and critical thinking) do not prepare them for the rigors of college study
and learning. The term also refers to students whose college admission test scores fell below the required entrance level criteria.

**Urban College Writing Sample (UCWS)**

The UCWS was used in conjunction with the NLS; Urban College’s scales ranged from 1-10. For the focus of this study, the set passing score determined by Urban College for the Urban College Writing Score test was UCWS ≥ 7, which classifies students at a non-remedial level and with any score below that level, students were classified as remedial.

The essay was timed (75 minutes); the students had three topics to select from and the applicants were given the choice of hand-writing or typing. The students then wrote an opinion piece of three to five paragraphs. Each essay was evaluated by an assessor using the Urban College Writing Scale. The UCWS is evaluated by assessors who are experienced English teachers who only assess admission and placement tests; these teachers did not teach within program specific curriculum.

**Acronyms**

ACLI – Accuplacer

BICS - Basic Interpersonal Communication Skills

CALP – Cognitive Academic Language Proficiency

CNA – Canadian Nurses’ Association

CNO – College of Nurses of Ontario

CPNRE – Canadian Practical Nurse Registration Examination

EALC – East Adult Learning Campus

ESL – English as a Second Language

GPA – Grade Point Average

KPI – Key Performance Indicators
NLS – National Literacy Secretariat
OCAS – Ontario College Application Service
OSSD - Ontario Secondary School Diploma
PHS – Pre Health Science
PN – Practical Nursing
PSW – Personal Support Worker
RA – Research Assistant
UCDSB – Urban City District School Board
UC – Urban College (pseudonym)
UCWS – Urban College Writing Score
WALC – West Adult Learning Campus
Chapter Two: Literature Review

This chapter presents themes related to the focus of my study that I identified in my review of the literature. Although I found many relevant themes in the literature, for the purpose of this study I focused on the themes of: (1) Importance of Competency of Communications Skills for the Health Care Workers (2) Effectiveness of Embedded Remediation (3) College Attrition Rates and Predictors (4) Student Characteristics and Academic Performance (4) Tinto’s Student Integration Model (1975) (5) Underprepared Students Gaining Admission to Urban College (6) The Problem with Admission and Placement Tests (7) Why Language Benchmarks are Important (8) What is a Linguistically Underprepared Student in Post-Secondary Education? (9) The Impact of Large Class Sizes on Linguistically Challenged Students (10) Student Integration Model and (11) Learning Communities in Higher Education (Linked Course Model for Remedial Students).

Chapter One introduced the theoretical framework(s), which are Tinto’s Student Integration Model (1975) and Learning Communities in Higher Education (Linked Course Model for Remedial Students) by Tinto (1998). I have explored these frameworks in more detail here.

Themes Identified in the Literature Reviewed

Importance of Competency of Communications Skills for Health Care Workers

Practical Nurses (PN) use a variety of language skills to communicate on a daily basis, for example, to gather information, to connect with other disciplines and to promote continuity in client care. Also, as healthcare settings in regions of Southern Ontario become more culturally and linguistically diverse, nurses must work increasingly with clients as well as nurses from a variety of cultural and linguistic backgrounds. Using the city of Toronto, Ontario as an example,
Statistics Canada (2007) reported that the 2006 Language, Immigration, Citizenship and Mobility Census revealed that half the population living in Toronto was born outside of Canada and half of all immigrants in the city of Toronto have lived in Canada for less than 15 years. “A full 47% of Torontonians had a first language other than English or French” (City of Toronto, 2007, para. 4). It can be assumed that the post-secondary context in the GTA is similar. In 2006, for example, a sampling of students in the first semester of the PN program at Urban College represented 22 countries; the top seven countries (Canada, China, Ethiopia, Nigeria, Philippines, Russia and Ukraine) accounted for approximately 73% of the total number of participants. Those participants spoke 26 different languages of which the top six languages (Chinese, French, Russian, Spanish, Tagalog and Yoruba) accounted for 66% of the total number of participants (The 2006 Study, 2006, p. 17). Based on those statistics, it was reasonable to assume that students participating in post-secondary nursing programs in Southern Ontario form a substantively diverse population in regards to language and culture.

Language is a critical skill that is required in order to provide competent patient care. “Ineffective communication among nurses, clients, family members and other members of the healthcare team can lead to errors that jeopardize the well-being of the client” (Wachter, 2009, para. 20). In a study reviewing the root causes of sentinel events in the healthcare system from 1995 to 2000, it was identified that the top three error factors contributing to adverse client care were communication (64%), orientation and/or training (58%) and patient assessments (36%). Furthermore, in 1995 Wilson, Runciman, Gibberd, Harrison, Newby and Harrison (as cited in Coiera, 2000) declared that, “communication errors were determined to be the leading cause of death in a retrospective review of 14,000 in-hospital deaths in Australia, twice as frequent as errors caused by inadequate clinical skill” (p. 278). “Ineffective communication has also been
implicated as the leading cause in medication errors, delays in treatment, perinatal deaths and injuries, and wrong site surgery, and is the second leading cause for patient falls” (Friesen, Hughes & Zorn, 2007, p. 1). The concern for clinical educators must be not only for student success but ultimately for patient safety as well.

**Effectiveness of Embedded Remediation**

Phipps (1998) stated that, “Research regarding the effectiveness of remedial education programs has been sporadic, typically underfunded and often inconclusive” (p. 3). However, the literature regarding embedded remediation indicated it did have a positive effect on student success. According to Batzer (1997) college English GPAs of underprepared students who were not enrolled in any embedded remedial courses did not perform better when compared to those who did participate in embedded remedial courses. Batzer (1997) stated that, “students who completed one remedial writing course earned average college English scores of 2.19; underprepared students who did not complete any remedial writing course earned average college English scores of 1.46” (p. 54). This finding by Batzer (1997) is supported by more recent research that was conducted by Jenkins, Speroni, Belfield, Smith Jaggars and Edgecombe in 2010. Their study found that when remedial support is delivered through an embedded route model (e.g., aligned course in career programs), students succeed almost three times the rate of those who either take an independent remedial course or are not offered remedial supports at all.

Batzer (1997) also suggested the more required remedial courses (i.e., writing, reading or math) an academically underprepared students completed, improved their chances of persisting in their college-level courses and graduating. In one American public college, Bettinger and Long (2009) reported that approximately 28,000 freshman were followed for a six year time
frame for the purpose of determining the impact of “remediation on college performance and persistence” (p. 738). Bettiniger and Long (2009) concluded:

The results suggest that remediation does have a positive impact on the college outcomes of underprepared students. Students placed in remediation are more likely to persist in college in comparison to students with similar test scores and backgrounds who were not required to take the courses. (p. 739)

The 2006 study identified a similar relationship as is depicted in Table 3. These data suggest that while remediation can have a positive effect on academic success for all levels of underprepared students, in an Urban College context, the greatest positive effect of participation in occurred for those students who achieved a score of NLS/UCWS ≤ 2/6 and required only one remedial course, which enabled them to build upon their existing literacy skills. And, students who scored at a developmental level (NLS/UCWS ≤ 2/5) at Urban College were less likely to be retained because the supplemental instruction offered through embedded remediation was not effective. Developmental education concentrates on building preliminary literacy skills that an adult student may not have when they enter post-secondary education.

Table 3
Percentages of Students Who Graduated as a Function of the Number of Required Remedial Courses in Math, Writing or Reading

<table>
<thead>
<tr>
<th>Graduation Rate</th>
<th>Number of Remedial Courses Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>60%</td>
<td>None (NLS/UCWS ≥ 3/7)</td>
</tr>
<tr>
<td>55%</td>
<td>1 (NLS/UCWS ≤ 2/6)</td>
</tr>
<tr>
<td>45%</td>
<td>2</td>
</tr>
<tr>
<td>44%</td>
<td>3 or 4</td>
</tr>
<tr>
<td>35%</td>
<td>5 or more</td>
</tr>
</tbody>
</table>

Legend: NLS = National Language Secretariat
        UCWS = Urban College Writing Score

More recent studies (since that of Batzer in 1998) indicated that reviewing the completion rates of students who participated in remedial education was a one-dimensional view of a complex and at times, controversial issue. For example, Bettinger and Long (as cited in Parker, Tomas Bustillos & Behringer, 2010) found that there were differences in the educational outcomes of non-remedial learners compared with those who disappeared from the classroom when educational and social backgrounds were taken into account. As reported by Day et al. (2005) in the first semester, their research supported the findings of Bettinger and Long (2009), which suggested that academic and social background were the key variables involved in why students leave post-secondary nursing programs.

**College Attrition Rates and Predictors**

Fisher and Hoth (2010) contend that “the literature is replete with studies supporting the need for early identification and upgrading for students who are at risk of not completing their postsecondary programs because of deficits in academic preparedness, especially with respect to language deficits” (p. 42).

The percentage of students college-wide at Urban College who tested at remedial levels in English was approximately 45% (2006 Study). The attrition rate for students enrolled in the first and second semesters in 2005 was 21%. Furthermore, the Department of Academic Excellence (as cited in the 2006 Study) estimated that “approximately 45% of the students who enroll in post-secondary programs at Urban College do not graduate” (p. 67).

According to Malatest and Associates Ltd. (2009), their research found that with respect to language challenges, “between 30 and 40% of all first year students entering college are unprepared for college-level reading and writing”. A study by Ma and Frempong (as cited in Fisher & Engemann, 2009) supported the attrition rate statistics that were presented in the 2006
Study), which reported that “Canadian students with first-year post-secondary GPA at 60% or lower were 2.13 times more likely than students with first-year GPA at 70% or higher to drop out” (p. 7).

Studies (e.g., Sunter, 1993, Gilbert, Barr, Clark, Blue & Sunter, 1993, Butlin, 2006 and Mattison, 2012) have also found that there were a wide variety of predictors for college leavers. Based on a survey of 18,000 high school graduates (ages 18-24) enrolled at university and college across ten provinces, a report by Statistics Canada determined that almost 25% were college leavers (Butlin, 2006). The predictors for leaving college that were identified covered a wide range of factors including low parental level of education, one-or no-parent families, gender (male), leaving high school at some point, failing a grade in elementary school, drug use in high school, low average high school grades, problems with science, social demographic factors, and peers outside the post-secondary context (Mattison, 2012).

Other Canadian research (e.g., Sunter, 1993) found that college leavers were five times more likely to have failed a grade in elementary school, were more likely to be married, to have had more dependent children, and came from single and no-parent families (Gilbert, Barr, Clark, Blue & Sunter, 1993), or were at greater risk for substance abuse, negative school experiences, and poor at-home relationships (Johnson, 1997). Clearly, poor communication skills alone cannot account for college attrition rates.

**Student Characteristics and Academic Performance**

The profile of the student who occupies the post-secondary classroom today is much different from what it was ten years ago. Various studies have indicated there is a wide range of student characteristics that have been associated with the reason why students withdraw and do not complete their education from nursing programs. For the purpose of this study, the research
conducted by Jeffries (2012) will be referred to frequently because her findings were specific and relevant to nursing students.

**Age.** Globally there were higher numbers of students who are older in age entering into higher education than in the past. Jeffreys (2012) stated that, “the enrollment of older students in nursing programs has increased over the last decade, with projected increases to persist in the future” (p. 25). Jeffreys indicated that there was a myth that associates older-aged students with declining retention rates and this myth needs to be re-examined. Peltier, Laden and Matranga (as cited in Upcraft et al, 2005) identified that “many adult learners tend to have more focused career goals and a stronger motivation to complete their degrees” (p. 34). The myth also suggested that older students do not have the ability to handle the challenges related to post-secondary education and do not perform as well academically as younger and more traditional students. There tended to be many differences associated with older students, and when there was too much diversity amongst students, it made it difficult to address all of their academic needs in order for them to be successful. Bradshaw and Lowenstein (2011) supported the suggested challenge of the myth by stating that, “older students can hold a cynical or ingrained view…and younger students can view them as dictatorial or authoritarian” (p. 29).

According to Tinto (2012), older students may feel less willing to ask for assistance during their transition into post-secondary education. Many adult students have many life roles (e.g., parent, spouse and employee) that can be a barrier to their persistence in college. Their personal responsibilities conflict with their ability to participate with supplementary on campus events. “The nature of their life in general is a barrier to their persistence in college” (Tillman, 2002, p. 8).
**Gender.** Even though the enrollment of males into nursing programs has increased in more recent years, high attrition rates still continue. Higher attrition rates have been linked specifically to the non-traditional male population. In a study by Boughn (as cited in Jeffreys, 2012), men in nursing programs were older in age, entered into a second career and were classified as belonging to a lower socioeconomic class. Whereas other studies found that because males are still substantively outnumbered by their female colleagues, they may feel socially isolated, leading to an adverse effect on retention rates (Brady & Sherrod, 2003; Dyck, Oliffe, Phinnery & Garret, 2009 and Stott, 2004).

According to the Chronicle of Higher Education (2003), female students comprise for more than half of the college population today and females have higher rates than men do in regards to persistence in the college program of study. Upcraft et al. (2005) stated that in a study conducted by Rajasekhara and Hirsch in 2000, of “nearly twenty-three thousand students at a three-campus community college over a three year period, first-to-second semester persistence was higher for women than for men” (p. 34).

**Ethnicity.** Gardner (2005) claimed those students who were members of a visible minority group experienced high attrition rates within nursing programs. Arnault-Pelletier, Brown, Desjarlais and McBeth (as cited in Canadian Nurses Association (CNA; 2007) described issues such as, “communication difficulties, poor academic preparation and diminished social support as reasons for increased attrition” (p. 10). Jeffreys (2012) also found that recent enrollment statistics suggested there had been an increase among visible minority groups who participated in higher education programs. Furthermore, students representing minority populations had a higher attrition rate than those who were not a minority. Jeffreys (2012) proclaimed that “Unfortunately, this is also true within nursing programs. Lack of social
integration can isolate students, thus presenting another barrier. The other types of barriers that minority students can encounter include: stereotyping, prejudice, discrimination and racism” (p. 28).

Language. With the increase in immigration to Canada over the last ten years, there have been more students in the classroom with linguistic challenges because their first language was not English. It is logical to assume that poor English language skills will have a detrimental impact on students studying in an English language program. Jeffreys (2012) said that “English as a second language student populations have unique learning needs and incur higher attrition rates” (p. 5). Similar findings were also discovered in the study by Mattison (2012); students who had difficulty comprehending the English language, especially those who consistently spoke a language other than English at home, tended to have higher attrition rates. Blatchley and Lau (2010) concurred with the findings of both research studies conducted by Jeffreys and Mattison and stated that, “students who do not understand the English language have limited reading, writing and cognitive skills, which may affect college success or completion” (p. 23).

Prior educational experience. Prior educational experience has become as increasingly diverse as the student population. With such differing educational preparation, higher educational institutions have been experiencing increased numbers of underprepared students and this challenge has also become common in nursing programs. Jalili-Grenier and Chase (as cited in Jeffreys, 2012) stated that, “For students educated in other countries, it may be difficult to evaluate learning experiences, grades, standards, degrees and certain certifications. The primary language of prior educational experience(s) may also impact retention” (p. 35). However, Jeffreys (2012) introduced another view. It should not be assumed that academically prepared students are not also at risk of attrition. Some post-secondary institutions place more
emphasis and put greater effort into initiatives that could help underprepared students be more successful, but when that happens, the well-prepared students could potentially slip through the cracks.

**Family responsibilities.** Elliott (2000) found that competing family commitments have had an increasingly high level of influence on a student’s decision to leave a college program within the first year of enrollment. Competition can range from the most extreme types of situations, such as serious medical issues and tragedy (e.g., death) to simply there are not enough hours in a day to meet family and college obligations. A parent who is in school will choose to stay home from class in order to care for an ill child. Jeffreys (2012) also found that having more family responsibilities can impact attendance – such as time spent on off-campus studying, academic performance and retention rates. Family time has the ability to compete with academic time, which in turn could result in a family-school role conflict. In most instances, a family issue (e.g., illness of a child) could interfere with a student’s ability to focus on their school responsibilities.

**Child care responsibilities.** According to Stauffer (2010) childcare issues have been identified as an obstacle in relation to college retention rates of non-traditional students as they attempt to persist in higher education and be a parent at the same time. Jeffreys (2012) observed that “dependent children and child-care arrangements have been depicted as a barrier to academic achievement and retention. Often, the presence of dependent children was seen as a predictor for attrition” (p. 103). As well, younger aged woman with young children, are highly likely to leave their academic studies partly because of the stress they incur and from the financial strain as they need provide for and pay for child-care services.
Employment hours. According to Jeffreys (2012) many students have part-time employment in order to help them financially with their academic and living expenses. Students working many hours at their jobs run into issues when they encounter conflicts between their work and school schedules. Often students will choose to miss class so they do not jeopardize their source of income but when they are absent too many times, miss lecture discussions and class activities, they are at risk of not achieving academic success.

The CNA (2007) reported similar findings as Jeffreys, which indicated nursing students reported that they need to work part-time in order to be able to finance not only their education but their living expenses as well. Students who attempt to manage the responsibilities related to working and attending classes on a full-time basis are “tired, miss class time and have problems meeting course deadlines” (CNA, 2007, p. 9). Jeffreys contends that “Employment past 20 hours per week presents barriers to academic achievement, social and academic integration and retention” (2012, p. 107).

Tinto’s Student Integration Model (1975)

Student characteristics assessment inventories and retention. According to Ascend Learning, LLC (2012), Tinto’s Student Integration Model (1975) suggested that “one characteristic of any educational program that invariably influences its student attrition rate is the program’s admissions process and criteria” (p. 5). Prior to program admission, higher education attrition rates could be potentially reduced if a program, such as nursing had advanced knowledge of who their student population would be every semester. Knowing what level of academic preparedness entering students possess could allow programs to be better equipped to help those who are underprepared and improve student retention rates.
In addition to administering admission and placement tests, the use of other strategies should be considered to reduce student attrition. One strategy suggested by Ascend Learning, LLC (2012) would be to use an inventory assessment, such as a Stress Management test. Zajacova, Lynch and Espenshade (2005) reported that:

Using a reliable stress assessment test, might help post-secondary institutions identify students who are experiencing issues with their academic performance in and outside of the classroom environment, their ability to manage work, family and school and socially interact with their academic peers. (p. 690)

According to Ascend Learning, LLC (2012) student inventories can be used after a student has been admitted into a program for the purpose of assessing how they cope with the program. However, assessment is not enough; the implication is that the program should then provide remedial assistance to enable the students to succeed.

**Underprepared Students Gaining Admission to Urban College**

How underprepared high school graduates gained admission to Urban College’s post-secondary programs. Urban College automatically admits any student who holds an Ontario Secondary School Diploma (OSSD), provided they have the space. Based on data from the Assessment Centre for post-admission placement tests, substantive numbers of high school graduates require remediation in English, math, or both – some require literacy and basic skills training or need a higher level of English proficiency (in the case of L2 learners). Table 4 provides a review of the decision rules that were used by placement advisors before the Literacy Skills program was phased out (2006 Study). The OSSD does not guarantee that all high school graduates are prepared for the rigours of post-secondary academic work. Indeed, more and more high school graduates arrive at the college with remedial language needs.
Table 4

Decision Rules Used by Urban College for Placement of Essay Writing (NLS/UCWS) and Listening (COMPASS) Scores for High School Graduates

<table>
<thead>
<tr>
<th>NLS</th>
<th>UCWS</th>
<th>01 - 41</th>
<th>42 – 66</th>
<th>67 - 81</th>
<th>82 - 91</th>
<th>92 - 99</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>REJ</td>
<td>REJ</td>
<td>REJ</td>
<td>REJ</td>
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<tr>
<td>1</td>
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<tr>
<td>2</td>
<td>3</td>
<td>REJ</td>
<td>REJ</td>
<td>ADV</td>
<td>ACE</td>
<td>ACE</td>
</tr>
<tr>
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<td>ACE</td>
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<td>ACE</td>
</tr>
<tr>
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<td>5</td>
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<td>ACE</td>
<td>ACE</td>
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<td>ACE</td>
</tr>
<tr>
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<td>ACC</td>
</tr>
</tbody>
</table>

Legend:  
NLS = National Language Secretariat and UCWS = Urban College Writing Score  
REJ = Not admitted into the program;  
ADV = Developmental skills level, admitted into the Literacy Skills course = (NLS/UCWS = 2/3 and COMPASS = < 67-81);  
ACE = Remedial skills level, streamed into the Literacy Skills course = (NLS/UCWS = 2/6 and COMPASS = < 81);  
ACC = Non-remedial skills level, admitted directly into the regular stream of the program = (NLS/UCWS = 3/7 and COMPASS = 82-99).


**How underprepared students with no OSSD gained admission to the Urban College post-secondary programs.** Students without an OSSD or Grade 12 English equivalent had to apply to Urban College as mature students and test into post-secondary programs. The same decision rules used for placement of high school graduates were used to determine offers of admission for mature students, allowing students with pre-college levels of English skills to enter with extremely low NLS/UCW scores, such as 2/3 or 2/4 on the essay performance. Program administrators and the Registrar worked together to determine decision rules, but other factors
also impacted these decisions, such as budgetary constraints and enrolment numbers. This practice contributed to the high number of students with remedial and developmental needs who were admitted to the College. Day et al. (2005) stated that “Appropriate student admissions may not be due to poor entrance criteria, but because of ‘bending’ the admission protocol” (p. 9). For example, with the nursing shortage, there is pressure to ‘fix the problem’; therefore enrollment numbers increased to meet the demand by ‘relaxing’ the admission criteria to meet governmental and public demands and pressures (Day et al. 2005).

The Problem with Admission and Placement Tests

Admissions and placement tests are offered in two basic formats; commercially available versions (e.g., COMPASS or ACLI) and locally designed tests, created by the institution (e.g., UCWS). According to Fisher and Hoth (2010), 62% of the twenty-four Ontario colleges used some form of post-admission assessment to test language proficiency. Each institution is permitted to determine its own cut-off benchmark score, based on the scale, method and test instruments it selects. Conley (2010) stated that, “this results in different operational definitions of remedial-level at schools within the same post-secondary system” (p. 5). As a result, one college may label a student as college ready and another college may place that same student in remedial based courses. For example, one college may mainstream students into their PN program with a 2/5 (NLS/UCWS) score, whereas before September 2011 Urban College would either automatically place similar students into remediation streams or even deny them admittance if enrollment numbers were high. After September 2011, the PN program at Urban College no longer offered remedial supports for any students because the College no longer requested students to complete an admissions and placement test. The issue with each institution
choosing its own benchmark score is that it creates difficulty for students to transfer to another institution, if they decide to do so at any point in their academic journey.

Hadden (2000) raised some controversial questions regarding admission and replacement testing. He suggested a host of ethical issues regarding mandatory placement testing and the underprepared student, such as “Is it ethical to deny a student access to a class? Is mandatory placement discriminatory, especially to minority students? Is it ethical to allow underprepared students to fail (p. 824)?” The debate is over “access versus success” in the education system and “access versus standards” in the health care system. In my view, student success and effective patient care according to standards of professional practice should outweigh open access.

Conley (2010 also raised concerns regarding the fact that colleges are able to select their own cut off scores for admissions and placement tests, which may result in underprepared students gaining access into post-secondary institutions potentially contributing to their failure. I support open access to education but agree with Hadden (2000) who stated that, “access should not be confused with success for students who enter college lacking basic reading, writing, mathematics and study skills” (p. 824).

**Why Language Benchmark Assessments are Important**

Choi (2005) declared that, “the ability to communicate effectively is important in any academic endeavor but it is particularly important in nursing, a discipline grounded in one-on-one patient contact (p. 264).” Provincial governing bodies that regulate professions such as nursing, set minimum language benchmarks that applicants are required to demonstrate before they can be registered and allowed to practice. The College of Nurses of Ontario (CNO) uses the Canadian Language Benchmark (CLB), which is a specialized English assessment tool that measures language proficiency against the national standards. Pawlikowska-Smith (2000) stated
in the CELBAN 2000 document that language tests are “statements (descriptions) of communicative competencies and performance tasks in which the learner demonstrates application of language knowledge (competence) and skill” (p. viii). The assigned minimum communication benchmark standards set for Canadian nurses are: Writing = 7; Reading = 8; Speaking = 8; and Listening = 10.

Another issue with individual institutions setting their own cut off scores for admission is that if admission and placement test scores are lower than the assigned CNO communication benchmark standards, Pawlikowska-Smith (2000) suggested that the research indicates an additional three-hundred hours of English training would be necessary to move up just one benchmark. For example, if a student tested at the minimum benchmark level of five (NLS/UCWS = 2/5) and is practicing their English writing skills three to four hours a week in an academic context only, then it could take several months, if not years to attain the benchmark level of seven, which is required to successfully practice autonomously as a PN in Ontario.

**Writing benchmark 7.** The competency outcomes expected for a writing benchmark of 7 (which is the minimum set by the CNO) is the ability to take notes in point form Pawlikowska-Smith (2000), for example. An example in an academic context would be for a student to be able to take supplemental notes as a professor lectures the content. An example when this task would be necessary in a professional setting is in the context where nurses verbally give one another important patient care reports during a change of shift. During report, the outgoing nurse discusses with the oncoming nurse the condition of each patient and any changes that have occurred to patients during the shift. Current information, such as patients’ allergies, code status, vital signs, abnormal assessment findings, lab values, last time pain medication was administered and scheduled times for tests and surgery, are all critical to a patients’ well-being. The incoming
nurse has to be able to take accurate and comprehensive point form notes based on the formal report of the outgoing nurse. I have witnessed nurses attempting to remember report information rather than taking notes, which has then resulted in adverse impacts on patient care. For example, by forgetting that a pre-operative patient was not supposed to eat or drink who then did so, resulted in a delay of their surgery; either by many hours or perhaps even rescheduling the surgery on another day to ensure patient safety. Taking accurate written notes in shift reports is a skill that is essential for patient safety.

Another benchmark is the ability to complete complex forms Pawlikowska-Smith (2000). In an academic setting, this would include, for example, a student would be able to correctly complete the forms required for annual police checks, which are mandatory in order to remain in a nursing program. And, in a work setting it is critical that a nurse is able to complete forms accurately at all times, such as, when gathering patients’ health history data during an admission interview or when completing transfer forms. For example, a patient in a long-term care facility may develop a pressure sore and require treatment at a hospital. This patient may very likely have a severe cognitive impairment from dementia and there may be no family members present to provide the much needed past medical history. The details provided in transfer forms are critical to the receiving nurses because they do not know this patient and need to know information such as baseline vital signs, any history of hypertension and diabetes, and whether the patient can walk, feed or bathe themselves. The information the sending nurse provides in this context must not only be relevant, comprehensive and complete, but also clearly and concisely articulated in writing.

Finally and most importantly, a writing benchmark of requires the ability to narrate a sequence of events to provide a detailed description and comparison Pawlikowska-Smith (2000).
For instance, at this level, students would be able to explain in a test question the difference between the four progressive stages of a pressure sore. Similarly, in a work environment, nurses would need proficient writing skills to document their assessment in the patient’s chart. If a patient developed a bed sore, then providing details such as size, drainage and pain would be required so that other nurses would be able to determine if their interventions are having an effect or not. A nurse would need to possess advanced writing skills not only because accurately described and communicated essential information is critical for safe patient care, but also because a chart is a permanent record and legal document that can be used as evidence in a court of law or in a professional conduct proceeding (CNO, 2008).

**Reading benchmark 8.** The level of proficiency expected by the CNO for reading is a minimum benchmark of 8 which is the ability to “follow multistep instructions for an established process” (Pawlikowska-Smith, 2000, p. 95). An example appropriate for an academic setting and a work environment would be the ability of both PN students and registered PNs to follow the required steps listed in a Fundamentals of Nursing textbook. For example, to properly give a bed bath to a patient there are seventeen major steps and 54 suggested steps that are to be adapted depending on the patient’s ability and physical condition.

According to Pawlikowska-Smith (2000) additional expectations of a reading benchmark of 8 would be to “read and explain a written declaration of the rights and responsibilities of a patient” (p. 95). For example, a situation that both PN students and registered PNs could encounter in the clinical setting would be their responsibility to fully inform a patient before surgery or a diagnostic test of what is involved and potential complications. As well, if a patient does not want to comply with or submit to certain treatment orders, then Practical Nurses would
be required to review the patient’s rights with the patient on the Patient Refusal of Care Form and document patient responses.

Finally, it would be anticipated that a PN could read and accurately interpret professional notes, emails and letters discussing opinions and assessments (CELBAN, 2003) related to patient care. In an academic setting, a nursing student should be able to read and accurately understand their assigned scholarly readings and any email correspondence from their professors. An example in the clinical context would be that a PN would be expected to be able to read and understand relevant documentation such as: patient health histories, physician orders and documented clinical notes. Clinical agencies inform staff through email of any updates such as policy revisions. Therefore it is imperative that Practical Nurses are able to read and accurately interpret the contents of any emails forwarded by their employer. If a policy change occurred regarding how a medication should be administered, then PNs should understand what they are reading in order to ensure they follow that change in protocol or else it could be considered a medication error.

**Speaking benchmark 8.** The competency outcomes expected for a speaking benchmark of 8 is the ability to “ask for and/or provide detailed information related to personal needs, varied daily activities and routine work requirements” (CELBAN, 2003, p. 71). An example of a situation when both PN students and registered PNs would be required to proficiently use this skill would be in speaking with a physician and asking for changes in a patient’s orders. If a patient’s condition deteriorated, then PNs would be expected to provide detailed information to the physician and would also be able to respond accurately to any probing questions the physician may ask. This is especially important if the attending physician is not available and a
PN needs to speak with the on-call physician who may not know the patient’s history and requires more information about the patient to prescribe the proper course of treatment.

Discussing options is another speaking task required of both a PN student and a registered PN. Discussing options is a task that is ongoing any time patient care is delivered. For example, the nurse may need to inform a patient of treatment options they have to decide on, such as which type of pain medication they could take or other treatment options available. In that discussion, patients typically ask many questions, and because every patient situation is considered to be individual, these are often different from one patient to the next; it is difficult to predict what a patient is going to ask. Possessing proficient speaking skills allows for the PN to provide relevant information in a manner that the patient can easily understand. In my experience, when a nurse has difficulty conveying essential information in a manner that is understandable to any specific patient, some patients become nervous and doubt the ability of the nurse or of the care they are receiving. I have also observed nurses (especially some for whom English is a second language) quote the textbook information word for word because they have memorized terms, but cannot clarify these in layman’s terms so the patient can understand what this means for him/her. This only increases the patient’s stress.

Listening benchmark 10. Listening is the ability to accurately receive and interpret messages in the communication process. “Adults spend an average of 70% of their time engaged in some sort of communication; of this an average of 45% is spent listening, compared to 30% speaking, 16% reading and 9% writing” (Adler, Rosenfeld & Proctor, 2001, para. 8). According to Skills You Need (2014), listening is very different from hearing, because hearing simply means the person heard a sound, whereas listening requires focus and interpretation of the meaning of that sound. Focusing is a critical component in regards to the skill of listening
because it means an individual is required to pay attention not only to what is being said, but how it is said, the use of language and voice, how the other individual uses his or her body, and most importantly, the intended meaning.

The level of proficiency expected for a listening benchmark of 10 is to “follow extensive multistep complex instructions” (Pawlikowska-Smith, 2000, p. 139). In an academic setting, such as a lab class, following extensive multistep instructions is needed when the instructor is demonstrating a skill (e.g., administering a medication). Often the instructor will explain the skill step-by-step as they are demonstrating the process. Most nursing lab spaces are set-up to simulate the hospital context, which means there are no desks for students to sit at and take notes. The majority of content taught in lab requires students to listen intently. An example in the clinical context would be the instructions that a physician may verbally give the PN over the telephone. For instance, as a practicing nurse, there have been numerous times in my career when I have needed to listen effectively to a doctor give me ten different orders during an emergency situation. In this context, effective listening and simultaneously accurately recording the specific instructions or steps are critical to safe and effective patient care subsequently.

**What is a Linguistically Underprepared Student in Post-Secondary Education?**

It is important to describe what a linguistically underprepared student in post-secondary education is. A linguistically underprepared student is deficient in one or more of the language skill sets (oral proficiency/speaking, oral task completion/listening, reading and writing), which are necessary to function at a college level and in the work place. Challenges with language may affect a student’s college success or completion (Gray, 2006) and quality of patient care post-graduation.
**Diversity of linguistically underprepared students.** The diversity of linguistically underprepared students becomes a concern to educators because the standard teaching approaches may not necessarily be tailored to meet the wide range of their learning needs. According to Bailey (2009) there are students who have successfully learned English linguistic skills but may have encountered academic issues because they have been out of school for many years. Bailey (2009) also suggested there are students who may not had the opportunity to learn proper English skills in high school, or who took the appropriate courses but failed to learn the material. Finally, immigrant students whose first language is not English may be linguistically underprepared.

According to Cummins (2013) there are two dimensions related to linguistic skills. The first one is Basic Interpersonal Communication Skills (BICS) which are surface skills of listening and speaking. Cummins (2013) explains this is “the language used at home and when people chat with their friends about the events of the weekend; basically receptive and expressive vocabulary” (para. 1). The second type of linguistic skill that Cummins (2013) described is Cognitive Academic Language Proficiency (CALP). CALP is the academic dimension of language that is necessary for school success. For instance, “it is used to explain cell structure, to summarize a reading selection, write a research paper and to take any academic test” (para. 2).

For students to be both socially and academically successful in a language, both types of linguistic skills, that is, BICS and CALP need to be developed. It is important for a professor not to assume that students who have demonstrated good social English skills are linguistically proficient and would be academically successful. Just because students can participate well in a social discussion does not mean they are able to transfer and apply those linguistic skills in an academic context. Academic language proficiency is not just the understanding of content area
vocabulary; it also includes the ability to use critical thinking skills such as comparing, classifying, synthesizing, evaluating, and inferring (Haynes, 2007). And, CALP is what is required for professional practice.

With such a wide range of linguistic abilities, it is quite possible that educators who teach college-level courses (especially with large class sizes) may have little or no awareness regarding the extent of language diversity within the classroom (Illich, Hagan & McCallister, 2004). When there is a lack of awareness of the linguistic abilities of all their students on the part of educators, it is almost impossible for teachers to accommodate these differences in their teaching practices. As a result, there are linguistically underprepared students who will encounter academic difficulties, such as not being able to apply content based tasks that are built around basic language and use critical thinking skills, which are required in employment, for example.

Data collected by the authors of the 2006 Study provided an example which demonstrates how student learning is impacted when teachers are not able to address the varying levels of linguistic diversity in their classrooms. The students in this example were PN students whose first language was not English; they had all attained an exceptional BICS level when conversing in social situations with their nursing professor, but demonstrated great difficulty with the technical English used in lectures and nursing materials (e.g., Nursing Theory textbook). A post-lecture classroom activity was administered to this group of students; they were asked to assess and describe the condition of a patient’s eye after a bandage was removed. The students reported the condition of the eye as “it looks yucky, it looks gross. It’s not good. It’s not ready.”

Based on the author’s description of that incident in the 2008 interim report, my own interpretation of why the students selected those descriptor words is related to their deficiency of both language and cognitive skills. With respect to language skills, the students lacked
appropriate academic vocabulary, and, with respect to cognitive skills, these students were not able to process their observation in oral language that included precise detail, they did not understand the reasons for the need to provide details, or they could not understand the significance related to comparing what is a normal finding and what is an abnormal finding. Based on the findings of their study, Duff, Wong and Early (2002), reported that “In addition to the nursing lectures that are composed of technical language requiring considerable listening comprehension, the linguistic density of medical texts and in-class discussions are onerous to the linguistically underprepared post-secondary student” (p. 408).

The PN students in the example above used terms and phrases that were representative of the BICS category of linguistic skills rather than the CALP category required in this context. It would have been appropriate for students in an auto mechanics program to use terms such as “it looks gross” when shown a post-operative wound, but it was not appropriate from PN students who had been taught the proper medical terminology to describe wounds. However, when teachers do not know the extent of how linguistically underprepared their students are, it makes it difficult to directly address the language needs of students when they appear to converse appropriately in social settings.

The Impact of Large Class Sizes on Linguistically Underprepared Students in Post-Secondary Education

Since the creation of college programs by an act of the Ontario government in 1965, the enrollment rates have progressively increased over the years. Chakma (2014) stated that, “in the 60s, it was more a small college environment, with more opportunities for students to interact with faculty. Now, class sizes are larger. This means that students are challenged to be more independent in how they learn” (para 1).
Al-Jarf (2006) also indicated it has become more challenging to assess student’s linguistic capabilities in the classroom because of the increasing number of students in classes. His research found that large student enrollments and increased class sizes were correlated with a decrease in the grade point average of linguistically underprepared students, and had a negative effect on these students’ academic achievement. The instructors in Al-Jarf’s study felt that large classes required a great deal of energy and were difficult to manage, and it was impossible to identify students with language challenges early in the semester. The ability to create rapport with individual students and pay attention to their unique learning needs was virtually impossible. Furthermore, the students in the study conducted by Al-Jarf stated they “felt lost, did not have a sense of belonging, could not concentrate, hesitate(d) to participate and felt left out in a large class” (p. 20).

The findings in the research conducted by the Communications Learning Group (2006) were consistent with Al-Jarf’s findings. They stated, “Nursing students felt strongly that class sizes for Anatomy and Physiology and Nursing Theory were too large and did not allow for individual attention and that smaller classes lead to better interaction. There were classes with more than 70 students” (p. 18).

Large class sizes were found to silence student’s voices in Mulready-Shick’s (2005) research. These researchers stated, “opportunities are limited for shared meaning-making, and thwart language development which is critically important, particularly for students with language challenges placing them at an even greater disadvantage” (p. 19).

The following example from the nursing health assessment course in the Urban College program supports the conclusion that having large classroom sizes can have a less than satisfactory impact on the learning needs of linguistically under prepared students. In that course
the ratio of students to professor was 45:1 for a two hour long class that occurred weekly in a lab setting and required students to participate in hands on-practice. In any one weekly module there were five to ten different assessment techniques that had to be demonstrated by the teacher and then practiced by the students. The instructors in this course reported (in Personal communications) that because of the large class size, students were not able to properly practice assessment techniques and as a result some did not know what they were assessing.

The following example is based on both my professional observations and the anecdotal evidence provided by one Nursing Instructor (Personal communications) regarding the impact of large class sizes on students’ language difficulties. I was told a student came to this particular instructor and told her that her assigned patient had a bit of “chick pea.” The instructor thought nothing of it because it was the lunch hour and she assumed the student was informing her of what the patient was having for lunch. It was not until the student came back five minutes later and anxiously said, “Please teacher come see patient, the chick pea getting worse, worse, worse” that the instructor realized it was “chest pain” the student was referring to. In retrospect, if the professor responsible for teaching health assessment had been assigned a smaller number of students in the practicum, she would have had a greater opportunity to converse with all of the students and could have identified the language issue in speaking with this particular student. Instead, with 45 students in a two hour class, the professor was only able to spend a few minutes with each student and was not able to identify this substantive problem. Inability to do so placed the students’ patients at serious risk.

Tinto (as cited in Horning, 2007) observed that in order to enable students to integrate well into their academic experience, and for a college to successfully retain their students, “lower class size, especially in classes related to writing that are a linchpin in overall academic success”
(p. 26) are critical. This is even more urgent when a large number of the students are linguistically challenged and when the purpose of the program is to prepare these students to provide services, such as nursing care, where effective communication skills are critical to prevent harm to recipients of these services.

**Dumbing down course content.** My review of the literature (e.g., Pitts, White & Harrison, 1999 and Duff, Wong & Early, 2002) suggested that because of the large class size, teachers may at times not be aware that they have a substantive proportion of linguistically underprepared students in their classrooms. However, even when teachers are fully aware of this reality, they may already be stretched to the limit (i.e., in terms of time and course load) or ill equipped to fully cope with this enormous challenge. Pitts et al. (1999) declared that, based on their findings, “The ultimate result for many teachers was a reluctant swing toward reactive kinds of coping strategies involving alterations in course content and grading practices” (p. 355) in order to facilitate apparent student success. This might include the “dumbing down” of the course content and grade inflation.

Some of the faculty participants in the study by Duff et al. (2002) disagreed with the approach of dumbing down curricular content and believed that at the very least an attempt should be made to offer remedial content. If some form of remediation cannot be offered, the faculty participants asked the following question: “Do you just ignore them and go on and teach what you're supposed to teach? There are some students who may not be ready for what you're supposed to be teaching” (Duff et al., 2002, p. 408). However, many of the faculty members decided that if they attempted to incorporate remedial linguistic interventions in their curriculum, they could be singling out students. According to the Basic Skills Initiative (2009) by creating a
“two-tiered” system, it could single out or perhaps marginalize these students. What is the right answer?

One teacher who was interviewed in the Pitts et al. (1999) study stated the following:

The consensus among the teachers here is that in order to teach students more, you've got to cover less. Most of us in this department are radically cutting back on the amount of material that we used to cover and trying to cover the stuff that we do in much greater detail, so they come out knowing something as opposed to a little bit of nothing. (p. 355)

A faculty participant who was interviewed in the same study by Pitts et al. (1999) said, “I still insist on teaching college level work. The quantity and the scope of the material that I cover in any class had diminished considerably over the last 5 to 6 years. I'm spending more time on less material” (p.355).

**Altering grading practices.** In addition to dumbing down the curriculum, faculty may be tempted to alter grading practices in an effort to help linguistically underprepared students. The study by Pitts et al. (1999) was conducted at an American post-secondary institution. The study was qualitative and explored the impact of academically underprepared students on faculty teaching practices in both science and art based programs. Faculty participants indicated that there were acute issues when teaching underprepared students, who were “reading very poorly (and) don't really understand what they're reading” and “not writing...at a college level” (Pitts et al., 1999, p. 348). In addition to the teaching challenges with these students, faculty also mentioned that when they reported their concerns to their administrators, they received little support. Instead of support, a majority of the faculty participants from the study by Pitts et al. (1999) stated that underprepared students affected the methods faculty used to evaluate these students. Pitts et al. (1999) stated that, “Almost all faculty indicated that they felt compelled to
lower expectations and thus modify evaluation and grading, at least to some degree, relative to their own subjective standards” (p. 352). Administrators were identified as a major source exerting pressure on the grading process. That was confirmed by a faculty member who was interviewed in the study conducted by Pitts et al. (1999) who stated:

We sometimes get pressure from administration not to fail so many students. My department head called me several times and asked me to go easier on students. He has asked me on several occasions to change a student's grade. I wouldn't do it. He got very angry with me. And, finally, he violated my academic freedom by going and changing a student's grade on his own. (p. 352-353)

According to Pitts et al. (1999) a substantive number of faculty members described how students themselves, through certain actions exerted pressure on the grading process. Faculty reported there were instances when students would confront faculty and demand what the rationale was as to why the instructor did not give them a passing grade on a test, assignment or course grade. Furthermore, the instructors reported students would then imply that their failure was the instructor's fault and not their own. Some students appeared to expect that if they did everything the teacher told them to do and attended class, the teacher should be obliged to pass them regardless of whether they really mastered the material. During the data collection process in the Pitts et al, (1999) study, one faculty member stated, "I don't give grades away and then the students get angry” (p. 357).

An example that is consistent with the findings from the research by Pitts et al. (1999) occurred during a recent semester at an Ontario college (PN Faculty Member, personal communication, December 12, 2012). Based on a report in 2013 by the college’s Student Association there had been accusations of plagiarism made against numerous students, the report
stated that a majority of them were students for whom English was a second language. A total of 176 students wrote a paper for one of their core courses and 51 students received either a failing grade because the writing and comprehension of the material was weak or a grade of zero for blatant plagiarism. The students were highly disgruntled and immediately brought their complaints to the Program Director. The Director took it upon him/herself to review each paper; all had detailed feedback and scholarly evidence attached to support the failing grades. While the Director was reviewing the papers, a large number of students collectively went to the Student Association to file a formal complaint against the professors who graded the papers. The complaint accused faculty of being prejudiced against students who had language challenges, especially those who were ESL students. Furthermore, the students then threatened to go to Human Rights if the Program Director did not improve or reverse the grades.

In the end, the Program Director overturned 39 of the grades, returned the remaining 12 papers to the professors who initially graded them and asked them to re-evaluate but this time with a “more open mind.” Out of those 12 papers, a total of 9 more grades were overturned in the favour of the students and the faculty reported they did so because they felt pressure from administration. The outcome of the 3 other papers was to not spend time re-evaluating them because even if the students were given a perfect score on the paper, they had a final failing grade for the course because of obvious plagiarism and/or completing the assignment incorrectly because they did not understand the instructions of the assignment.

One of the students who did have their grade of zero for plagiarism overturned was taking the course for the second time because the first time he/she failed it, he/she had also plagiarized. When the professor met with this student to discuss the re-evaluation decision, the student responded by saying, “Well I can’t help it because English is not my first language. You
should know that about the students in your class. We pay a lot of money to be here and sacrifice a great deal in our lives to be here, so you should do whatever you need to in order to help us pass.

When administrators cater to student demands to avoid trouble and stop supporting faculty efforts to improve the academic experience, there is a real problem. The problem is the negative impression teachers start to develop about teaching. One participant from the Pitts et al. (1999) study said, “My boss gives me little support, therefore my standards have gone down trying to help students with their language issues. I just find myself asking, what’s the point? Why should it be me that stops the students from moving forward (p. 357)?”

**Learning Communities in Higher Education (Linked Course Model for Remedial Students) by Tinto (1998)**

According to Perin (2001) students with remedial language needs can succeed academically with concurrent content-based language support. Perin (2001) also suggested that the integration of academic-occupational courses for students who require remedial support may be an effective method to acknowledge academic weaknesses because of challenges with language skills. A growing body of research indicates that alternative approaches to traditional remedial courses can be equally effective. For example, Perin (2001) stated that “academic-occupational integration is the fusion of reading, writing, English language, math and/or critical thinking skills with career-related instruction (p. 305).”

Integrated education is typically achieved in learning communities and also by aligning two or more courses. Although, there have been disadvantages identified with using academic-occupational approaches, such as the time commitment required to effectively link courses and the increased workload for faculty to coordinate their course outlines and assignments, increased
learning and student retention outweigh the drawbacks (Perin, 2001). Furthermore, Perin (2001) found that other researchers also believed there are advantages to using academic-occupational integration in higher education. These researchers support that scholarly and employment objectives should not be on different ends of the spectrum and believed them to be similar in the bigger picture of learning. For example, the learning communities for remedial student’s method that was suggested by Tinto (1998) would be appropriate to implement for remedial PN students in Ontario who are now required by the CNO to demonstrate a minimum language benchmark achievement in writing, reading, speaking and listening before they can be provincially authorized to practice. Core courses could be linked to writing, reading and speaking courses. In this model, each student would take a reading, writing or speaking course and the selection would rely upon the evaluation of each student’s needs. Tinto (2003) said that, “students would then have the opportunity to move between sections depending on their changing needs” (p. 5). Tinto suggested that students could use role playing (e.g., clinical lab applications course) for the purpose of linking it to a speech related course in order to develop or improve existing speaking skills.

**Learning communities for remedial students.** Tinto (2003) stated that “in many cases, students enter college with no more than sixth-grade level skills in reading, writing and mathematics” (p. 1) and proposed the creation of learning communities through the Linked Course Model for Remedial Students. Kellogg (as cited in Luebke, 2002) described a learning community of linked courses as:

a cohort of students with two common courses. One course is typically content-based (science, math) and the other is an application course (writing, speech). The faculty of each course may teach independently or together and coordinate syllabi and assignments
so that the classes complement each other. The Linked Courses Model provides a shared experience for students that focuses on a content-based course that is actively supported by a skills course. (p. 1)

Smith (2010) reported that learning communities assist underprepared students, particularly those who are English-language learners achieve skills required to be able to understand and complete higher education content courses.

Tinto (as cited in the 2006 Study) “has shown that collaborative learning communities improved student persistence, content mastery, and grade achievement” (p. 72). The findings from a study by Smith (2010) are consistent with Tinto’s perspective. Smith stated that “research on learning communities involving remedial education courses in particular has pointed to their success in supporting student learning involvement and retention” (p. 263).

According to Laine, Laine and Bullock (2000) when educating underprepared students, program objectives should not only focus on helping to improve their literacy skills (e.g., reading and writing) but also their critical thinking skills. “One explanation for this is that most under-prepared students were never taught how to engage in critical thinking and that this specific type of preparation failure is the major cause of their post-secondary academic failure” (2006 Study, 2006, p. 73). Tinto (2011) said that, “by asking students to construct knowledge together, learning communities seek to involve students both socially and intellectually in ways that promote cognitive development (p. 5).”

Research findings from a study conducted at Sacramento City College demonstrated the effects of learning communities on academic performance for remedial students. Tinto (2003) reported that the Sacramento City College study involved non-traditional, high-risk students in a study skills course, which focused on writing and reading skills within a program content course.
The end result indicated that experimental groups of students who participated in the study skills course in conjunction with the content course had higher grade point averages and retention rates than those who were in the control group.

**Linked courses.** Perin (2001) described linked courses are paired courses. In programs that offer linked courses, a cohort of learners will take a tandem set of courses in which the curriculum is aligned. According to Luebke (2002), the goal of implementing linked courses in higher education curriculum is to assist students to reinforce basic skills, such as language skills and improve program retention rates. Tinto (1998) reported that linked courses are becoming progressively more common in college science programs.

The obstacles and challenges that have been associated with linked course curriculum are the costs of integrating the instruction. Perin (2001) claimed that “costs can be defined in terms of time, effort, and payment necessary for professional development and instructional planning, or administrative attention to change classroom procedures and promoting integration (p. 325).” Despite the recognition that linking courses does not guarantee integration, the benefits of higher education institutions offering linked courses are that they promote a sense of collegiality among students. Perin (2001) stated that “student-centred instruction appears to benefit cognitive processes and motivation. Active involvement in learning enhances the ability to remember and apply information as needed and when learning in groups, students build more knowledge than they could when learning alone” (p. 307). As well, linked courses allow for students to have increased contact time with their professors and more opportunity to learn the content. According to Luebke (2002), the goal of providing linked course curriculum is to assist students improve their reading and writing skills and most importantly, the retention rate of first year at-risk students.
The findings from a research study done at Spokane Falls Community College demonstrate the effects of linked courses on the academic performance of high risk students. Tinto (2003) purported that in that study 70% of students who participated in the linked course cohort and 46% in the unlinked course tested at a remedial level. At the end of the semester, the students in the linked courses, which were the students in the experimental group, outperformed the students in the unlinked course (which was the control group) on the same tests.

**Summary of Chapter Two**

In Chapter Two I presented my review of the literature of current research on the topic of embedded remedial post-secondary education and its effects on academic performance and retention rates. I discussed a number of themes relevant to the topic of this study that I identified in the literature such as: language benchmarks and competency in communication skills both from an academic perspective and as health care workers; the impact of large class size and the effectiveness of embedded and linked course remediation strategies.

Based on relevant research studies, this literature review also provided an explanation as to why the theoretical frameworks of Tinto’s Student Integration Model (1975) and Learning Communities in Higher Education (Linked Course Model for Remedial Students) by Tinto (1998) were appropriate for this study. Both frameworks were described in detail using a case study example to provide support for its relevance to this research project. In addition, I introduced debates in the literature about ethical concerns and ambiguous benchmarking related to placement tests and issues - all of which are very relevant to the topic of interest that is this study.

The main findings from the literature reviewed suggest that effective remedial writing courses contributed to the academic success of those students who were assessed and classified
as being underprepared, from a communication perspective, for a post-secondary education experience. In addition to students being deemed underprepared, there were other factors identified that could affect their academic performance, that is social background predictors, such as being married, having dependent children, coming from single and no-parent families, poor at-home relationships and having poor secondary school grades. Therefore, although it is a major cause of college attrition, reduced proficiency in relation to communication skills is not the only factor involved.

In Chapter Three, I describe the research design and methodology of my study, the participants involved, as well as the tools and procedures that were used to collect, analyze and interpret the data based on the themes identified in the literature review.

Chapter Four presents and examines the findings for research questions one, two and three, while Chapter Five describes and analyzes the results for research questions four and five.

The discussion in Chapter Six focuses on conclusions and implications for practice and policy, as well as further research and theory development on the topic of embedded remediation curriculum and the relationship between student characteristics and their success in the remedial work.
Chapter Three: Research Design and Methodology

The purpose of this research study was to explore the impact of the remedial support that participating Practical Nursing (PN) students received through embedded remediation and their performance in two core nursing courses. Furthermore, this study explored the relationship between the characteristics of the student participants and their academic performance. And, finally, this study explored the academic performance of the “at risk” students who received this remedial support compared with that of their similar colleagues who did not receive it.

Research Questions

This research addressed the overall question of: How does the academic performance of students who experienced embedded remediation curriculum compare with that of their colleagues who did not receive this remediation? And, what is the relationship between participating students’ demographic profile and their performance in two courses required in the Practical Nurse Program in the study college? The specific research questions that drove this study were:

Research Question #1. What is the demographic profile of the remedial/at-risk participants compared with that of the non-remedial participants in the first semester Practical Nursing (PN) program at the study college?

Research Question #2. How does the performance of the experimental remedial participants in Cohort I compare with that of the at-risk control group in Cohort II with respect to:

a) scores achieved on the NLS/UCWS admissions/placement writing tests?

b) scores achieved on the COMPASS/Accuplacer admissions/placement listening tests?

c) the relationship between selected demographic variables and performance on the linguistic admissions/placement test?
Research Question #3. (a) How did the students in the experimental group perform in the remedial intervention as measured by final grades achieved in the Literacy Skills I remediation course, and, (b) What is the relationship between student characteristics and their performance in the Literacy Skills I course?

Research Question #4. What are the perceptions of the students who experienced the embedded remediation (i.e., the Cohort I Remedial Sub-group) regarding the impact of the embedded remediation intervention?

Research Question #5. What is the relationship between the students’ participation in the embedded remediation course (Literacy Skills I) and the overall grades achieved in (a) the Anatomy and Physiology course, (b) in the Nursing I course in the first semester, and (c) retention rates of the remedial students?

Research Design and Methodology

This study was an ex post-facto, quasi-experimental and comparative research case study. According to Simon and Goes (2013), an ex post-facto design “literally means from what is done afterwards” (p. 1). Simon and Goes (2013) further suggested that ex post-facto research begins with already established groups of participants who are diverse from one another and the investigation being conducted is considered as experimental research in reverse. Simon and Goes (2013) consider an ex post-facto design to be a supplement for true experimental research and used to “test hypotheses about cause-and-effect or correlational relationships” (p. 1). My study explored the effectiveness, after the fact, of the remedial language intervention (embedded in the Semester 1 Literacy Skills I course) on the academic performance of students who had been identified as at-risk and in need of remedial support in the PN program at Urban College, the study site. It compared the performance of the experimental group which had experienced a remedial intervention with that of a similar at-risk control group that had not experienced the
remediation. The demographic characteristics of these two groups were also compared with those of their colleagues who had been assessed as not needing any remedial intervention.

Creswell (2009) states that in an experimental design “the impact is assessed by providing a specific treatment to one group and withholding it from another and then determining how both groups scored on an outcome” (p. 12). He then describes a quasi experimental design as one where “the investigator uses control and experimental groups but does not randomly assign participants to those groups” (p. 158-159). In a true experiment, the researcher randomly assigns participants to two different groups, which allows participants an equal opportunity of being in either the experimental or control group. However, in my study, the research participants were not randomly assigned to groups (i.e., experimental and control). And, since my study was based on experimental and control group data that were collected after the fact, it was also a post-faco study. Kowalczyk (2014) indicates that ex post-facto research is “a quasi experimental study examining how an independent variable present prior to the study, affects or causes changes in a dependent variable” (para. 2). This study examined how participating in the first semester Literacy Skills course (cause/independent variable) impacted the academic performance (effect/dependent variable) of remedial first semester students (in Cohort I) in the PN program at Urban College. And, it compared the academic performance of these participants with that of another similar group of at-risk students (in Cohort II) who did not participate in the Literary Skills I remedial intervention. For these reasons, and consistent with the concepts articulated by Creswell (2009) Simon and Goes (2013) and Kowalczyk (2014) my study was a ex post-facto quasi-experimental research design.

Although the study included qualitative data related to the characteristics of the participants, it was based primarily on quantitative data to determine the strength of the effect of the first semester Literacy Skills I course on the academic performance (in the two core courses) regarding various student characteristics. Comparative analysis of the performance of the
remedial and the at-risk sub-groups, with that of the non-remedial sub-groups in each Cohort in each linked nursing course (i.e., Anatomy and Physiology and Nursing I) was also conducted. Finally, comparisons were used to determine the relationship of selected variables, and to what extent the variables impacted academic performance and attrition of all the participants. The findings were then compared to the literature for the purpose of identifying inconsistencies and gaps. And, it was a case study of this one program (PN) in one Ontario college (Urban College) that was the focus of the case study.

**Site and Participant Selection**

**Site Selection**

For the purpose of this research, I selected to study first semester PN students enrolled at one Ontario College which I refer to by the pseudonym of Urban College. This College is comprised of three campuses and all of the campuses are located in large urban settings in southern Ontario. There are also 11 training facilities affiliated with Urban College. According to Employment Ontario (2010), a training facility provides “hands-on training programs in which the skills of a trade or occupation are learned in the workplace (p. 1).”

All three campuses can be accessed by major highways and all forms of public transportation, which makes them accessible to both city residents and commuters. Urban College offers more than 135 full-time degree, diploma, certificate and apprenticeship programs. At the time of this study there were approximately 500 full-time faculty members on staff at the study college including just over 20 full-time faculty members teaching in the PN program. There were about 25,000 full-time equivalent (FTE) students, and more than 61,000 continuing education registrants. Included in the student census, were approximately 3,000 international students from about 100 countries.

Urban College was selected as the study site because there was a large number of students whose first language was not English (and potentially at-risk for that reason) and also, a
wide range of diverse and underprepared students characterizes the overall student population at Urban College. Another reason why I chose Urban College as the study site is that I am familiar with the College and its programs, which is both a strength but also a limitation. As well, it was readily accessible to me since I live in Southern Ontario.

**Remedial Intervention Program (Literacy Skills) Description**

The remedial Literacy Skills program curriculum utilized content from core courses for the purpose of developing critical thinking, study skills and problem solving abilities, and focused on the development of writing, speaking and listening skills as applied to the practice of a practical nurse.

The remedial course consisted of embedding four hours per week of remedial work over fourteen weeks each semester across the first three semesters of the PN program. At the end of the program in the third semester of the PN program, the remedial students would have participated in a total of 168 hours of embedded remediation curriculum. Students who were assessed as being remedial based on their writing and listening admission scores were assigned two hours per core course in their timetable in each semester. For the purpose of this study, the two core courses from the first semester of the program focused on Anatomy and Physiology and Nursing I.

The learning outcomes of the remedial course were structured to use content based activities. The content from the remedial course focused on the same content taught in the two selected core courses. This was done through group discussions, peer-to-peer interviews, role play, oral skills practice (e.g., end of shift report), vocabulary-building activities, reflective writing and group problem solving of case scenarios. Using the content from the core courses, activities were created by the communication professors for students to practice their basic therapeutic communication skills by participating in language building activities (e.g., interviews and role playing that required students to explain detailed instructions or processes and provide
directions). Critical listening skills were used to help identify anatomical structures (e.g., cardiovascular system) through labeling exercises.

To evaluate the effectiveness of the Literacy Skills I course on the development of writing, speaking and listening skills, students were required to complete in-class assignments (e.g., documentation practice), solve medical terminology quizzes, participate in class activities, conduct an oral interview and successfully complete multiple choice and short answer tests. The criteria for passing were that students had to achieve a grade of 60% (a C-letter grade) or better in each of the course evaluation components.

Upon successful completion of the Literacy Skills I course, the learning outcomes that the students were expected to achieve were the demonstrated ability to apply written and linguistic competencies in completing patient charts and nursing care plans. They were also expected to use and analyze verbal or non-verbal therapeutic communication within nurse, patient or family relationships.

Table 5 is an example of a regular full-time Semester 1 PN weekly schedule at Urban College. The schedule does not include the time students need to prepare for class, complete assignments, study for tests, commuting time and most importantly, the fact that students who have language challenges take longer to process information and complete their work. When comparing the curriculum and program hours described on six other PN program competitor websites in the province of Ontario, the number of courses/hours per week/semester and total clinical placement hours in Urban College PN program is substantively higher.

Table 5

*Semester I Practical Nursing Weekly Schedule at Urban College*

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 to 11 am</td>
<td>8 am to 12 pm</td>
<td>9 to 11 am</td>
<td>9 to 11 am</td>
<td>12 to 3 pm</td>
</tr>
<tr>
<td>12 to 3 pm</td>
<td>12 to 1 pm</td>
<td>9 to 11 am</td>
<td>12 to 3 pm</td>
<td></td>
</tr>
<tr>
<td>3 to 5 pm</td>
<td>2 to 4 pm</td>
<td>3 to 6 pm</td>
<td>1 to 4 pm</td>
<td></td>
</tr>
<tr>
<td>8 hours</td>
<td>6 hours</td>
<td>6 hours</td>
<td>6 hours</td>
<td>3 hours</td>
</tr>
</tbody>
</table>

**TOTAL SEMESTER 1 COURSE LOAD = 29 hours**
Participant Selection

The total number of students in the first semester of the PN program at Urban College in January 2011 was 113, this number does not include students who withdrew or received a standing deferred status. Of these, 49 students were identified as remedial based on the cut-off scores obtained by students on the pre-program language assessments tests: National Literacy Secrtrariat/Urban College Writing Score (NLS/UCWS) and the COMPASS/Accuplacer listening tests, which had to be completed by all students admitted into the program. This group was then required to take the Semester 1 Literacy Skills I remedial course. A total of 64 students from the January 2011 intake were not considered at-risk based on their pre-program language assessment tests and were not required to take remedial course. This January 2011 entry group is identified as Cohort I in this study and is considered the Experimental Cohort because of the remediation intervention experienced by the at-risk students in this Cohort.

The total number of students enrolled in the first semester of the PN program at Urban College in September 2011 was 125, this number does not include students who withdrew or received a standing deferred status. Of these, 78 students were identified as at-risk using the same criteria as those used for the January 2011 entry group, and 47 were considered non-remedial. By the time this group of students entered the program in September 2011, the embedded remediation opportunity was no longer made available to them by Urban College. The September 2011 entry group is identified as Cohort II in this study and is considered the Control Cohort since the remedial course was no longer available to the 78 students in this group who were also assessed as being at-risk based on the same criteria used for Cohort I.

Inclusion Criteria

All Practical Nursing students over the age of 18 who entered the first semester of the PN program at Urban College in the January of 2011 or in September of 2011 were invited to participate in this study and given an Information Letter (Appendix F).
Furthermore, by the time I was able to invite students to participate in my study, there had been considerable attrition from both cohorts - many for academic reasons because of high failure rates in Semester I, and some for personal reasons. For instance, only 40.8% of Cohort II students progressed from Semester I to Semester II of the program. Because of the high failure rates and the exclusion factors identified above, of the total of 261 students in these two cohorts who began the PN program (126 in Cohort I and 135 in Cohort II) the number of students identified as eligible to participate in this study was only 114 (60 in Cohort I and 54 in Cohort II). All were invited to do so.

Students from the Non-Remedial Groups in Cohorts I and II were included in the study because it was important to compare the characteristics of the non-remedial and remedial students to identify to what extent they were similar or different. Also, this allowed me to compare the final course grades in the two core courses achieved by the remedial and at-risk groups to that of the non-remedial students.

**Exclusion Criteria**

Students who completed their first semester of the PN program at the East Adult Learning Campus (EALC) or at the West Adult Learning Campus (WALC) (pseudonyms) were not invited to participate in this study. These students were admitted through an articulation agreement with the Urban City District School Board (UCDSB) and they were not included because they did not attend their first semester on the Urban College campus; they only attended classes at their satellite campuses (EALC and WALC). Students enrolled at these satellite campuses were admitted under different criteria and would have been exposed to different faculty and teaching styles. The satellite campuses also provided small group learning opportunities with a maximum of 30 students per class instead of the 120 to 150 students per class at Urban College’s main campus.
Participant Groups: Cohort I and Cohort II

The participants in this study consisted of two groups: Cohort I students admitted in January 2011 and Cohort II admitted in September 2011. Each of these cohorts was then subdivided into another two groups with one non-remedial group in each cohort, and the “remedial” sub-group in Cohort I (i.e., remedial students who had participated in remedial intervention), and the “at-risk” sub-group in Cohort II (i.e., students who were considered “at-risk” by the same criteria as those in Cohort I, but who had not had the opportunity to participate in the remedial intervention course). The two remedial and at-risk sub-groups had exactly the same learning experiences as their colleagues in their respective Cohorts in all other courses. The only intervention was the additional remedial course (Literacy Skills I) that the remedial experimental sub-group in Cohort I was required to complete.

Experimental/Remedial Group Cohort I

The Experimental Cohort consisted of 25 (11 remedial and 14 non-remedial) Practical Nursing (PN) students, and at the time of data collection, in January 2012, they were enrolled in Semester 3 of the PN program. The 11 remedial participants had been identified as at-risk at the remedial skills level based on their admission scores, on the National Literacy Secretariat (NLS with a score of less than 2), the Urban College Writing Scale (UCWS with a score below 6) and less than 89 on the listening skills (COMPASS/Accuplacer) assessments. This meant that all 11 of the the remedial sub-group of the Experimental Cohort (Cohort I) had participated in the Literacy Skills I course for four hours per week in Semester I for additional language support. The other 14 students in that Cohort were classified as not at-risk or at the non-remedial skills level, because their admission scores were greater than 3 on the National Literacy Secretariat test, greater than 7 on the Urban College Writing Scale test, and above 90 on the listening (COMPASS/Accuplacer) test. For that reason they were not required to participate in the additional remedial course.
Control/At-Risk Group Cohort II

The Control Cohort included 23 students (12 at-risk and 11 non-remedial) PN students and at the time of the data collection in January 2012, they were enrolled in Semester 2 of the PN program. None of the students in this Cohort had participated in the Literacy Skills I course because that course was no longer part of the PN curriculum. I identified two sub-groups of participating students within Cohort II: the 12 at-risk students who were designated the Control Group and the 11 non-remedial students.

The students in one sub-group in Cohort II were identified as at-risk based on the same criteria used in assessing the 11 remedial students in Cohort 1. If the Literacy Skills I course had still been available to these students, based on their admissions testing, they would have been placed automatically in that embedded remedial course. Because the Literacy Skills I course had been phased out, the students identified as being at-risk in Cohort II had no access to this remediation. However, since they were similar to the remedial sub-group in Cohort 1, based on the skills assessed, they served as a Control Group for the purposes of this study.

The other 11 participants in Cohort II were classified as the non-remedial sub-group in this Cohort because, like the non-remedial group in Cohort I, they had been assessed as not needing remedial support, based on their performance on the same entry assessment tests.

What was unexpected was that all the groups were so similar in numbers. There was no deliberate attempt to equalize the number of participants in the Cohorts or their sub-groups. This happened entirely because of the responses received which was serendipidously beneficial for comparative purposes between Cohort I and Cohort II sub-groups.

These groups were selected because in my review of the literature I found that weak language skills were substantive factors that contributed to increased attrition rates and poor academic performances in the post-secondary context. Figure 2 depicts the total number of students invited and those who participated from in each group and their sub-groups.
Figure 2. Total Population of PN Nursing Student invited and those who agreed to participate in this study.

Recruitment of Participants

This ex-post-facto case study explored the performance of these students when they were in Semester I of the program. When I began work on this study in May 2011, I soon discovered that the Literacy Skills program initiative would be eliminated from the PN program curriculum. In September 2011, I recognized that because the students from Cohort I, the Experimental
Group, would be starting their second semester of the program that fall, it be an opportunity for me to explore the effect of the embedded remediation on the academic performance and retention rates of these students and to the performance of similar students who would not experience the remediation in the same semester (Semester I) of the program. I also realized that by the time approval would be granted by the Research Ethics Boards from both the University of Toronto and Urban College, these students would have started their third semester. The third semester would be the final semester that these students would be available to me, since during their consolidation experience in Semester 4 of the program, Cohort I students would be in their clinical placements and not be on site at the campus for the majority of the time.

Table 6 depicts the total number of participants who were recruited to participate and the actual number of those who did consent to and also actively participated. There was a total of 114 students who were invited to participate in this study; 48 of these 114 opted to participate for a response rate of 42%. Of those who participated in this study, 25 were from Cohort I, designated the Experimental Group, and 23 were from Cohort II designated the Control Group. Of the 25 students in Cohort I, 11 (44%) had been assessed as at-risk and needing remediation, compared with 12 (52.2%) of the 23 students in Cohort II.

Table 6

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Potential Number of Students</th>
<th>Number of Consenting Participants</th>
<th>Students At-Risk</th>
<th>Students Not At-Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohort I</td>
<td>60</td>
<td>25</td>
<td>11 (44%)</td>
<td>14 (56%)</td>
</tr>
<tr>
<td>Cohort II</td>
<td>54</td>
<td>23</td>
<td>12 (52%)</td>
<td>11 (48%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>114</strong></td>
<td><strong>48</strong></td>
<td><strong>23 (48%)</strong></td>
<td><strong>25 (52%)</strong></td>
</tr>
</tbody>
</table>

*Student Recruitment to Participate, (n= 48)*
At the time the study was initiated, I was a professor in two courses for both cohorts. Because of this relationship I took the following steps to minimize the potential for any of the students to perceive there to be any coercion to participate. I asked a third-party research assistant (RA), who had no relationship with any of the students at any time in the past, currently nor possibly in the future, to conduct the recruitment on my behalf. It was not likely that the students would perceive this person to ever be in any position to evaluate them.

I reviewed the master schedule for the students in the Experimental and Control Cohorts in order to determine a date and time that would have the least impact on the student participants’ class time. I selected classes based on when they ended - students were either finished school for the day or they had a break in-between their classes so that they would have time to complete the study questionnaire. I requested a total of 10 minutes at the end of class from the professors teaching those classes for the RA to meet with the class. None of these classes were taught by me. As well, neither the regular professor nor I were in the classrooms for any of the two sessions that were related to my study.

Because the RA was meeting with the students at the end of class, I also contacted the Coordinator of Scheduling to determine if another class was scheduled to follow immediately afterwards in the same room. If no class was scheduled, then the room was used for the students to complete the questionnaire without disruption. If a class was scheduled immediately afterwards for lecture purposes, then I requested a room to be booked through the Coordinator of Scheduling as a back-up.

Two sessions were scheduled for each Cohort. The RA introduced the study during the first session and then, administered the questionnaire during the second session for those students
who agreed to participate. The first session was for the students to learn about the study and then if they agreed to participate, they returned a week later to the second session to complete the questionnaire. Students from Cohort I (Sections A and B) and students from (Sections A and B) of Cohort II all had the same classroom experiences and same assigned professors, the only differences were the days that the classes and clinical days were scheduled, which was due to limited classrooms and competition with other colleges for clinical experiences. Students who were assigned to Section A attend classes on site at the campus on Mondays, Thursdays and Fridays and clinical on Tuesdays and Wednesdays. Students who were assigned to Section B attend classes on site at the campus on Mondays, Tuesdays and Wednesdays and clinical on Thursdays and Fridays.

Before the first recruiting session, the RA signed a Confidentiality Agreement (Appendix G). The RA then used the Script for the Recruitment of Study Participants (Appendix H) that I had prepared as a guide to introduce the study to the students on my behalf in the first session by providing a verbal explanation regarding the purpose of the study and the RA then distributed the Information Letter (Appendix F) to the students to take home with them as a reference should they want to take the time over the next week to consider participating. The students were told when the second session would be, where it would be held and that, should they agree to participate, they would be asked to sign a consent form (Appendix I) and complete the Background and Language Questionnaires (Appendices J/K).

The second sessions occurred the following week after the recruitment sessions. The RA returned at the end of the scheduled class to review the purpose of the study, and to distribute the Background and Language Questionnaires (Appendices J/K) to those who agreed to participate. I
had reviewed with my RA the Consent Form (Appendix I) and also the questions asked on the Background and Language Questionnaires (Appendices J/K). I also provided the RA with my mobile phone number in case there were any questions the participants had that she might not be able to answer, but there was no need for the RA to call me at any time. The RA met with the Section A students from Cohort I and Cohort II and the Section B students from Cohort I and Cohort II during the same times and in the same rooms that were used as the first session to introduce the study.

To ensure students fully understood what they would be consenting to, they were invited to ask questions at that time or informed they could contact my thesis supervisor or myself if they had any questions. No students contacted either of us. The RA then distributed the Consent Form (Appendix I) and the Background and Language Questionnaires (Appendices J/K) to the students. If a student agreed to participate in the study, they were asked to sign the Consent Form (Appendix I), and return it, along with the completed questionnaire (Appendices J/K), which generally took about 10 to 15 minutes to complete - into a secure drop box located at the front of the room within one hour after the distribution of these forms. Both the consent form and completed questionnaires (in the second session), were returned by each consenting student into the collection drop box, which was placed at the front of the room beside the RA. Students were also informed in the Information Letter (Appendix F) that should they decide to withdraw during the study at any time before completion of the study, they were to notify the RA of their decision and all information collected from them would be destroyed and not included in the study findings.
There was only one RA involved with the recruitment and data collection process and she was the only one who had access to the contents of the drop box. The students were informed that should they agree to participate, the completed questionnaires would be coded by the RA before I received them for analysis and that I would not be able to connect their identity with the completed questionnaire or the academic data that would be analyzed. The RA coded all of the completed questionnaires numerically (student names were omitted but the student identification numbers and assigned code were kept so that the RA would be able to link the questionnaire responses to the academic data). The RA was the keeper of the coded lists, in a confidential and secure place, which was a locked filing cabinet belonging to the RA and neither I nor anyone else was not able to access them.

**Data Collection and Recording**

Data were collected from three sources for the purpose of triangulation: admission and placement test scores (completed by all students on entry), the completed Background and Language Questionnaires (Appendices J/K), and academic grades from Anatomy and Physiology and Nursing I course grades which were retrieved by the RA from the Banner® database.

According to Creswell (2009), the purpose of triangulation in research is to add validity to the study by connecting numerous sources, such as statistical data or the different viewpoints of participants. Patton (2002) states “triangulation strengthens a study by combining methods. This can mean using several kinds of methods or data, including using both quantitative and qualitative approaches” (p. 247). After receiving official approval from both the University of Toronto and Urban College’s Research Ethics Boards in February 2012, the data collection process began in March 2012.
Administrative consent (Appendix L) was obtained in order to obtain secondary data from the PN Academic Advisor regarding the characteristics of the students from both the Experimental and Control Groups who had withdrawn from the program, (both those who had withdrawn for academic reasons and those who had left the program voluntarily) to determine if any defining characteristics emerged.

**Admission and Placement Test Scores**

All test results from the various admission assessments; for writing (NLS/UCWS) and listening (COMPASS and ACLI for this study were obtained by the RA from Banner®, Urban College’s database that collects all student data, such as academic information, including admission and placement test scores and final course grades. The RA entered each student’s name, student identification number and scores achieved on the National Literacy Secretariat and Urban College Writing Scale tests, and on the listening tests (COMPASS and ACLI) into an Excel spreadsheet to be associated with other participant variables needed for the study. The RA coded all of the questionnaire responses (student names were omitted and only student identification numbers and assigned code were included) and then submitted the lists of students directly to an administrative support staff member who retrieved the students’ academic records. After the retrieval of the student’s academic records was completed and returned to the RA, the RA omitted all student identification numbers from the questionnaires so that only the assigned codes were listed. This process prevented me from knowing who the students were but allowed me to identify relationships among the data for individual students.

**Background and Language Questionnaire Survey**

The Background and Language Questionnaire survey was developed by me, which was adapted from the *Background and Language and Language Questionnaire Learner Profile Pilot*
Project Questionnaire with the originating author’s written permission (Appendix M). The author is referred to by the pseudonym, Evans, throughout this study. I used some of the questions from her survey tool for my Background and Language Questionnaire (Appendices J/K). The Background and Language and Language Learner Profile Pilot Project Questionnaire was created by Evans in 2006 based on her extensive literature review on this topic. Evan’s survey questions were previously reviewed and approved by an Ontario College Research Ethics Board and administered to her study participants who completed the surveys for her pilot project.

The demographic and linguistic data were collected within the Background and Language Questionnaire (Appendices J/K), which was distributed by the RA to all consenting participants. The purpose of the survey was to capture participant variables that were potentially related to performance and included age, gender, education level, academic and employment workloads, childcare responsibilities, OSSD, post-secondary education (type of credential), country of origin, age at entrance to Canada, age at entrance into the formal education system in Canada (K-12), first spoken language, language(s) spoken in the home, age first speaking English, language(s) in addition to English (reading or speaking), and language most comfortable speaking now. These were the variables I identified in the literature as impacting academic achievement.

The survey questions were designed to seek the participant’s answers to the second research question, which sought to identify the relationship between the characteristics of participating students from the Experimental Group in Cohort I and their achievement in the embedded remediation course as measured by final grades. The questionnaire consisted of 21 questions that required the participants to either fill in a short answer response to questions related to three specific areas: demographics, education and linguistic data (e.g., age, gender,
academic work load, employment status, parental responsibilities, etc.) and as well, dichotomous yes or no questions. The responses of the remedial, at-risk and non-remedial sub-groups were then compared based on their responses to the demographic, language and other background questions to determine if the two Cohorts were similar and compare the academic performance of the Cohort I experimental sub-group with that of the Cohort II control subgroup and the two non-remedial sub-groups. Figure 3 maps out the data sources.

The Background and Language Questionnaire (Appendices J/K) was a 21 question item survey, which was developed to capture the participants’ potentially related factors such as; age, gender, education level, academic and employment workloads, childcare responsibilities, residency and citizenship and first language. The students were required to reply with Yes/No options, one word answer responses (e.g., age) and selection of what applied specifically to them (e.g., gender, entrance pathway and number of courses taken in first semester). The purpose of the Background and Language Questionnaire for this study was to gather data regarding measurable traits in order to create individual demographic and linguistic profiles and explore relationships that might exist among variables. The only cost to participants was the time (about 10 to 15 minutes) involved for them to answer the survey questions.

The students who were in the Experimental Cohort completed the Background and Language Questionnaire (Appendix J) because it was specific to the former curriculum that included the Literacy Skills I course for the Remedial Group and included a section (Section B) with five qualitative questions that sought to capture the perceptions of these students who, based on their NLS/UCWS/COMPASS/ACPI admission and placement test scores, were required to take the Literacy Skills I course in Semester 1.
Figure 3. Concept Map of the Survey Questions and Data Sources
The Control Cohort (Cohort II) completed Background and Language Questionnaire (Appendix K) because it reflected the changes that were recently implemented to curriculum mapping, which was the addition of the Nursing Theory I (pseudonym) course and discontinuing the Literacy Skills course. Their questionnaire (Appendix K) did not include the additional qualitative questions that only the remedial students in the experimental group Cohort I were asked to complete.

**Academic Grades**

The two core Semester 1 courses that were selected by the communications professors who designed and implemented the Literacy Skills program were Anatomy and Physiology and Nursing I. The Anatomy and Physiology course was selected because there was a historical pattern of high failure rates (PN Faculty Member, personal communication, April 27, 2013). The communication professors believed it could be related to the content material being difficult to understand due to vocabulary and challenging medical terms. The course provided students the opportunity to practice using medical terminology and to use those words/terms to describe or provide a descriptive summary when they communicate with other health care professionals.

The Nursing I course was chosen because it had an assigned writing component, a significant communication demand of the nursing program and profession. Students would be expected to practice their writing skills through reflective journals, care plans and summary descriptions from visual analyses and simulated case studies. Writing reflections related to the role of the PN using the CNO’s professional standards (i.e., Accountability).

The benefits of the Literacy Skills program were that it helped to increase the students’ understanding of challenging curriculum, and its overall relevance to the PN program and profession, therefore improving retention of core content. As a result there was improvement in
student motivation, engagement, greater academic achievement and an improvement of retention
rates (PN Faculty Member, personal communication, April 27, 2013). The positive reviews from
faculty regarding the implementation of the Literacy Skills program support the theoretical
framework based on Tinto’s research findings. According to Tinto (2011):

The most important condition for classroom success is involvement or what is now
commonly referred to as engagement. Simply put, the more students are academically
and socially engaged with faculty, staff, and peers, especially in classroom activities, the
more likely they are to succeed in the classroom. Such engagements lead not only to
social affiliations and the social and emotional support they provide, but also to greater
involvement in learning activities and the learning they produce. Both lead to success in
the classroom. (p. 3)

Therefore, social integration (i.e., faculty and peer group interactions) can have a positive
impact on academic integration (i.e., grade performance) and overall persistence in a post-
secondary education program. The Literacy Skills I course provided an opportunity for social
integration because of increased meaningful interaction within the cohorts.

Final grades for the core nursing courses were provided to the RA by the Academic
Advisor. I used secondary data contained in Banner® and data obtained through consultation
with the Academic Advisor to verify the participants’ entrance pathway to the program (i.e.,
directly or through a bridging pathway) and status within the program to ensure that data would
not include data from students in the East Adult Learning Campus (EALC) and West Adult
Learning Campus (WALC) students who were excluded from the study. The aggregated final
grades for Anatomy and Physiology and Nursing I were calculated by me from the non-
identifiable coded list, and overall averages of each of the sub-groups (1 remedial, 1 at-risk and 2
non-remedial) were compared and then compared with the student characteristics reported on the survey.

The Academic Advisor is a senior faculty member from the PN program who has held that role since January 2010. For the purpose of this study, the Academic Advisor was involved by providing non-identifiable secondary archival data to me on the final first semester grades and pathway entrance routes of participating students into the PN program.

Student retention rates were affected due to early withdrawals from the PN program, which took place prior to the initiation of this study. Since this was an ex post-facto study, these students were excluded from the study and therefore I was not be able to capture the data of those students because they were not able to complete the Background and Language Questionnaires (Appendices J/K). Only their rationales for leaving the program were provided by the Academic Advisor, which helped contribute to the data related to the relationship between student characteristics and performance in the embedded remediation. Again in consultation with the Academic Advisor, I asked this professor to identify how many students had withdrawn early from the PN program in the Winter 2011 and Fall 2011 semesters and to indicate why they left (e.g., family issues, challenges with academic workload, personal health reasons or failing status at mid-term). By omitting the student identification number and replacing it with a code, the Academic Advisor provided the informative data. For instance, Student ABCY was admitted with Admission and Placement test scores that would have automatically placed her into the remedial/at-risk groups but she withdrew because of personal or medical issues. Only the Academic Advisor had access to the list linking the codes with the actual student identification numbers and she kept this list confidential and secure. This process prevented me from knowing who the students were who participated but because their data were consistent, it allowed me to
identify relationships among the data collected from Background and Language Questionnaire (Appendices J/K).

**Student Records**

With the written permission of the participating students (in the Consent Form; Appendix I), student data were collected from student records available through the Urban College Banner® information system. That database included all Admissions and Placement test scores as well as academic grades. The purpose for using the Admissions and Placement test scores was to determine which students were considered remedial based on scores (i.e., NLS ≤ 2/UCWS ≤ 6 and ACLI ≤ 89), that classified them as developmental/at-risk or in need of remediation, and scores above those scales categorized them as non-remedial. The scores were obtained by the RA and recorded by codes that were assigned by her when the student names and student identification number were removed from the surveys so I did not know who the students were. Table 7 identifies the sources of data collected in relation to each of the specific research questions that drove this study.

**Establishing Credibility**

**Validity**

According to Walonick (2014) “there are no statistical tests for validity. When a survey is validated, it means that the researcher has come to the opinion that the survey is measuring what it is designed to measure (p. 3).” Content validity and face validity are related; however they are much different in how they are evaluated.

**Content validity testing.** According to The College Board (2014) the purpose of content validity testing when establishing credibility of a data collection tool is to determine whether there is alignment
Table 7

**Research Questions and Sources of Data**

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Sources of Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is the demographic profile of the remedial/at-risk participants compared with that of the non-remedial participants in the first semester Practical Nursing (PN) program at the study college?</td>
<td>• Background and Language Questionnaire Survey questions: 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 and 21</td>
</tr>
</tbody>
</table>
| 2. How does the performance of the experimental remedial participants in Cohort I compare with that of the at-risk control group in Cohort II with respect to:  
  a) Scores achieved on the NLS/UCWS admissions/placement writing tests?  
  b) Scores achieved on the COMPASS/Accuplacer admissions/placement listening tests?  
  c) the relationship between selected demographic variables and performance on the linguistic admissions/placement test? | • NLS/UCWS/ACLI Admission and Placement test scores  
• Final course grades for Anatomy and Physiology and Nursing I courses  
• Background and Language Questionnaire Survey questions: 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 and 21                                                                                                                                 |
| 3. (a) How did the students in the experimental group perform in the remedial intervention as measured by final grades achieved in the intervention as measured by final grades achieved in the Literacy Skills I remediation course? and,  
(b) What is the relationship between student characteristics and their performance on the Literacy Skills I course? | • Background and Language Questionnaire Survey questions: 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 and 21  
• Literacy Skills I course                                                                                                                                 |
| 4. What are the perceptions of the students who experienced the embedded remediation (i.e., the Cohort I Remedial group) regarding the impact of the embedded remediation intervention? | • Background and Language Questionnaire Section B with five qualitative questions to examine the perceptions of the remedial group from Cohort I specifically.                                                                                                                                 |
| 5. What is the relationship between the students’ participation in the embedded remediation course (Literacy Skills I) and the overall grades achieved in (a) the Anatomy and Physiology, (b) in the Nursing I course in the first semester, and (c) retention rates of the remedial students? | • Students’ first semester grades in two required courses: Anatomy and Physiology and Nursing I  
• Final grades from Literacy Skills I course for the Cohort I Experimental Group  
• NLS/UCWS/ACLI Admission and Placement test scores                                                                                                                                 |

*Note. Legend: NLS = National Literacy Secretariat, UCWS = Urban College Writing Score and ACLI = Accuplacer*
between survey questions and the content or subject area they are intended to evaluate. The questions for the survey utilized in this study were developed from the Background and Language Questionnaire previously used in Evan’s *Profile-Based Remediation: An Innovative Approach to Language, Literacy and Learning Study*. Since I made some minor changes to Evan’s survey, I wanted to test the validity of the content of the tool for my study. Content validity was established for this study by pilot testing my data collection tool, which was the Background and Language Questionnaires (Appendices J/K) with content experts on the topic of embedded remediation and literacy challenges that occur in higher education.

Radhakrishna (2007, para. 4) states that content validity is established when “A link among the objectives of the study and their translation into the content is established.” Using the content validity testing format by Lawshe (1975) as guide, I created a Content Validity Index (CVI) tool (Appendix N), which I then gave to two subject content-experts for feedback regarding the Background and Language Questionnaire in relation to the stated research questions. The content-experts who reviewed the survey were two Professors in a Communications course in a PN program who had relevant experience that applied to this study. Their educational and professional credentials supported that they were reliable expert sources.

Lisa (pseudonym) holds a Master’s degree in Education in Second Languages from McGill University, a Bachelor of Sciences (B.Sc.) in Biological Sciences degree from the University of Toronto and a Certificate in Teaching English as a Second Language (CTESL). She has led curriculum design projects for Tin Ka Ping Secondary School in Hong Kong, Shanxi University in China, and the Scarborough Board of Education, Language Instruction for Newcomers to Canada. She taught English as a Second Language/English as a First Language (ESL/EFL) for twenty years in a wide range of contexts. As well, Lisa has worked as a
researcher analyst and language specialist of various projects involving benchmarking and assessment of language tests. She has been employed full-time as a Professor of Communications in an Ontario college for more than 12 years.

Lucia (pseudonym) graduated with an Honours Bachelor of Arts degree in English and French from York University and a Master of Arts in Education degree from Central Michigan University (CMU). Her CMU study focused on Student Perceptions of Academic Preparedness. Lucia has been a Professor of Communications in an Ontario college for more than 11 years.

Based on the feedback provided independently by each of these content experts, the Background and Language Surveys (Appendices J/K) were revised as appropriate to ensure they were relevant to the research questions of this study. Walonick (2014) stated that:

> Validity is based solely on the judgment of the researcher. When an instrument is developed, each question is scrutinized and modified until the researcher is satisfied that it is an accurate measure of the desired construct, and that there is adequate coverage of each area to be investigated. (para. 17)

These two content experts served to accomplish these goals.

**Face validity testing.** The purpose of face validity testing as suggested by Walonick (2014) is to “debug” a survey in order to remove the problem, such as wording, question ordering, and layout in order to improve the accuracy of the instrument. The National Business Research Institute (2014) stated that “face validity is a starting point to determine whether a survey appears to be a good measure or not (i.e., recalling facts) (para. 4).” Similarly, the College Board (2014) stated that face validity “refers to the extent to which a test or the questions on a test appear to measure a particular construct as viewed by laypersons, clients, examinees, test users, the public, or other stakeholders. In other words, it looks like a reasonable test for
whatever purpose it is being used” (para. 3). A measurement of face validity is a direct and obvious questionnaire item (Walonick, 2014).

For this study, face validity was established based on the fact that the items that were selected for the questionnaire were all related to participant demographics and characteristics regarding the development of English language skills. Walonick (2014) suggested that face validity measures what it appears to measure, therefore, in other words, if a research participant thinks they are completing a questionnaire enquiring about their characteristic backgrounds and language acquisition history, then that is what the survey questions are directly asking. Because the survey had been used in Evan’s study in 2006, it had been tested for content and face validity and only relatively non-substantial changes to the questions were made by me.

**Reliability**

Shuttleworth (2008) suggested that reliability occurs when other researchers are able to complete precisely the same investigations, done under the similar circumstances and produce the equivalent findings. As a result, this replication supports the initial research findings and also confirms the hypothesis. In regards to this study, all consenting participants were recruited in the same manner and were provided the same information and time to complete the questionnaires. Since the questions from the Evan’s survey were previously tested on participants with characteristic backgrounds and language challenges that were similar to the participants in this study, the questionnaire administered in this study is a reasonable test. Radhakrishna (2007) stated that “the development of a valid and reliable questionnaire is a must to reduce measurement errors” (para. 1). The credibility of the data collection tools used in my study was established as described above.
Data Analysis

All findings were recorded in databases using a Microsoft Excel 2010 spreadsheet template. I analyzed the final grades for Anatomy and Physiology and Nursing I to calculate the average grades for each of the four sub-groups and then those findings were compared with the student characteristics reported on the survey. For example, I analyzed the key characteristics reported on the questionnaire, such as the age when participants first learned to speak English, the age when they entered into Canada, primary language spoken at home, academic course load and the overall scores on the listening admission tests, to determine if there was any relationship between these variables and the grades achieved in the Anatomy and Physiology and Nursing I core courses. Chi-square tests of independence were used to compare categorical variables to determine the statistical similarity or differences of these variables among the Remedial and At-Risk participants and the non-remedial groups. Assessment performances in the Anatomy and Physiology and Nursing I final course grades among the four sub-groups (remedial, at-risk and two non-remedial) were also determined.

After the data sources were anonymized, the RA assigned different colour markers to the data of each of the four sub-groups so that I could easily identify which grades belonged to a specific sub-group without identifying who the participants were. I then calculated the aggregated average of the final grades for Anatomy and Physiology and Nursing I for each sub-group in order compare the grade point average for each sub-group and whether or not the embedded remediation had increased the performance of the Cohort I Experimental Group who participated in the Literacy Skills I course compared with the Cohort II at-risk Control Group who had not participated in the remedial course. The aggregated final grades were further analyzed to determine how many students from each of the sub-groups had been promoted to the
next semester of the program. The purpose of including the Non-Remedial students from Cohorts I and II in the study was to compare the characteristics and performance of the remedial/at-risk students with those identified as non-remedial.

I then compared the survey findings from each of the participant sub-groups; the remedial, at-risk and non-remedial sub-groups, based on their responses to the demographic, language and other background questions. Relationships between student characteristics (e.g., age range, gender, age entering Canada and age first speaking English) and their academic performance in the embedded remediation course (Literacy Skills I) were identified. Using a Microsoft Excel 2010 spreadsheet and also Microsoft Word 2010, the Background and Language Questionnaire survey data on measurable traits were tabulated to identify which specific variables would make up a language profile representative of the participants. This was based on traits such as, country of origin, age upon immigration, highest grade complete in country of origin, language spoken in the family home, what language was first learned, age English was first spoken, and what language the participant was most fluent in.

I built individual participant profiles (e.g., P1, P2, P3, etc.) according to the reported characteristics in the survey for comparison purposes and completed by inserting relevant data collected from various sources: Background and Language survey, first semester grades and admission and placement test scores (NLS/UCWS) and (COMPASS and ACLI) from the college data bank (Banner®). The following example demonstrate what the profile of a simulated participant would look like: the participant learned to speak English at age 32, entered into Canada at the age of 35, was most fluent in speaking Cantonese compared with English and enrolled in a full course workload of 9/9 Semester 1 courses. Admission and placement scores, revealed remedial listening score of 76 (Proficiency Level 2) and the simulated participant
achieved final grades of 61% in Anatomy and Physiology, 62% in Nursing I and 70% in Literacy Skills I.

The Background and Language Questionnaire (Appendix F) also included a section (Section B) with five qualitative questions to examine the perceptions of the remedial group from Cohort I only because these students were the only sub-group required to take the Literacy Skills I course in the first semester of the program. I identified and compared themes that emerged from those qualitative data.

For analysis of the quantitative data I calculated both the number and the percentage of responses and the mean final grades for Anatomy and Physiology and Nursing I. That aggregated data were further analyzed to determine if the subgroups of students were successfully promoted to the second semester of the program. Microsoft Excel 2010 spreadsheets were used to input data collected from the Background and Language survey in order to evaluate if there were any relationships between key students characteristics and the grades they achieved in Anatomy and Physiology and Nursing I courses.

**Methodological Assumptions**

Because the students in both Cohorts had been assessed by the same admissions tests, criteria and procedures on entry into the program, it was reasonable to assume that they were comparable. The student data provided to me by the College were ex post-facto as they had been collected well before my study began and represented accurately the assessment of the student’s admission profile on entry into the program and their academic performance in Anatomy and Physiology and Nursing I in Semester 1 of their program of study as recorded in Urban College’s official data base.
Participants had nothing to gain or lose by participating in the study because it did not affect their status in the program since the study was ex post facto. And, because the questions were related to recent events and sought personal information about events that occurred in their lives, such as at what age they entered into Canada and what their course workload was in the first semester of the program, it was reasonable to expect them to remember and report accurately the data that they were asked to provide. For this reason, I assumed that the data provided in the Background and Language Questionnaires (Appendices J/K) were as accurate as the students could recall.

According to Survey Methods (2011), “surveys typically provide more honest responses than other types of research methodology, especially if it is clear the answers will remain confidential (para. 6).” The participants’ responses to all of the survey questions in this study would be anticipated to be honest because the participants were informed at the recruitment session that their replies would be kept non-identifiable and confidential. The participants also participated in this study voluntarily and did so without the use of incentives.

Limitations

A limitation of this study is that prior to the recruitment process being initiated, there were a total of thirty-seven students who withdrew early (between Weeks 1 and 10) from the program during the Winter 2012 semester from Cohort I and Cohort II. Nine of these students were from Cohort I and the remaining 28 were from Cohort II. The majority of the early withdrawals were related to communication challenges, and standing deferred statuses were directly related to health, family or financial issues. Because these withdrawals occurred before the study began, none of their data (other than the reasons for withdrawal recorded at the time of their exit) could be included in the findings.
Another limitation is that there was a slight change in the writing sample rubric (UCWS). The Experimental Cohort (Cohort I) was evaluated using the rubric developed in March 2003 (Appendix A), whereas the Control Cohort (Cohort II) was assessed with the newly revised rubric that was implemented in April 2011 (Appendix B). Although there were some changes and the admission test tools were not completely identical, they were similar enough that a comparison of performance on these tests was reasonable.

An acknowledged limitation of this study is that it is a case study of only two groups of students in one PN program at one Ontario College. Creswell (2009) explained that generalizability of findings is not the purpose of case studies; rather it is to gain deep understanding of inherent phenomena that are not well understood. Furthermore, the study was based on a purposive sample of convenience rather than a random sample. While the findings are not generalizable beyond this specific case study, other colleges may find them interesting and informative as they too struggle with issues related to linguistically underprepared students especially those from who English as a second language

**Ethical Issues and Considerations**

No contacts were made or data collected until after I received the formal approval for my study from the Research Ethics Board of the University of Toronto and that of Urban College. The information letter (Appendix F) and the consent form (Appendix I) clearly articulated what was expected of participants in this study and what their rights were as research participants.

Because of my previous relationship with some of the participants, a neutral third party Research Assistant (RA) conducted the recruitment, distribution and collection of the questionnaires and anonymizing secondary data on my behalf. The RA kept all data confidential
and secure and provided only coded data from which I was not able to identify individual
students. At no time did I have access to identifiable data related to any of the study participants.

The students were informed that there were no known or expected risks associated with
this study, however, should any adverse events occur during the course of the study, I would
immediately inform my thesis supervisor and both Urban College and the University of
Toronto's Research Ethics Boards. They were assured that participation in the study was
completely voluntary.

The only cost to participants was the time (about 10 to 15 minutes) it took for them to
answer the survey questions. The students were informed that they may not benefit directly from
participating in the study but the findings would provide valuable information for curriculum
purposes

Participants were asked to deposit their signed consent form (Appendix I) along with the
completed questionnaires (Appendices J/K) into a secure drop box at the front of the classroom.
The consent form (Appendix I) was printed on non-carbon copy paper (NCR) in order to give the
students a copy of the original document with their handwritten signature. The students were
asked to submit the white copy with their questionnaire and to keep the yellow copy for their
own records. Since the questionnaires were distributed at the end of class, those students who did
not wish to participate could feel free to stay in the room or leave. The RA was the only one who
was in the room and the only one who would have access to the contents of the drop box and
returned the signed consent forms and completed questionnaires coded but linked and separately
to me.

The students were informed that the completed questionnaires would be coded and that I
would not be able to connect their identity with the questionnaire nor with the academic data that
were analyzed. Students were informed in the Information Letter (Appendix F) and in the Consent Form (Appendix I) that they had the right to decline to answer any questions or withdraw from the study at any time before the completion of the study and without explanation or penalty. They were to notify the RA of their decision and all information collected from or about their performance would be destroyed and not included in the study findings. None of the students who consented to the study withdrew and those who participated answered all of the survey questions.

The students were assured that if they consented to participate in the study, all information collected would be kept confidential and at no time would any individual be identifiable in any reports resulting from this study. Confidential hard copies of research records were securely stored in a locked filing cabinet in my office. Also, all electronic documents would be kept on a password protected computer and encrypted consistent with the University of Toronto policies. All raw data (including course grades and Admission and Placement test results) would either be shredded and/or deleted five years after the study is completed.

**Summary of Chapter Three**

Chapter Three has provided a comprehensive description of the research design and methodology used in this study. I described the research design, which was an ex post-facto quasi-experimental comparative case study. I described the site and participant selection as they related to this study. Chapter Three also described the data collection tools and methods used to collect data. The instruments and sources used to collect the data, the analyses, the methodological assumptions and limitations were identified. Finally, ethical considerations were discussed.
Chapter Four presents and analyzes the findings for research questions one, two and three, while Chapter Five presents and analyzes the results for research questions four and five.

The discussion in Chapter Six focuses on conclusions and implications for practice and policy, as well as further research and theory development on the topic of embedded remediation curriculum and the relationship between student characteristics and their success in the remedial work.
Chapter Four: Findings for Research Questions One, Two and Three

This chapter reports some of the findings of this research study which compared the characteristics and performance of an Experimental Group of Practical Nurse (PN) students who had experienced an embedded remediation initiative, with that of a group of similar students who had not. Furthermore, it explored the relationship between these students’ demographic characteristics and their academic performance. In this chapter I present the findings that answer the first three research questions related to: the profile of the participant groups; a comparison of the performance of the remedial/experimental group and their similar at-risk/control group colleagues on the admissions placement tests, and finally the performance of the Experimental Group on the Literacy Skills I remediation course. Chapter Five addresses the remaining research questions related to the Experimental Group’s perceptions of the impact of the remediation on their academic performance and finally, the relationship between selected characteristics of participating students and their overall grades achieved in two core courses, Anatomy and Physiology and Nursing I.

Profile of Participant Groups

Because this study is an ex post facto case study design, the participants in this research were all full-time Semester 2 and Semester 3 college students enrolled in the PN program at Urban College during the winter semester of 2012. When this study was initiated in May 2011, I soon discovered that the Literacy Skills program was being discontinued from the PN curriculum. In September 2011, I recognized that because the students from Cohort I, the Experimental Group would be starting their second semester of the program that fall, it would be the only occasion for me to explore the effect of embedded remediation on these students’ academic performance and retention. I then also realized that by the time approvals from the Research Ethics Boards from both the University of Toronto and Urban College were obtained,
these students would have started their third semester. The third semester would be the final semester before these students would be inaccessible because, for the majority of the time, they would not be on-site at the campus during their consolidation experience in Semester 4 of the program. The description of the students, based on the sub-groups they were assigned to, follows:

**Experimental Cohort (Cohort I)**

The students in Cohort I were admitted into the PN program in the winter semester of 2011 and included the Experimental Group since some of them (identified on admission testing as at-risk) had participated in an intervention which was an embedded remediation. For the purposes of this study, Cohort I consisted of a total of 25 consenting PN students in two sub-groups: one sub-group of 11 designated as remedial students and one sub-group of 14, assessed as non-remedial participants. The sub-group consisting of 11 remedial students had been placed into the Literacy Skills I course because their writing (NLS/UCWS) and listening (COMPASS/Accuplacer) admission test scores identified them as requiring remedial communication support. Cohort I was the last cohort to be offered a remedial communication course in the PN program. Table 8 depicts the number of students in Cohort I and their distribution in the experimental/remedial and non-remedial sub-groups.

Table 8

*Total Number of Study Participants from the Experimental Cohort I, (n=25)*

<table>
<thead>
<tr>
<th>Cohort I</th>
<th>Number</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td><strong>Experimental Cohort</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remedial/Experimental Group</td>
<td>11</td>
<td>44%</td>
</tr>
<tr>
<td>Non-Remedial Group</td>
<td>14</td>
<td>56%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>25</td>
<td>100%</td>
</tr>
</tbody>
</table>
Control Group Cohort II

Table 9 depicts the total number of participants in the Control Group in Cohort II. The students in Cohort II enrolled in Urban College’s PN program in the fall semester of 2011. They were the first class who no longer had the opportunity to participate in the embedded remediation provided previously to the experimental/remedial sub-group of Cohort I.

Cohort II consisted of 23 PN students in two sub-groups: one sub-group of 12 students who were assessed as being at-risk, based on the same assessment process that was used for the experimental/remedial sub-group in Cohort I, and a second sub-group of 11 non-remedial participants. The sub-group of 12 at-risk students in the Control Group in Cohort II had no language remediation support because the remedial program, Literacy Skills, had been phased out by the time they came into the PN program.

Table 9

<table>
<thead>
<tr>
<th>Cohort II</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control Cohort</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At-Risk/Control Group</td>
<td>12</td>
<td>52.2%</td>
</tr>
<tr>
<td>Non-Remedial Group</td>
<td>11</td>
<td>47.8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>23</td>
<td>100%</td>
</tr>
</tbody>
</table>

Findings and Analysis

The findings are now reported as they relate to the specific research questions that drove this study and interpreted in light of the themes identified in the literature review and my own professional experience. Collectively, the responses to the five specific research questions address the overall study questions which were: “How does the academic performance of
students who experienced embedded remediation curriculum compare with that of their colleagues who did not receive this remediation? And, what is the relationship between participating students’ characteristics and their performance in two courses required in the Practical Nurse Program in the study college?”

Research Question #1 asked “What is the demographic profile of the remedial/at-risk participants compared with that of the non-remedial participants in the first semester Practical Nursing (PN) program at the study college?”

In order to determine the impact of the embedded remediation, which was the intervention that was experienced by the experimental remedial sub-group in Cohort I, it was important to understand the demographic profile of all the participants in this study and how the Experimental Group was similar and different from the at-risk/control group, and the two non-remedial sub-groups (Cohort I and Cohort II). The characteristics of the remedial/experimental group was compared to that of the similar at-risk student group in Cohort II, and those of the combined remedial groups were compared with those of the combined non-remedial groups.

Age of Participants

Tinto (2012) identified age as a factor impacting student success. Tinto suggested that unlike most students who immediately transition from secondary to post-secondary education, many mature students have external obligations (i.e., family and finances) and rigid schedules. As a result, there is a greater potential for mature students to experience difficulties to find on-campus time outside of their scheduled classes to interact with faculty and their academic peers. Tinto stated that “adults are thus more likely to encounter greater problems in off-campus time to study enough to meet the minimum academic standards of the institution…the difficulties they face appear to be instrumental in their failure to complete their programs” (2012, p. 76).
question #2 of the Background and Language Questionnaire asked the participants regarding their age within proposed age ranges.

**Remedial and at-risk participants.** Most (n=5; 45.5%) of the participants in the Cohort I Remedial Group were between 25 and 34 years of age. Four of the participants (36.3%) were between 35 and 44 years of age. The remaining two participants (18.2%) were the youngest at between 18 to 24 years old.

The age distribution in the At-Risk Group in Cohort II was very similar to the Experimental Group in Cohort I in that most (n=5; 41.7%) were also between 25 and 34 years old; the second largest group (n=4; 33.3%) was between 35 and 44 years of age and the smallest number (n=3; 25%) were 18 to 24 years old.

In summary 45.5% of the Cohort I Experimental Group were between 25 and 34 years old compared with 41.7% of the Cohort II At-Risk Group. At ages 35-44 the distribution was 36.4% for Cohort I compared with 33.3% of Cohort II and 18.2% of Cohort I were 18-24 years old compared with 25% of Cohort II.

**Non-remedial participants.** The largest age group of both Cohort I and Cohort II non-remedial participants was also aged 25-34 (n=8; 57.2% of Cohort I, and n=6; 54.6% of Cohort II). While there were two participants (18.2%) in Cohort I who were between 35 and 44 years old, none of the participants in Cohort II were over 34 years old. On the other hand, five participants in both Cohorts I and II were between 18 and 24 years old (36% and 45.4% respectively).

**Comparison of remedial/at-risk and non-remedial participants by age range of participants (Survey Question #2).** The age distribution of participants are similar in the remedial/at risk Cohorts and different from the distribution of the non-remedial students in the
two cohorts. And, the age distribution in the two cohorts of non-remedial participants is also similar, and as a group they are younger than the remedial/at-risk groups.

<table>
<thead>
<tr>
<th>Age Ranges for both Cohorts by Sub-group (n=48)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohort I - Remedial (n =11)</td>
</tr>
<tr>
<td>Cohort I - Non-Remedial (n = 14)</td>
</tr>
<tr>
<td>Cohort II - At-Risk (n = 12)</td>
</tr>
<tr>
<td>Cohort II - Non-Remedial (n = 11)</td>
</tr>
<tr>
<td>18 to 24 years old</td>
</tr>
<tr>
<td>18.2%</td>
</tr>
<tr>
<td>36%</td>
</tr>
<tr>
<td>25%</td>
</tr>
<tr>
<td>45.4%</td>
</tr>
</tbody>
</table>

Note. Variation in the number of participants per sub-group.

*Figure 4.* Age ranges for both cohorts by sub-group.

Overall the remedial/at-risk participants were older than the non-remedial participants in that 36.3% and 33.3% respectively in Cohorts I and II were more than 35 years old, compared with only 7% of Cohort I non-remedial participants and none in Cohort II. Figure 4 depicts the age distribution in both Cohorts of participants by sub-group. However, the results of the chi-square test of independence were non-significant, $\chi^2(6) = 8.20, p = .224$, indicating that the age distribution in the populations of students represented by the four groups is similar.

**Age of participants as a variable compared to other literature.** According to Statistics Canada (2010), “Over 75% of post-secondary students were between 17 and 27 years of age and over 90% of them were under age 40” (para. 2). Based on the literature from the College of Nurses of Ontario (CNO, 2013) describing the age of students in Canadian PN programs who wrote the Canadian Practical Nurse Registration Exam (CPNRE) in 2013 indicated that the average age in 2013 was 31.9 years. Furthermore, the CNO (2013) stated that, “the average age
of exam writers from an Ontario program was 31.0 compared to 33.2 for exam writers from outside of Ontario” (p. 10). Since the largest number of students in all four sub-groups was 25 to 34 years old, as reported by participants, this finding is consistent with the literature from the CNO (2013).

**Gender of Participants**

Tinto has acknowledged gender as a factor in regards to student success. Tinto (2012) reported that females are more likely than males to voluntarily not complete their higher education experience and suggested the rationale for this observation was more based on social than academic reasons. Tinto (2012) stated that, “females generally, and certainly those from specific ethnic groups, are more likely than males to face external pressures which constrain their educational participation” (p. 77). However, according to Tinto (2012), males tend to persist through college unless they leave for reasons related to their academic work. Survey question #3 of the Background and Language Questionnaire asked the participants to identify their gender.

**Remedial and at-risk participants.** Not surprisingly, given the nursing profession is predominantly female (CNO, 2015) and since this was a nursing program, most of participants in both the Remedial and At-Risk Groups were female: that is, nine (81.8%) in the Experimental Group, and ten (83.3%) in the At-Risk Group identified as female. There were only two males in both of the groups, constituting only 18.2% and 16.7% of the Remedial and At-Risk Groups respectively.

**Non-remedial participants.** Similarly, females dominated both sub-groups of the non-remedial cohorts. That is, there were ten (72.4%) females in the Remedial Experimental Group, and nine (81.8%) of the participants in the Control At-Risk Group who were female. And, there were only four males in the Experimental Group, constituting only 28.6%, and two males
(18.2%) in the non-remedial groups respectively. Figure 5 depicts the distribution of participants by gender.

![Graph showing gender distribution for both cohorts by sub-group.](image)

**Gender for both Cohorts by Sub-group (n=48)**

<table>
<thead>
<tr>
<th>Sub-group</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohort I-Remedial (n=11)</td>
<td>18.2%</td>
<td>81.8%</td>
</tr>
<tr>
<td>Cohort I-Non-Remedial (n=14)</td>
<td>28.6%</td>
<td>71.4%</td>
</tr>
<tr>
<td>Cohort II-At-Risk (n=12)</td>
<td>16.7%</td>
<td>83.3%</td>
</tr>
<tr>
<td>Cohort II-Non-Remedial (n=11)</td>
<td>18.2%</td>
<td>81.8%</td>
</tr>
</tbody>
</table>

*Note: Variation in the number of participants per sub-group.*

**Figure 5.** Gender for both cohorts by sub-group.

**Comparison of remedial/at-risk and non-remedial participants by gender of participants (Survey Question #3).** In summary and as expected, the gender of participants as a whole (n=48) and in each sub-group was predominantly female. Of the 48 participants in total, 79.2% (n=38) participants were female and only 20.8% (n=10) were male. But it is interesting to note that the distribution of males in the Non-Remedial Group in Cohort I at 28.6% is much higher than the Remedial Group at 18.2%, the At-Risk Group at 16.7%, as well as the Non-Remedial Group in Cohort II at 18.2%. The distribution by gender of participants is depicted in Figure 5 by sub-groups. The results of the chi-square test of independence were non-significant, \( \chi^2(3) = 0.11, p = .991 \), indicating that the gender distribution in the populations of students represented by the four groups is similar.
**Gender compared to literature.** The gender distribution in the four sub-groups is consistent with the literature presented by the CNO (2013), which reported that the national percentage of male PN students who were educated and wrote the Canadian Practical Registered Nurse Exam (CPNRE) was 21.8% compared to an average of 20.4% for the study participants as a whole.

**Route of Entry into the Practical Nursing Program**

Survey question #4 of the Background and Language Questionnaire asked participants to select from a list of possibilities the route by which they entered into the Practical Nursing program.

**Remedial and at-risk participants.** As to the admission route of participants from the Experimental Group in Cohort I, six participants (54.5%) used the direct entry Ontario College Application Service (OCAS), two participants (18.2%) entered into the program through the Urban College’s personal support worker pathway to PN Program, and three participants (27.3%) were admitted through the pre-health science (PHS) pathway at Urban College. Of the At-Risk Group of Cohort II, four (33.3%) of the participants entered by the OCAS system; two (16.7%) entered through the personal support worker pathway to PN Program and the remaining six participants (50%) were admitted through the pre-health science route.

The admission routes for the remedial and at-risk sub-groups varied substantially in that just over half (n=6; 54.5%) of the Experimental Group in Cohort I entered directly by OCAS applications, compared with half (n=5; 50%) of the At-Risk Cohort II students who entered through the Urban College pre-health science pathway and only on-third entered through OCAS.

**Non-remedial participants.** The majority (n=10; 71.3%) of the participant from the Non-Remedial Group in Cohort I entered the PN program through OCAS; four participants
(28.6%) were admitted through the pre-health science pathway, but none entered through the personal support worker pathway to PN Program. Similar to the students in the Non-Remedial Group in Cohort I, by far the majority of those in Cohort II (n=10; 90.9%) entered the PN program through OCAS and the only other participant (9.1%) was admitted through the pre-health science program. Figure 6 depicts the data for the entry route for all four sub-groups.

**Figure 6.** Entry route into PN program for both cohorts by sub-group.

**Comparison of remedial/at-risk and non-remedial participants for route of entry into PN program (Survey Question #4).** The majority of participants from the remedial sub-group (54.5%) and both of the non-remedial groups (71.4% and 90.9% respectively) entered into the PN program directly by the OCAS route. None of the non-remedial participants entered through the personal support worker pathway, but 20% (n=5) of the 25 non-remedial students entered through the pre-health science pathways, compared with a combined 39.1% (n=9) of the students in remedial and at-risk groups. Eligibility to transfer to the PN program was based on the students having achieved at least a 3.0 GPA after two semesters in the PHS program.
However, there was a larger number of students from the general OCAS pool than normally admitted to the 4 (3%) out of 135 seats reserved for OCAS applicants. This may have been because the full target admission numbers had not been met from the other groups, which included the intake from the East Adult Learning Campus (EALC) and West Adult Learning Campus (WALC) through the Urban College District School Board (UBDSB) Articulation agreement. However, the results of the chi-square test of independence were non-significant, $\chi^2(6) = 11.03, p = .09$, indicating that the percentage of students entering the PN program through different routes is similar across the populations of students represented by the four groups in the study.

**Course Load**

Survey question #5 of the Background and Language Questionnaire asked the participants to report how many courses they took in the first semester.

**Remedial and at-risk participants.** Of the Cohort I, the Remedial Group, two participants (18.2%) reported they took six courses in Semester I, and two other participants (18.2%) enrolled in seven courses in total for that semester. Another four (36.4%) took eight courses and finally, three (27.3%) reported they enrolled in the full course load of nine courses.

Of the Cohort II At-Risk Group who were enrolled in Semester 1, six participants (58.3%) reported they took six courses in total, and two (16.7%) took seven courses. As well, another two participants (16.7%) said they registered in eight courses while only one participant (8.3%) enrolled in a full course load consisting of nine courses.

There were many differences in regards to the Semester 1 course load carried by the remedial and at-risk groups. Surprisingly, nine (81.8%) of the 11 participants from the Cohort I Experimental Group carried a course load of between seven and the maximum of nine courses.
offered in the first semester of the full time program. On the other hand, seven (58.3%) of the 12 participants in the Cohort II At-Risk Group had a reduced course load of only six courses. Only five (41.7%) of that group took between seven and nine courses compared to nine (81.8%) of the Remedial Group.

Non-remedial participants. Interestingly, more than half (n=8; 57.2%) of the non-remedial students in Cohort I took a reduced course load; three (21.4%) of the participants in the Cohort I Non-Remedial Group said that they had taken only five courses; another five participants (35.75%) reported taking six courses; one (7.1%) took seven courses and another five (35.75%) reported they took a total of eight courses. None of the non-remedial participants in Cohort I took a full course load while a student in Semester 1. As depicted in Figure 7, the majority (10 of 11) of the participants from the Non-Remedial Group in Cohort II had taken either eight or nine courses in their first semester: five (45.5%) took eight courses and another five participants (45.5%) had taken nine courses. Only one participant (9.1%) had taken six courses.

<table>
<thead>
<tr>
<th>Semester 1 Course Load for both Cohorts by Sub-group (n=48)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Course Load</td>
</tr>
<tr>
<td>Cohort I-Remedial (n =11)</td>
</tr>
<tr>
<td>Cohort I-Non-Remedial (n =14)</td>
</tr>
<tr>
<td>Cohort II-At-Risk (n =12)</td>
</tr>
<tr>
<td>Cohort II-Non-Remedial (n =11)</td>
</tr>
</tbody>
</table>

*Note. Variation in the number of participants per sub-group.*

Figure 7. Semester course load for both cohorts by sub-group.
Comparison of remedial/at-risk and non-remedial participants for Semester 1 course load (Survey Question #5).

When analyzing the non-remedial sub-groups, they too varied from one another. Six (42.9%) of the non-remedial students from Cohort I managed seven to nine courses and 91% (n=10) of the non-remedial students from Cohort II did so, compared with 81.8% (n=9) of the remedial students in Cohort 1 but only 41.7% (n=5) of the Cohort II at-risk students. Overall, the number of courses taken by the remedial/at-risk participants ranged from six to nine compared with five to nine by the non-remedial participants. The results of the chi-square test of independence were significant at the 0.05 level, $\chi^2(12) = 24.37, p = .02$, indicating that the percentage of students taking a different number of courses might vary across the populations of students represented by the four groups in the study. However, these results would not be significant at a more conservative alpha level, adjusting for the number of inferential statistical comparisons in this study.

**Semester 1 PN program course load compared to the literature.** Historically, the data reported for course load in Semester 1 was consistent with the previous semesters of Winter 2009, Fall 2009, Winter 2010 and Fall 2010. As well, the data were consistent with the entry route students used when they attempted to gain admission into the program. For example, students who entered into the PN program either through pre-health science or the PSW pathway program were able to apply for course exemptions and the majority of the exemptions were granted. Students who entered through pre-health sciences route typically received more exemptions than those from the social services worker Pathway program, which contributed to a reduced course load for some of the students. Students who have attended another post-secondary program typically apply for a transfer credit or course exemption and if they meet all
of the criteria, they will be granted the exemption. According to Mohawk College (2015), the purpose of a course exemption provides students with a credit for courses from either a related area of study (e.g., Health Sciences) or for those that are equivalent to the college they had attended. Another reason why some of the participants had a reduced course load, is that they opted to postpone registering for the General Education course they are required to take until they have progressed further into the program.

**Employment Status (Full-Time or Part-Time) While a Student in the PN Program**

Survey question #6 of the Background and Language Questionnaire asked participants if they were employed while they were a student in the program, and if so, whether full or part time.

**Remedial and at-risk participants.** Just over half (n=6; 54.5%) of the participants in the Cohort I Remedial Group said they did not work while attending school, and the remaining five (45.5%) reported that they were in fact employed while a full-time student in the PN Program. In contrast, two-thirds (n=8) of the Cohort II, At-Risk Group, reported that they did have a job while a PN student at Urban College. Only one-third (n=4) of the participants from the At-Risk Group were not employed, compared with just over half of the Remedial Group in Cohort I.

**Non-remedial participants.** Almost half (n=6; 42.8%) of the participants from the Cohort I Non-Remedial Group said they did not work outside their role as a full-time PN student at Urban College and eight participants (57.1%) reported that they had a job in addition to being a post-secondary student. Similarly, almost half (n=6; 45.5%) of the Non-Remedial Group in Cohort II reported that they also did not work while in Semester I of the PN program. Again, similar to the Non-Remedial Group participants in Cohort I, just over half (n=5; 54.5%) were
employed while full-time students in the PN program. The findings representing the employment status of the research participants from all four sub-groups are illustrated in Figure 8.

![Figure 8](image.png)

**Figure 8.** Employment status (full-time or part-time) as a student in the PN program for both cohorts by sub-group.

**Comparison of remedial/at-risk and non-remedial participants for employment status (Survey Question #6).** There was almost an equal distribution in regards to the employment status of the participants while enrolled in the PN program. More than half (66.7%) of the students in the Cohort II Remedial Group and the Non-Remedial Groups in both cohorts (57.1% and 54.5% respectively) reported that they were employed while they were students in the PN program. However, just under half (45.5%) of the participants in the Remedial Group in Cohort I were employed. The results of the chi-square test of independence were non-significant, \( \chi^2(3) = 1.07, p = .785 \), indicating that the distribution of the work status in the populations of students represented by the four groups is similar.

**Employment status compared to the literature.** Several references in my literature review reported much higher rates of employment of students than I found in this study. For
example, Davis (2012) found in his study a total of 72 percent of college undergraduates were working while studying in 2011.

**Number of Hours Worked per Week**

Survey question #7 of the Background and Language Questionnaire was a follow-up question that asked those participants who indicated that they were employed while studying to report the number of hours per week they had worked.

**Remedial and at-risk participants.** None of the participants in the Remedial Group in Cohort I reported that they worked fewer than eight hours per week. Four participants (36.4%) said they worked between eight and 14 hours per week while studying, and one participant (9.1%) reported that he/she worked between 15 and 24 hours per week. None of the participants in that group of students indicated they worked more than 24 hours per week. Similarly, all of the participants in the At-Risk Group reported were working eight or more hours per week. Six participants (50%) said they worked between eight and 14 hours per week, and two (16.5%) worked between 15 and 24 hours per week. No one in the At-Risk Group worked more than 24 hours per week.

**Non-remedial participants.** The number of hours worked per week reported by the participants from the Cohort I Non-Remedial Group were as follows: two participants (14.3%) said they worked fewer than eight hours per week; one (7.1%) participant worked between eight and 14 hours per week, and three (21.4%) worked between 15 and 24 hours per week. Of the participants from the Cohort II Non-Remedial Group just over half of the participants (n=7; 54.5%), said they worked between eight to 14 hours per week, and two (18.2%) worked between 15 to 24 hours per week. The findings representing the number of hours that the research participants from all four sub-groups worked per week are depicted in Figure 9.
Figure 9. Number of hours of work/week for both cohorts by sub-group.

Comparison of remedial/at-risk and non-remedial participants by number of hours worked per week (Survey Question #7). When comparing the remedial and at-risk groups with the non-remedial students with respect to the number of hours they work per week outside of the classroom, the majority (43.5%; n=10) responded that they worked eight to 14 hours per week, compared with slightly fewer (n=8; 32%) of the 25 non-remedial students, who also worked eight to 14 hours per week. Of some concern is the relatively large number of students who reported working 15 to 24 hours per week while attending the PN program full time: just over a quarter (25.8%) of the 23 remedial and at-risk students, and over a third (39.4%) of the 25 non-remedial students. However, the results of the chi-square test of independence were non-significant, $\chi^2(9) = 12.31, p = .197$, indicating that the percentage of students working different number of hours per week is similar across the populations of students represented by the four groups in the study.

Number of hours worked/week compared to the literature. In my review of the literature, Fang (2012) suggested that based on an American survey that was conducted after the
recession in 2008 that a college student who worked put in an average of 19 hours a week during the school year. The Urban College PN Program Review Report (2012-13), stated that “The percentage of students (overall) who report working more than 10 hours per week between the academic years of 2009-11 was 22.6%” (p. 9). This means that almost twice as many of the remedial/at-risk students in my study (43.5%) and almost one and a half times as many (32%) of the non-remedial participants worked more hours than the overall average number of students overall at Urban College between 2009 and 2011.

Parental Responsibilities while in the PN Program

Survey question #8a of the Background and Language Questionnaire if the participants had any parental responsibilities?

Remedial and at-risk participants. Almost three-quarters (n=8;72.7%) said they did not have any parental responsibilities and only three of the participants (27.3%) reported they were accountable for child care duties while they were full-time students in the PN program. Of the participants from the Cohort II, At-Risk Group, the majority of the participants (83.3%; n=10) also reported they did not have the added responsibility of caring for children while studying in the PN program. Only two (16.7%) said yes, they did have children to care for.

Non-remedial participants. The majority of the participants from the Non-Remedial Group in Cohort I, (78.6%; n=11) also reported that they did not have to care for any children and only three (21.4%) reported they had parental responsibilities. Almost as many of the Cohort II non-remedial participants as those in Cohort I, that is, eight (72.7%), of these participants reported they did not have children to care for while attending school. Three of these participants (27.3%) also said they had the added responsibility of managing child care while they were full-
time students in the PN program. Figure 10 depicts the data regarding whether or not participants had parental responsibilities while they were students in the PN program.

<table>
<thead>
<tr>
<th>Parental Responsibilities for both Cohorts by Sub-group (n=48)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
</tr>
<tr>
<td>---------------------------------</td>
</tr>
<tr>
<td>Cohort I-Remedial (n =11)</td>
</tr>
<tr>
<td>Cohort I-Non-Remedial (n =14)</td>
</tr>
<tr>
<td>Cohort II-At-Risk (n =12)</td>
</tr>
<tr>
<td>Cohort II-Non-Remedial (n =11)</td>
</tr>
</tbody>
</table>

Note. Variation in the number of participants per sub-group

Figure 10. Parental responsibilities for both cohorts by sub-group.

Comparison of remedial/at-risk and non-remedial participants for parental responsibilities (Survey Question #8a). The profiles of the four sub-groups with respect to parental responsibilities are relatively similar. More than three quarters (77.1%) of the participants overall did not have parental responsibilities, but almost a quarter (22.9%) did. The results of the chi-square test of independence were non-significant, $\chi^2(3) = 0.52, p = .915$, indicating that the percentage of students with parental responsibilities in the populations of students represented by the four groups is similar.

Parental responsibilities compared to the literature. The findings in this study regarding parental responsibility were consistent with what was reported in the literature. The Institute for Women’s Policy Research (2010) stated, “Most college students are now “non-traditional” and 27 percent of community college students have children” (para. 1). The Urban
College PN Program Review Report (2012-13), stated that “The percentage of students who report providing care for dependents for more than 10 hours per week between the academic years of 2009-11 was 24.8% compared to the rest of the programs offered at college, which was 15.39%” (p. 9).

**Number of Children**

In response to survey question #8a, participants said that they had family responsibilities while in Semester I of the PN Program, they were asked to report in question #8b how many children they were responsible for.

**Remedial and at-risk participants.** Participants in Cohort I, the Remedial Group acknowledge they had child care responsibilities; two participants (18.2%) indicated they had one child and one participant (9.1%) is responsible for three children. None of the participants in the Cohort I Remedial Group said they had more than three children. Of the participants from the Cohort II At-Risk Group, there were three participants each reporting that one (8.3%) had one child, one (8.3%) two children and one (8.3%) three children. None of the students in the Remedial Group or At-Risk Group were responsible for more than three children.

**Non-remedial participants.** Of the participants from Cohort I, the Non-Remedial Group two participants (14.3%) were responsible for one child each and one (7.1%) of the participants reported being responsible for two children. Of the Cohort II, the Non-Remedial Group, two (18.2%) indicated they had one child and only one participant (9.1%) reported there were two dependent children at home to care for. Figure 11 represents the responses received from all four sub-groups in reporting how many children they had if they answered yes to survey question #8a.
Comparison of remedial/at-risk and non-remedial participants for number of children participants are responsible for (Survey Question #8b). The distribution of children is fairly similar among the four sub-groups. When comparing the remedial and at-risk groups, four of the 23 students, (17.4%) responded they had one or two children and only one out of the 23 (4.3%) had three children. A total of four of the 25 participating non-remedial students (16%) also said they had one dependent child and two participants (8%) had two children each but there were no participants who had three or more children.

The number of children participants were responsible for compared to the literature. Other than mentioning that there were students in post-secondary education with parental responsibilities, I found no reference in the literature that provided specific numbers stating how many children they had. Based on informal discussions with students from previous and current semesters, the majority of students said they had one or two children. The most common response of students in the PN program was that they had only one child and this was often related to cultural traditions. For example, students from Western China often have only one child and continue to follow the tradition once they have immigrated to Canada. Levin
(2014) stated that, “since its inception in 1979, the one-child policy has been credited with helping foster China’s surging economy by slowing population growth” (para. 9). Information that was shared with me was that some students had one biological child but were responsible for two children due to blended families. This anecdotal evidence was consistent with the responses of the participating students in this study.

**Ages of Children**

Participants were then asked to respond to survey question #8c which asked: What is the age range of the children? For this question, the participants were asked to indicate their responses within the stated ranges for the ages of children they were responsible for.

**Remedial and at-risk participants.** In the Remedial Group in Cohort I, two (18.2% of the 11 in that group) reported they had children aged seven years and under; the children of another two (18.2%) participants were between the ages of eight and 14, and the children of one participant (9.1%) were between 15 and 21 years old. Of the Cohort II At-Risk Group, one participant (8.3%) had children aged seven or under; the children of two participants (16.7%) were between the ages of eight and 14, and one participant (8.3%) had children aged 15 to 21 years.

**Non-remedial participants.** In the Non-Remedial Group from Cohort I, two participants (14.3%) reported they had children aged zero to seven years; one participant (7.1%) had children between the ages of eight and 14, and none had children older than that. Of the participants from the Cohort II Non-Remedial Group; three (27.3%) had children aged zero to seven; one (9.1%) had children between the ages of eight and 14 but none had any children older than that. Figure 12 identifies the responses of the participants from both cohorts by sub-group.
Figure 12. Age range of participant’s children from both cohorts by sub-group.

Comparison of remedial/at-risk and non-remedial participants for age range of participants’ children (Survey Question #8c). The most common age range identified by three of the sub-groups (the remedial, at-risk and the non-remedial groups) for the age range of their children was between zero and seven years. The children of the participants from the At-Risk Group in Cohort II were older in that 16.7% were aged eight to 14 and another 8.3% were 15-21 years of age. However, there is some similarity with the age range identified by the participating students themselves in Question 2. As might be expected, five (34.8%) participants in the remedial and at-risk groups who acknowledged they were 35 to 44 years old, had the majority of older children 26.1% (n=6) who ranged in between the ages of eight and 21 years old.

The non-remedial sub-group of participants differed from the remedial and at-risk groups in age in that their children were younger: five (20%) out of the 25 non-remedial participants had children aged between seven and under.
Age range of participant’s children compared to the literature. I found no literature that provided specific numbers stating how old the children were of students who attended college. Again, based on informal dialogues with students from previous and current semesters, it seemed to me that the older the students were, the logical conclusion would be that their children would also be older.

Completion of Ontario Secondary High School Diploma (OSSD)

Survey question #9a of the Background and Language Questionnaire asked: Do you have an Ontario high school diploma?

Remedial and at-risk participants. Of the participants from the Cohort I Remedial Group, only three (27.3%) stated they had earned an OSSD; the remaining eight (72.7%) did not have an OSSD. However, of the At-Risk Cohort II participants, two-thirds (eight of the 12 in that cohort) had an OSSD; only four (33.4%) of this group did not.

Non-remedial participants. The majority of the participants from the Non-Remedial Group in Cohort I (n=12; 85.7%) reported they were successful in achieving an OSSD; only two (14.3%) said they did not graduate with an OSSD. Of the participants from the Cohort II Non-Remedial Group, a slightly smaller number that is eight of the 11 participants (72.7%) reported receiving an OSSD. The remaining three participants (27.3%) in this group indicated they did not receive an OSSD. Figure 13 illustrates the responses to survey question #9a, which sought to determine if participants from all four sub-groups did or did not graduate with an Ontario Secondary School Diploma (OSSD).
OSSD Achievement for both Cohorts by Sub-group (n=48)

<table>
<thead>
<tr>
<th>Sub-group</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohort I-Remedial (n =11)</td>
<td>27.3%</td>
<td>72.7%</td>
</tr>
<tr>
<td>Cohort I-Non-Remedial (n =14)</td>
<td>14.3%</td>
<td>85.7%</td>
</tr>
<tr>
<td>Cohort II-At-Risk (n =12)</td>
<td>33.4%</td>
<td>66.6%</td>
</tr>
<tr>
<td>Cohort II-Non-Remedial (n =11)</td>
<td>27.3%</td>
<td>72.7%</td>
</tr>
</tbody>
</table>

Note. Variation in the number of participants per sub-group.

Figure 13. OSSD achievement for both cohorts by sub-group.

Comparison of remedial/at-risk and non-remedial participants for OSSD diploma achievement (Survey Question #9a). There is a fairly equal distribution of the remedial and at-risk student responses in regards to whether they had an OSSD or not. In each cohort the students who had achieved the OSSD diploma far outnumbered those who had not. However, those numbers were lower for both the remedial and the at-risk groups with 69.6% of these two groups overall having earned an OSSD compared with 80% of the two non-remedial groups combined, and 30.4% and 20% respectively had not. This finding may also be related to the fact that more of the remedial group participants immigrated to Canada any may have had secondary school education in their country of origin but not in Canada which is why they would not have as OSSD. The results of the chi-square test of independence were non-significant, \( \chi^2(3) = 1.36, p = .714 \), indicating that the percentage of students with OSSD achievement in the populations of students represented by the four groups is similar.

OSSD diploma achievement compared to the literature. The data derived from the 2006 study reported that 44% of the remedial PN student participants in their research graduated
with an OSSD. In a more recent study from the Fall 2013 Student Characteristics Survey, the findings showed 56% of the students surveyed said they had a high school diploma. (UC Manager & UC Director, personal communication, April 29, 2014). A higher percentage of the participants in my study had earned an OSSD education.

**Level of OSSD Completed**

Survey question #9b of the Background and Language Questionnaire queried what level of OSSD participants had completed: Basic/Workplace, General/Applied or Academic/Advanced?

**Remedial and at-risk participants.** Of the three participants in the Cohort I Remedial Group who had reported earning an OSSD, one participant (9.1%) completed the Basic/Workplace level; another one (9.1%) finished the General/Applied level and only one (9.1%) completed secondary education with an Academic/Advanced diploma. In the Cohort II At-Risk Group, one participant (8.3%) also completed the Basic/Workplace level and another one (8.3%) completed at the General/Applied level. However, half (n=6) of this group completed their secondary school education with an Academic/Advanced diploma.

**Non-remedial participants.** Of the 14 participants in Cohort I, the Non-Remedial Group all but two completed the OSSD. Of these, three (21.4%) completed with a General/Applied level and almost two-thirds (n=9; 64.3%) reported they achieved an Academic/Advanced diploma. Of the 11 participants in Cohort II, the Non-Remedial Group, the majority of the group 72.7% (eight of 14) reported earning the Academic/Advanced level OSSD. Figure 14 depicts these findings.
Comparison of remedial/at-risk and non-remedial participants for OSSD level of completion (Survey Question #9b). There is a substantive difference between the sub-groups in regards to the levels of OSSD completed. Less than a third of the 23 remedial/at-risk students (n=7; 30.4%) said they had obtained the highest level of secondary education, which was an academic/advanced diploma. By comparison, more than half or 68% (n=17) of the 25 participants in the non-remedial sub-groups achieved an academic/advanced OSSD level. The results of the chi-square test of independence were significant, $\chi^2(9) = 26.93$, $p = .001$, indicating that the distribution of OSSD status was different in the populations of students represented by the four groups. Specifically, the remedial group in Cohort I had a considerably larger percentage of students who did not complete their diploma in Canada.

OSSD level of completion compared to the literature. I found no data in the literature that discussed how many students complete a specific OSSD diploma. However, based on the
data from the sub-groups regarding OSSD level achievement, it could be inferred that the non-
remedial participants born in Canada, participated in the K-12 Ontario academic experience and
applied to college through OCAS possessed an advanced OSSD level. Whereas, by contrast, the
smaller population of 30.4% from the remedial and at-risk sub-groups who achieved an
academic/advanced level were students who were either born in Canada or immigrated at some
point under the age of eighteen and completed the remainder of their education in the Ontario
school system.

Other Post-Secondary Credentials Earned

Survey question #10a of the Background and Language Questionnaire asked: Do you
hold other degrees and/or diplomas?

**Remedial and at-risk participants.** Three participants (27.3%) from the Remedial
Group in Cohort II stated they had not earned any other diplomas/degree. However, eight of
them (72.7%) said they did. Of those in the At-Risk Group of Cohort II, four of the participants
(33.3%) reported they did not possess any other degrees or diplomas besides the one they were
currently pursuing. Eight participants (66.7%) of the at-risk students stated they were successful
in previous post-secondary studies.

**Non-remedial participants.** Of the non-remedial Cohort I participants, six participants
(43%) reported they did not have an additional degree and/or diploma, but eight (57%) had
earned either a university degree and/or college diploma. Of the non-remedial participants in
Cohort II, almost two-thirds (63.4%; n=7) reported they did not have an additional degree and/or
diploma and there were a total of four participants (36.6%) who said they had received a degree
and/or diploma prior to being a student in the PN program at Urban College. Figure 15 illustrates
the responses regarding participants from all four sub-groups who had either earned or not earned other post-secondary diplomas and/or degrees.

<table>
<thead>
<tr>
<th>Other Post-Secondary Education Credentials</th>
<th>for both Cohorts by Sub-group (n=48)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Cohort I-Remedial (n=11)</td>
<td>27.3%</td>
</tr>
<tr>
<td>Cohort I-Non-Remedial (n=14)</td>
<td>14.3%</td>
</tr>
<tr>
<td>Cohort II-At-Risk (n=12)</td>
<td>33.4%</td>
</tr>
<tr>
<td>Cohort II-Non-Remedial (n=11)</td>
<td>27.3%</td>
</tr>
</tbody>
</table>

*Note: Variation in the number of participants per sub-group.*

Figure 15. Other post-secondary education achievement for both cohorts by sub-group.

Comparison of remedial/at-risk and non-remedial participants for achievement of other post-secondary credentials (Survey Question #10a). When comparing the remedial and at-risk sub-groups with the non-remedial sub-groups with respect to whether they had post-secondary education, not surprisingly, 69.6% (n=16) of the remedial/at-risk group responded that they did, compared with 80% (n=20) of the non-remedial group. The results of the chi-square test of independence were non-significant, $\chi^2(3) = 1.36$, $p = .714$, indicating that the percentage of students with other post-secondary education credentials were similar in the populations of students represented by the four groups.

Other post-secondary credentials compared to the literature. The findings in my study were somewhat higher in terms of post-secondary credential attainment than what I found in the literature. In the Fall 2013 Student Characteristics Survey, which was completed in one
Ontario college, forty-one percent of the students reported they earned another type of post-secondary education (UC Manager & UC Director, personal communication, April 29, 2014). Furthermore, data collected by the UC Administrator showed that 46% of students who were enrolled in the PN program at Urban College in 2013 said they had achieved some form of post-secondary education (personal communication, May 2014).

**Type of Other Degree or Diploma Earned**

Survey question #10b asked what type of post-secondary degree/diploma they had already earned: baccalaureate, masters, and doctoral and/or other post-secondary diploma.

**Remedial and at-risk participants.** Of the Cohort I Remedial Group, four participants (36.4%) reported they had a bachelor’s degree and five (45.5%) had another diploma as part of their post-secondary achievements. Two participants (18.1%) did not have any other postsecondary credentials. Of the Cohort II At-Risk Group, eight participants (66.7%) said that they had previously earned a postsecondary diploma. However, four participants (33.3%) did not have any other degrees and/or diplomas.

**Non-remedial participants.** Four (78.6%) of the Cohort I Non-Remedial Group participants reported they had earned a baccalaureate degree and another four had earned another type of post-secondary credential, but six (42.8%) had no postsecondary credential at all. Almost two-thirds (n=7; 63.6%) of the Cohort II Non-Remedial Group participants said they had no post-secondary credential; three (27.3%) had earned another post-secondary credential, but only one (9.1%) stated he/she had a Bachelor’s degree. Figure 16 presents these data for all four sub-groups.
Figure 16. Type of post-secondary education credentials for both cohorts by sub-group.

Comparison of remedial/at-risk and non-remedial participants for types of post-secondary education credentials (Survey Question #10b). There is a contrast in the level of post-secondary education that participating students from the remedial and at-risk sub-groups achieved compared to that of the non-remedial sub-groups. A total of 13 of the 23 remedial/at-risk participants, which is 56.5%, said they had a college diploma, compared to only 28% (n=7) of the 25 students in the non-remedial sub-groups who also said they had a post-secondary diploma. Somewhat unexpected, five (20%) of the non-remedial students and four (17.4%) of the remedial students had earned a baccalaureate degree. However, the question did not ask whether the degree was from a recognized Canadian university. It is reasonable to assume that some of the degrees may have been from foreign universities given the fairly large number of immigrant students. The results of the chi-square test of independence were non-significant, \( \chi^2 (6) = 11.34, p = .079 \), indicating that the percentage of students with different types of post-secondary education credentials were similar in the populations of students represented by the four groups.
Types of post-secondary education credentials compared to the literature. The data presented by UC Administrator are more consistent with the non-remedial sub-group since which the UC Administrator said that 25% of PN students have a college diploma from their previous education experience education (personal communication, May 2014). However, with respect to earned baccalaureate degrees the data from the remedial/at-risk and non-remedial sub-groups were consistent with the literature, in that the UC Administrator reported that 21% of PN students had a bachelor’s degree from an earlier university experience education (personal communication, May 2014).

The statistics from the two studies were consistent for the remedial and at-risk sub-groups. The higher percentage of remedial and at-risk sub-groups responding that they did have other post-secondary education could be related to the fact that many of the participants immigrated into Canada and at an older age. This could mean they may have been to college or university in their country of origin and their designation may not be equivalent to Canadian criteria. For example, based on a collective anecdotal comment from students in previous and current semesters, there seemed to be a substantive number of students who were teachers in their country of origin, but their credentials did not meet the standards in Ontario. Many of these students have family obligations and chose the PN program because the program is two years in length, and there are employment opportunities in Ontario for PN’s with an enticing salary and further educational opportunities (e.g., PN Pathway to B.Sc.N.).

Background related to Language Acquisition

In order to determine the impact of the embedded remediation, which was the intervention, experienced by the Remedial Group in Cohort I, it was important to understand the history related to language acquisition of all the participants in this study. The variables of country of origin, age at entry into Canada, language spoken in the family home, first language spoken, age they first began speaking English, language(s) spoken other than English and
language(s) other than English read were assessed to determine if and how the Remedial Group was similar or different from the At-Risk Group and the two Non-Remedial Groups in Cohort I and Cohort II. The characteristics of the participants in the Remedial Group in Cohort I were compared to that of the similar At-Risk Group in Cohort II, and those of the combined remedial/at-risk groups were compared with those of the combined non-remedial groups.

**Country of Origin**

Although peer support may provide opportunities for students to communicate with those from other cultures and potentially help them adapt to cultural changes, higher education institutions that admit large populations of immigrants have found that the main focus is academic integration not social integration as described by Tinto (1975; 1998). According to Murphy (2000), “the cost of leaving family and community behind to establish oneself in the academic community is simply too high” (p. 26) to risk spending their time socializing with their peers instead of spending of studying. Survey question #11 of the Background and Language Questionnaire asked the participants where they were you born (i.e., country of origin).

**Remedial and at-risk participants.** The largest number of participants (45.5%; n=5) of the Remedial Group in Cohort I reported that they were from Southeast Asia, the sub-region of the Philippines in particular. Of the remaining participants from the Remedial Group, one person each reported that they came from Columbia (9.1%), Hungary (9.1%), Korea (9.1%), Uganda (9.1%), Turkey (9.1%) and Zimbabwe (9.1%).

Of the Cohort II At-Risk Group 25.1% (n=3) of the participants were born in Canada, another 25.1% (n=3) in India, and one each (8.3%) were born in China, Bosnia and Herzegovina, Jamaica, the Ukraine and the United States. One of the participants did not report their country of origin.

**Non-remedial participants.** Of the fourteen participants from Cohort I, in the Non-Remedial Group eight (57.2%) were from North America and, as expected, the largest country of
origin was Canada. Southeast Asia and the sub-region of the Philippines in particular were also well represented with five (35.7%) of the participants reporting their country of origin as the Philippines and one (7.2%) was born in South America. The demographic findings indicate that the country of origin was quite different for participants in Cohort I Remedial Group compared with that of their non-remedial colleagues.

The country of origin reported for the Cohort II Non-Remedial Group was almost all North America, specifically Canada (90.9%; n=10); the one remaining participant, (9.1%) came from France. Table 10 presents the countries of origin for all four sub-groups as reported in response to Survey Question 11.

Table 10

<table>
<thead>
<tr>
<th>Country of Origin</th>
<th>Cohort I Remedial Group n=11</th>
<th>Cohort II At-Risk Group n=12</th>
<th>Cohort I Non-Remedial Group n=14</th>
<th>Cohort II Non-Remedial Group n=11</th>
</tr>
</thead>
<tbody>
<tr>
<td>#</td>
<td>%</td>
<td>#</td>
<td>%</td>
<td>#</td>
</tr>
<tr>
<td>Bosnia &amp; Herzegovina</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>3</td>
<td>25.1</td>
<td>8</td>
<td>57.1</td>
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<td>China</td>
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<td></td>
</tr>
<tr>
<td>Columbia</td>
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<td>9.1</td>
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<td></td>
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<tr>
<td>France</td>
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<td></td>
<td>1</td>
<td>9.1</td>
</tr>
<tr>
<td>Hungary</td>
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<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>3</td>
<td>25.1</td>
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<tr>
<td>Jamaica</td>
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<td>8.3</td>
<td></td>
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<td>Korea</td>
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<td>9.1</td>
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<td>45.4</td>
<td>5</td>
<td>35.7</td>
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<td>9.1</td>
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<td>United States</td>
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<td></td>
<td></td>
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<tr>
<td>Unknown</td>
<td>1</td>
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<td></td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total (n=48)</strong></td>
<td>11</td>
<td>100%</td>
<td>12</td>
<td>100%</td>
</tr>
</tbody>
</table>
Comparison of remedial/at-risk and non-remedial participants for country of origin (Survey Question #11). In total, the 48 study participants reported sixteen different countries of origin. The most common countries of origin reported were Canada and the Philippines. North America and Canada were the two specific countries of origin reported by the majority of the participants from the Non-Remedial Groups in both Cohorts I and II. However, the profile of students in the Remedial Group in Cohort I was somewhat different from that of the At-Risk Group in Cohort II. The largest number (45.5%) of the participants in the Remedial Group from Cohort I came from the Philippines, while the largest number (41.7%) of participants in the At-Risk Group of the Cohort II Control group reported Canada as their country of origin. It is then reasonable to assume more students in the At-Risk Group could have had a higher level of English language skills on entry into the program. This assumption is based on those specific participants are of Canadian origin and likely had secondary education in Canada, than did their colleagues in the Remedial Group of whom almost half came from the Philippines. Despite the fact that the language of instruction in the Philippine education system is English after the third grade, their performance in English tends to be poor. A nationwide test by the Republic of Philippines Department of Education revealed that “only 6.59 percent of fourth year high school students have a mastery of English” (Adriano, 2009, para. 4). Given the linguistic focus of the remediation initiative it is not surprising then that more than half in the remedial and at-risk groups reported their countries of origin as other than Canada.

Country of origin compared to the literature. Compared to the findings from the literature of other similar studies, the percentage of students in the PN program at Urban College who were born outside of Canada in 2006 was 72%, in 2007 it was 78%, and in 2008 it was 83% (PN Faculty Member, personal communication, May 11, 2012). The Urban College PN Program Review Report (2012-13) indicated the percentage of students in their study who identified they were born outside of Canada was 64%. The statistics from the two studies are fairly consistent
with the numbers reported by the remedial and at-risk sub-groups in this study. Although the statistic from 2012-13 was lower than both 78% and 83% from 2007 and 2008, the 64% was based on a three year average for the years 2009 to 2011.

Based on the data that were published by the Government of Canada (2012), which described the number of permanent and temporary residents related to immigration, there were a total of 257,887 who immigrated into Canada in 2012. That 257,887 figure is just slightly higher than Canada’s annual average intake of 250,000 immigrants per year. Of that 257,877, there were 33,018, which was 12.8% from the People’s Republic of China; 32,747, or 12.7% from the Philippines; 28,943 (11.2%) from India, and 8,138 (3.2%) from France. These four countries were listed in the top six out of a total of the 118 countries that contributed to Canada’s immigrant population in 2012.

Based on the demographics presented by all four sub-groups in Table 10, the data are consistent with the literature presented by the Government of Canada (2012), which reported that the Philippines, India and France were listed as the top six countries that contributed to Canada’s immigrant population in 2012. However, the remainder of the remedial and at-risk groups had a few participants who were from India, and the non-remedial participant groups had some students who were from France and El-Salvador.

**Age at Entry into Canada**

The age at entrance into Canada was an important variable to investigate in this study because age can have an impact on language learning, especially since the English language is the primary language in the Canadian education system. According to Karavasili (2014) “bilingual language acquisition can only happen during the critical period (age 2 to puberty)” (para. 1). Since many of the participants from the Remedial and At-Risk Groups entered Canada after puberty, there is the potential for both the academic and social integration (Tinto, 1975) to be impacted due to difficulties with language comprehension. Survey question #12 of the
Background and Language Questionnaire asked the participants from all four cohorts: If not born in Canada, at which age did you enter Canada?

**Remedial and at-risk participants.** Four (36.4%) of the 11 participants in the Remedial Group in Cohort I reported they entered Canada between the ages of 21 to 25 years while only a few of rest of the group reported a variety other age ranges. A quarter (n=3) of the At-Risk Group in Cohort II, also reported entering Canada between the ages of 21 and 25 and another three (25%) reported they were born in Canada. The remaining half (50%) of the group reported entering Canada at various different age ranges.

**Non-remedial participants.** Of the fourteen participants from the Non-Remedial Group in Cohort I more than half (57.2%; n=8) were born in Canada. The remaining six participants (42.8%) reported entering at various different age ranges. Ten (90.9%) of the participants from the Non-Remedial Group in Cohort II were born in Canada and only one (9.1%) was not and entered Canada at age of 26. Figure 17 presents the age of entry as reported by participants in response to Survey Question # 12.

![Figure 17. Age entered into Canada for both cohorts by sub-group.](image-url)
Comparison of remedial/at-risk and non-remedial participants for age entered into Canada (Survey Question #12). The most frequent age range on entry into Canada reported by the combined 23 remedial and at-risk students was 21 to 25 years old that is seven (30.4%). For the remainder of these sub-groups, the age ranges varied and only three participants (13%) were born in Canada and these three students were from the at-risk sub-group. Of the 25 non-remedial participants in both cohorts combined, 18 (72%) were born in Canada, and only 24% (n=7) were born outside of Canada. The results of the chi-square test of independence were significant, \( \chi^2(9) = 31.45, p < .001 \), indicating that the distribution of age the students entered into Canada/born in Canada was different in the populations of students represented by the four groups.

Age of entry into Canada compared to the literature. Based on the data published by the Government of Canada (2012), which described the ages of both permanent and temporary residents related to immigration, there was a total of 257,887 people who immigrated into Canada in 2012. Of that 257,877, there were 52,135 (20.2%) who were 14 years old or under; 32,364 (12.5%) who were between the ages of 15 and 24 years, and 129,845 (50.3%) who were between the ages of 25 and 44.

In comparison to the demographics presented by all four sub-groups in Figure 16 to the demographics at a national level, the data were not fully consistent with the data presented by the Government of Canada (2012), which indicated that the most prominent age group for the Canadian population was 25 to 44 years old. However, it was difficult to do a comparison with such the small group of participants (n=48) in this study, which took place in a post-secondary setting for the purpose of gaining employment skills and a career with that of 257,887 people who have varied reasons for immigrating to Canada.

In comparing the data presented in the 2006 study, I found the results were similar to this study. The PN population surveyed for their study showed that 30% entered Canada between the
ages of 30 and 39 compared with 35% who entered before age twenty. As well, the data presented by the UC Administrator are also more consistent with the findings in this study. The UC Administrator found that 21% of the PN students were younger than 21 years, 30% were 21 to 25 years old, 22% were 26 to 30 years old, and finally, 16% were 31 to 35 years old. Consistent comparisons are difficult because there are so many factors that influence people to attend college after they have immigrated to Canada.

Language(s) Spoken in the Family Home

The research by Mulready-Shick (2005) suggested a possible reason why immigrants find it difficult to become academically integrated into Canadian education is the lack of opportunity to practice speaking English outside of their home setting, leaving these students to feel concerned about their ability to be successful during their college experience. In relation to Tinto’s Student Integration Model (1975), there is the possibility that ESL students may assume their conversational English is not at an acceptable level, leaving them to feel uncomfortable and unable to integrate socially with their academic peers. Survey question #16 asked the students what language(s) were spoken in the family home.

Remedial and at-risk participants. Four (36.4%) of the participants in the Cohort I Remedial Group said they speak English in their homes, as well as another language; three (27.2%) spoke Tagalog, and one (9.1%) each spoke Arabic, Bisaya, Hiligaynon, Hungarian, Spanish, Turkish, Uganda and Vietnamese.

Of the participants in the At-Risk Group from Cohort II, two-thirds (n=8) reported speaking English and one-half (n=6) of the group reported speaking a variety of languages. While participants reported speaking more than two languages in the home, only one (8.3%)
each indicated they spoke Bosnian, Filipino, French, Gujarati, Hindi, Italian, Mandarin, Polish, Russian and Punjabi.

**Non-remedial participants.** Eleven (78.6%) of the Cohort I Non-Remedial Group reported they spoke English in the home; two of these each (14.3%) said they also speak Tagalog and Filipino and one (9.1%) each reported they speak Spanish in the home.

All 11 participants of the Cohort II Non-Remedial Group said they speak English in their homes. In addition, five (45.5%) reported speaking more than one language; these languages were French, Latvian, Polish and Tagalog, in addition to English. The findings representing language(s) spoken in the family home for both cohorts are shown in Table 11.

**Table 11**

*Language(s) Spoken in the Family Home for both Cohorts by Sub-group (n=48)*

<table>
<thead>
<tr>
<th>Language(s) Spoken at Home</th>
<th>Cohort I Remedial Group n=11</th>
<th>Cohort II At-Risk Group n=12</th>
<th>Cohort I Non-Remedial Group n=14</th>
<th>Cohort II Non-Remedial Group n=11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arabic</td>
<td>1</td>
<td>8</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Bisaya</td>
<td>1</td>
<td>8</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Bosnian</td>
<td>1</td>
<td>8</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>English</td>
<td>4</td>
<td>8</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Filipino</td>
<td>1</td>
<td>8</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>French</td>
<td>1</td>
<td>8</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Gujarati</td>
<td>1</td>
<td>8</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Hindi</td>
<td>1</td>
<td>8</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Hiligaynon</td>
<td>1</td>
<td>9</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Hungarian</td>
<td>1</td>
<td>9</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Italian</td>
<td>1</td>
<td>8</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Latvian</td>
<td></td>
<td></td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Mandarin</td>
<td>1</td>
<td>8</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Polish</td>
<td>1</td>
<td>8</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Punjabi</td>
<td>1</td>
<td>8</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Russian</td>
<td>1</td>
<td>8</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Spanish</td>
<td>1</td>
<td>9</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Tagalog</td>
<td>3</td>
<td>27</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Turkish</td>
<td>1</td>
<td>9</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Uganda</td>
<td>1</td>
<td>9</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Vietnamese</td>
<td>1</td>
<td>9</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

*Note. A number of participants indicated they spoke more than one language when at home.*
Comparison of remedial/at-risk and non-remedial participants for language spoken at home (Survey Question #16). Based on the data reported by the participants, just over half (n=12; 52%) of the 23 remedial and at-risk participants spoke English at home. Collectively, the participants said that, in addition to English, they spoke a total of nineteen different languages when they were at home with their families. The majority (n=22; 88%) of the non-remedial participants also indicated that English was the primary language spoken when with their family members.

Language(s) spoken in the family home compared to the literature. In comparing the findings from the 2006 study, almost half (n=25; 45.5%) of their 56 PN remedial participants said they spoke English in their family home. These findings are fairly similar with the findings of my study, which was that overall 52% of the participants spoke English at home. In another study conducted in 2005 at another Ontario college, forty-two percent of the students referenced in that the demographic survey for that study identified that English was their second language. And, of that forty-two percent, there were 37% of those participants who indicated that they spoke their native dialect (i.e., Arabic, Cantonese, Mandarin, Tagalog and Tamil) while in the home setting.

First Language Spoken

The variable of the first language spoken was essential to explore because Memmer and Worth (1991) indicated that due to difficulties with language skills, students for whom English is the second language have more difficulty with academic integration, especially during the first semester and can become easily discouraged and experience either a course or program failure. Survey question #17 of the Background and Language Questionnaire asked: What language did you first learn to speak?
**Remedial and at-risk participants.** Participants of the Remedial Group in Cohort I said they first learned to speak one of a range of different languages. Three (27.3%) first spoke Tagalog and for each of the following languages, one participant identified this as their first language: Arabic, Bisaya, Hiligaynon, Hungarian, Shona, Spanish, Uganda and Vietnamese.

Interestingly, three (25%) of the participants from the Cohort II At-Risk Group reported they spoke more than one language when they first learned to speak. Five (41.7%) first spoke English, and for each of the following languages, one participant identified the first language they learned to speak as Bosnian, Filipino, French, Gujarati, Hindi, Italian, Mandarin, Polish, Punjabi, Russian and Spanish.

**Non-remedial participants.** Of the Cohort I Non-Remedial Group, eight (57.15%) said they first spoke English; three (21.4%) spoke Tagalog; two (14.35%) spoke Filipino and one (7.1%) first learned to speak Spanish.

Of the participants in the Cohort II Non-Remedial Group eight students (72.7%) also spoke English first, two (18.2%) first spoke Latvian, and one (9.1%) each first spoke French or Italian. One participant indicated she spoke more than one language when she first learned to speak. The findings identifying the language first spoken by the participants from both cohorts are shown in Table 12.

**Comparison of remedial/at-risk and non-remedial participants for first language spoken (Survey Question #17).** Based on the data from the four sub-groups, 91.3%, that is 21 of the 23 remedial and at-risk participants said English was their second language. A total of seventeen languages were identified as first languages spoken of which Filipino was identified most frequently. In contrast, the majority (n=16; 64%) of the 25 non-remedial sub-groups indicated that English is the first language they learned to speak.
Table 12

*First Language Spoken for both Cohorts by Sub-group: Comparisons of Remedial/At-risk Students and Non-remedial Students (n=48)*

<table>
<thead>
<tr>
<th>First Language Spoken</th>
<th>Cohort I Remedial Group n=11</th>
<th>Cohort II At-Risk Group n=12</th>
<th>Cohort I Non-Remedial Group n=14</th>
<th>Cohort II Non-Remedial Group n=11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arabic</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bisaya</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bosnian</td>
<td></td>
<td>1</td>
<td>8.3</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>1</td>
<td>9.1</td>
<td>5</td>
<td>41.7</td>
</tr>
<tr>
<td>Filipino</td>
<td>1</td>
<td>8.3</td>
<td>2</td>
<td>14.35</td>
</tr>
<tr>
<td>French</td>
<td></td>
<td>1</td>
<td>8.3</td>
<td>1</td>
</tr>
<tr>
<td>Gujarati</td>
<td></td>
<td>1</td>
<td>8.3</td>
<td></td>
</tr>
<tr>
<td>Hiligaynon</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hindi</td>
<td></td>
<td>1</td>
<td>8.3</td>
<td>1</td>
</tr>
<tr>
<td>Hungarian</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italian</td>
<td></td>
<td>1</td>
<td>8.3</td>
<td></td>
</tr>
<tr>
<td>Latvian</td>
<td></td>
<td></td>
<td>2</td>
<td>18.2</td>
</tr>
<tr>
<td>Mandarin</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polish</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Punjabi</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russian</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shona</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spanish</td>
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<td>9.1</td>
<td>1</td>
<td>7.1</td>
</tr>
<tr>
<td>Tagalog</td>
<td>3</td>
<td>27.2</td>
<td>3</td>
<td>21.4</td>
</tr>
<tr>
<td>Ugandan</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vietnamese</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* A number of participants indicated they learned to first speak more than one language.

**Language first learned compared to the literature.** The 2006 study found that 34 (61.8%) of their 56 PN remedial participants also said they first learned to speak a language other than English. As well, in 2006 the number of students in the PN program at Urban College whose first language was not English was 52%, in 2007 it was 59%, and in 2008 it was 62% (UC Academic Specialist, personal communication, May 11, 2012). The findings from my study for the two Non-Remedial Groups were consistent with the findings in the 2006 study and by the
Urban College Academic Specialist. However, they were not consistent for the remedial and at-risk groups and this may be due to the small number of participants in my study.

In another study by Statistics Canada (2013), the most common language that immigrants to Canada spoke was English, which was 56.9% of a population totalling 32,481,635 persons in 2011. After, English, the five most common mother tongues identified were: for 17.5% of the population it was the Romance languages (i.e., Spanish, Italian, Portuguese); for 17.3% it was the Indo-Iranian languages (i.e., Punjabi, Urdu, Persian, Gujarati, Hindi); for 16.3% it was the Chinese languages (i.e., Cantonese, Mandarin); for 10.5% it was the Slavic languages (i.e., Polish, Russian, Ukrainian), and for 6.5% or the population it was Malayo-Polynesian languages (i.e., Tagalog, Ilocano, Malay).

Based on the demographics presented by all four sub-groups in Table 12, the data were consistent with the data presented by Statistics Canada (2012). My study identified a total of 26 of the 48 participants who said English was their mother tongue, which is 54.2%. Again, it was difficult to do a comparison with such a small group of participants (n=48) in this study compared with that of Canada’s total population of 32,481,635. However, it is important to note that of the five most common mother tongue languages identified in the Statistics Canada Report, many were also identified as the first languages learned by the participants in this study.

Age First Began Speaking English

The variable of the age when the participants first began to speak English was important to investigate because the literature reports that the younger a person is, the easier it is for them to speak English fluently. Speaking and comprehending English in a confident manner would be a benefit to helping students to integrate both academically and socially, which are the two central components to Tinto’s Student Integration Model (1975). According to Wong Fillmore
(1991) despite the increased chance they may lose their ethnic language, the younger a child is
taught English, the less complicated it is for them to “become linguistically assimilated into the
English-speaking world of the school and society” (p. 324). Survey question #18 asked
participants at what age did they begin to speak English.

**Remedial and at-risk participants.** Somewhat unexpectedly, most (n=8; 72.7%) of the
participants of the Cohort I Remedial Group were between 6 and 10 years of age; three were six,
three were seven, and two were 10 years old when they first learned to speak English. One of
the participants was 13, and one was 24 years old.

Of the Cohort II At-Risk Group, five (41.7%) of the participants indicated they were five or
under when they first learned to speak English; three (25%) were one year old, one was two
and the other one was three. Of the two participants who were in the age range of six to ten
years, one was six and the other was seven years old. One participant was twenty years old, when
he/she learned to speak English; two were between 21 and 25 years of age, one (8.3%) was 22
years old and the other participant was 23. Another participant was 26 years old and the oldest
was 38 years old he/she learned to speak English.

**Non-remedial participants.** Seven of the 14 participants from the Cohort I Non-
Remedial Group identified that they were one year old and one participant (7.1%) was four years
old when she first learned to speak English; two (14.3%) were seven years old; three were 16 and
one was 18 years old. None were older than that.

The majority (n=10; 90.9%) of the Non-Remedial Group from Cohort II reported that
they learned to speak English between zero and five years of age: one was one year old; eight
participants were two, and one was four years old. The oldest was one participant who was 18
years old. Figure 18 presents the age of entry as reported by participants in response to Survey Question # 18.

![Age Began Speaking English for both Cohorts by Sub-group (n=48)](image)

**Note.** Variation in the number of participants per sub-group.

**Figure 18.** Age speaking first language for both cohorts by sub-groups.

**Comparison of remedial/at-risk and non-remedial participants for age speaking first language (Survey Question #18).** The age at which the remedial and at-risk participants began to speak English varied a great deal. The ages ranged from as young as one to as old as twenty-four years of age; the average age for this group of 23 participants was 10.3 years. The most common ages identified by this sub-group were ages six and seven, which is 38.8% (n=8) of the group. A possible reason for the prevalence of these two ages is that they may have learned to speak English as a second language when they entered elementary school in their country of origin.

The non-remedial sub-groups also reported a variety of ages when they learned to speak English. Their ages ranged from as young as one year to as old as age thirty-eight, with an
average age of 5.2 years among the 25 participants in this group. The age most frequently identified by this sub-group was ages one and two, which is 64% (n=16) of the group. The reason why these two ages were the most frequent reported by this sub-group relates back to Question 17 where English was identified as the first language spoken by the same number (n=16) of participants. In conclusion, the non-remedial participants learned English at a much earlier age at an average age of 5.2 years compared with the average age of 10.3 years of the remedial/at-risk students which was most frequently ages six and seven.

**Age speaking first language compared to the literature.** The 2006 study that was based on 56 PN remedial students found that the ages when they first spoke a language ranged from as young as one year old to as old as age forty-one and the average age of that group of 55 participants was 11.2 years old. The most common age identified in that group was age five (n=7). There were some consistencies between the findings from my study and that of the 2006 study. The youngest age for all of the sub-groups in this study was also one year old but the average age for the remedial and at-risk group was slightly lower at 10.3 years of age compared with 11.2 years in the 2006 study.

**Most Fluent or Comfortable Language Spoken**

Asking participants which language they were most fluent in or comfortable speaking was important to examine in this study because students who are not fluent in English are at risk of experiencing academic problems. Guhde (2003) reported that especially in nursing programs English fluency is a standard requirement to provide safe patient care. Students who have difficulty speaking English typically report more issues in clinical courses than do students who are fluent in English. “Nursing is highly dependent on accurate verbal communication, since
much of the information and many orders are passed on verbally,” stated Guhde (2003, para. 3). Survey question #19 asked participants about the language they were currently most fluent in or comfortable speaking.

**Remedial and at-risk participants.** Of the participants in the Cohort I Remedial Group eight (72.7%) identified English as their most fluent language, while four (36.3%) identified Tagalog. For each of the following languages, one person reported they were fluent in it: Bisaya, Hiligaynon, Spanish, Uganda and Vietnamese, and seven (63.6%) in this group indicated they were fluent in more than one language.

Similarly, nine (75%) of the At-Risk Group from Cohort II identified English as the language they were most fluent in or comfortable with speaking. Only one participant reported she was most comfortable communicating in Bosnian, Eight (66.7%) of these at-risk participants also indicated they were fluent in more than one language.

**Non-remedial participants.** Eleven (78.6%) of the participants from the Non-Remedial Group in Cohort I reported they were most fluent in and comfortable with speaking English, and only one person each identified one of the following languages: Spanish, Italian, Filipino and Tagalog, and only one person in this Non-Remedial Group indicated he/she was fluent in more than one language.

All of the participants from the Cohort II Non-Remedial Group reported English as their most fluent language. Only two people stated they were fluent in two languages: one in French and the other in Tagalog. The findings regarding the language(s) that participants from all four sub-groups were most fluent in/comfortable with speaking are depicted in Table 13.
Table 13

*Most Fluent Language(s) for both Cohorts by Sub-group (n=48)*

<table>
<thead>
<tr>
<th>Most Fluent Language(s)</th>
<th>Cohort I Remedial Group n=11</th>
<th>Cohort II At-Risk Group n=12</th>
<th>Cohort I Non-Remedial Group n=14</th>
<th>Cohort II Non-Remedial Group n=11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language(s)</td>
<td>#</td>
<td>%</td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>• Bisaya</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Bosnian</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Catalan</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Croatian</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• English</td>
<td>8</td>
<td>72.7</td>
<td>9</td>
<td>75</td>
</tr>
<tr>
<td>• Filipino</td>
<td></td>
<td></td>
<td>1</td>
<td>7.1</td>
</tr>
<tr>
<td>• French</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Gujarati</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Hiligaynon</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Hindi</td>
<td></td>
<td></td>
<td>1</td>
<td>8.3</td>
</tr>
<tr>
<td>• Hungarian</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Italian</td>
<td></td>
<td></td>
<td>1</td>
<td>7.1</td>
</tr>
<tr>
<td>• Latvian</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>• Mandarin</td>
<td>1</td>
<td>8.3</td>
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<td></td>
</tr>
<tr>
<td>• Polish</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Punjabi</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Russian</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Serbian</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Spanish</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Tagalog</td>
<td>4</td>
<td>36.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Uganda</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Vietnamese</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* A number of participants indicated they spoke more than one language when at home.

Comparison of remedial/at-risk and non-remedial participants for language(s) the participants were most fluent in or comfortable speaking (Survey Question #19). Seventeen (73.9%) of the 23 remedial and at-risk participants said English was their most fluent language. As a group they reported being fluent in a total of eighteen languages in addition to English. Of the remedial participants, only three (27.3%) said they were primarily fluent in English and one (9.1%) participant stated he/she was fluent only in his/her first language. However, seven
(63.6%) of the remedial participants were fluent in speaking another language besides English. By comparison, half (n=6) of the At-Risk Group said they were fluent primarily in English; three of them (25%) were fluent only in their first language, and the remaining three (25%) were fluent in speaking both English and another language.

The majority (n=22; 88%) of the 25 non-remedial participants indicated that English was their most fluent language; nineteen (76%) of these said they were fluent primarily in English. In addition to English, this group of non-remedial participants was fluent in a total of six languages. Four (16%) of the non-remedial participants were fluent only in their first language and the remaining two (8%) participants were fluent speaking both English and another language.

**Language(s) participants are most fluent with/comfortable speaking compared to the literature.** In the 2006 study based on the 56 PN students from their remedial group, there were 32.7% (n=18) of the participants who said they were fluent primarily in English and seven 12.7% (n=7) participants were fluent only in their first language. Forty (72.7%) of these students were fluent speaking both English and another language. Other than English; participants in that group were also fluent in a total of twenty-nine languages.

The findings regarding the language variables of the remedial and at-risk sub-groups in my study were consistent with those of the 2006 study, in that a substantively higher percentage of the remedial groups in both the 2006 and my study were fluent in speaking both English and another language, and a much lower percentage of the participants said they were fluent primarily in English. When the non-remedial sub-groups were analyzed, the opposite results were found compared to the remedial and at-risk sub-groups from both my study and the 2006 study. A larger percentage of participants in the non-remedial sub-groups reported they were
primarily fluent in English, and a smaller percentage of them said they were fluent in another language other than English.

**Language(s) Spoken Other than English in the Canadian Population**

According to Statistics Canada (2012), the 2011 Census Population, indicated that the linguistic diversity of Canada is represented by 200 languages and 57.8% of the population reported that English was their first language. The Statistics Canada (2012) report stated that “in 2006, 14.2% did so (nearly 4.5 million persons) and in 2011, 17.5% of the Canadian population, or 5.8 million persons, reported speaking at least two languages at home” (p. 3). The top five spoken languages other than English across Canada were: Chinese (Mandarin and Cantonese), Punjabi, German, French and Tagalog. Statistics Canada (2012) reported that, “the number of persons who reported speaking Tagalog, a Philippine-based language, most often at home increased the most (+64%) between 2006 and 2011” (p. 3).

Asking participants in this study which language(s) they spoke other than English was important to consider if there was a difference in grade point averages between college students who spoke one language and those who are multilingual. For instance, in a study conducted by Kovalik (2012) who interviewed 305 students at a Northeast college in the United States, “71% of multilingual students had a grade point average between 2.67 and 3.66, and 28% of students who spoke one language had a grade point average between 3.76 and 4.0” (p. 142).

Survey question #20 of the Background and Language survey asked: What language(s) do you speak (other than English)?

**Remedial and at-risk participants.** In Cohort I, the Remedial Group the most frequently spoken language (other than English) reported by four (36.3%) of the participants was Tagalog. For each of the following languages, one participant (9.1%) reported speaking it: Arabic, Bisaya,
German, Hiligaynon, Hungarian, Ilokano, Ilonggo, Italian, Shona, Spanish, Thai, and Uganda.
The total percentages for Cohort I, the Remedial Group exceeded 100% because five (45.5%) participants indicated they were fluent in another language other than English.

In Cohort II, the At-Risk Group, three (25%) said that other than English, they spoke Hindi, and two persons (16.7%) spoke each of the following languages: French, Gujarati, and Punjabi. One person (8.3%) spoke each of the following languages in addition to English: Arabic, Catalan, Mandarin, Polish, Ukrainian and Urdu. The total percentages for the At-Risk Group in Cohort II exceeded 100% because four (33.3%) participants indicated they were fluent in another language other than English.

**Non-remedial participants.** The linguistic pattern of the Non-Remedial Groups in Cohort I and Cohort II was different from that of the Remedial and At-Risk Groups. Interestingly, three (21.4%) participants each reported they spoke the following languages in addition to English: French, Filipino and Tagalog. Of the Cohort II Non-Remedial Group, one (9.1%) each identified Latvian and Polish. For all other languages listed across all four sub-groups only one person reported each. Table 14 lists the many languages, other than English, that were identified as spoken by the participants in each of the four sub-groups.

**Comparison of remedial/at-risk and non-remedial participants for language(s) spoken other than English (Survey Question #20).** Twenty-two (90.9%) of the combined 23 remedial and at-risk participants said they spoke another language or languages other than English. In total they spoke thirty-one languages. Of these, the most common language identified was Tagalog, a Philippines based dialect. The non-remedial participants spoke substantially fewer languages than those in the remedial and at-risk sub-groups. Of the combined 25 non-remedial participants, only 15 (60%) spoke another language or languages in addition to
English compared with the 90.5% of the remedial/at-risk participants. The non-remedial participants were able to speak a variety of languages - eight in total - and the three most common languages they identified were French, Tagalog and Filipino.

Table 14

Language(s) Spoken (Other than English) for both Cohorts by Sub-group (n=48)

<table>
<thead>
<tr>
<th>Other Language(s) Spoken</th>
<th>Cohort I Remedial Group n=11</th>
<th>Cohort II At-Risk Group n=12</th>
<th>Cohort I Non-Remedial Group n=14</th>
<th>Cohort II Non-Remedial Group n=11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arabic</td>
<td>1 9.1</td>
<td>1 8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bisaya</td>
<td>1 9.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cantonese</td>
<td></td>
<td>1 7.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalan</td>
<td>1 8.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filipino</td>
<td></td>
<td>3 21.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>French</td>
<td>1 8.3</td>
<td>1 7.1</td>
<td>3 27.3</td>
<td></td>
</tr>
<tr>
<td>German</td>
<td>1 9.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gujarati</td>
<td>1 8.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hiligaynon</td>
<td>1 9.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hindi</td>
<td>1 8.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hungarian</td>
<td>1 9.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ilokano</td>
<td>1 9.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ilonggo</td>
<td>1 9.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italian</td>
<td>1 9.1</td>
<td>1 7.1</td>
<td></td>
<td>1 9.1</td>
</tr>
<tr>
<td>Latvian</td>
<td></td>
<td></td>
<td></td>
<td>1 9.1</td>
</tr>
<tr>
<td>Mandarin</td>
<td>1 8.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polish</td>
<td>1 8.3</td>
<td></td>
<td>1 9.1</td>
<td></td>
</tr>
<tr>
<td>Punjabi</td>
<td>1 8.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shona</td>
<td>1 9.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spanish</td>
<td>1 9.1</td>
<td></td>
<td></td>
<td>1 7.1</td>
</tr>
<tr>
<td>Tagalog</td>
<td>4 36.3</td>
<td>3 21.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thai</td>
<td>1 9.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ukrainian</td>
<td>1 8.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urdu</td>
<td>1 8.3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. A number of participants indicated they spoke more than one language when at home.

Language(s) spoken other than English compared to the literature. In the 2006 study based on 56 PN students from their remedial sub-group, 72.7% (n=40) of the participants said
they spoke another language or languages other than English. Combined there were thirty-eight languages that the participants in this study said they were able to speak. The three most common spoken languages identified in the 2006 study were Tagalog/Filipino, French and Cantonese/Mandarin.

The findings of my study regarding the remedial/at-risk participants were consistent with those of the 2006 study in that in both studies the remedial and at-risk participants spoke more languages (i.e., 31 in my study compared with 38 in the 2006 study) compared to the eight different languages for the non-remedial sub-groups in my study. The main inconsistency identified was the percentage of the participants who spoke another language or languages other than English. In my study, this was the case for 90.9% of the remedial/at-risk groups, compared with 60% of participants in the non-remedial group whereas this accounted for 72.7% in the 2006 study.

**Language(s) Read Other than English**

Asking participants which language(s) they read (other than English) was an important variable to consider in this study as supported by the research by Browning (2003) who stated that “ESL students need to be able to read at a level challengeable to a native speaker of English in order to keep up with the academic workload” (para. 2). Browning (2003) suggested the average ESL students who enter college are classified as slow readers, which means they have the capability of reading 150 words per minute in comparison to a native English speaking student who can read 350 words per minute. Based on that comparison, it takes an ESL person 2.33 times longer to read the exact same content as a person who has learned to speak English
first. For this reason, survey question #21 asked participants: What language(s) do you read (other than English)?

**Remedial and at-risk participants.** The language other than English read most frequently by the Remedial Group in Cohort I was Tagalog which was reported by four (36.3%) of these participants. Of the others in this group, seven individuals declared an ability to read one of the following languages in addition to English: Bisaya, Hungarian, Ilokano, Ilonggo, Shona, Spanish, and Thai. Of the Cohort II At-Risk Group, two (16.7%) were able to read each of the following languages in addition to English: Ukrainian, French and Hindi. Furthermore, six participants reported they could each (9.1%) read one of the following languages other than English: Catalan, Gujarati, Mandarin, Polish, Punjabi and Sanskrit.

**Non-remedial participants.** In the Cohort I, the Non-Remedial Group, three participants (21.4%) were each able to read Filipino, or Tagalog. And, one participant (7.1%) each could read one of the following: French, Spanish, and Italian. Four (36.4%) participants stated they could not read any language other than English. Of those in the Cohort II Non-Remedial Group, five (45.5%) could read only English; three (27.2%) could read French, and one (9.1%) could read one of the following languages: Latvian, Polish and Spanish. Table 15 lists the many languages, other than English, that participants in each of the sub-groups identified as languages they were able to read.

**Comparison of remedial/at-risk and non-remedial participants on the ability to read language(s) other than English (Survey Question #21).** The non-remedial participants could read only nine other languages compared with the 17 languages reported by the remedial/at-risk group. All 23 (100%) of remedial and at-risk participants said they were able to read another language other than English, of which the three most common languages identified by were
Tagalog, French and Hindi. Of the 25 combined Cohort I and Cohort II non-remedial participants, 16 (64%) reported they could read a language other than English. Only seven languages were identified by this group, of which Tagalog, French and Filipino were the three identified most often.

Table 15

*Language(s) Read (Other than English) for both Cohorts by Sub-group (n=48)*

<table>
<thead>
<tr>
<th>Other Language(s) Read</th>
<th>Cohort I Remedial Group n=11</th>
<th>Cohort II At-Risk Group n=12</th>
<th>Cohort I Non-Remedial Group n=14</th>
<th>Cohort II Non-Remedial Group n=11</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Language(s)</strong></td>
<td>#</td>
<td>%</td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>Bisaya</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalan</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filipino</td>
<td></td>
<td></td>
<td>3</td>
<td>21.4</td>
</tr>
<tr>
<td>French</td>
<td>2</td>
<td>16.7</td>
<td>1</td>
<td>7.1</td>
</tr>
<tr>
<td>Gujarati</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hindi</td>
<td>2</td>
<td>16.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hungarian</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ilokano</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ilonggo</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italian</td>
<td></td>
<td></td>
<td>2</td>
<td>14.3</td>
</tr>
<tr>
<td>Latvian</td>
<td></td>
<td></td>
<td>1</td>
<td>9.1</td>
</tr>
<tr>
<td>Mandarin</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polish</td>
<td>1</td>
<td>8.3</td>
<td>1</td>
<td>9.1</td>
</tr>
<tr>
<td>Punjabi</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanskrit</td>
<td>1</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shona</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spanish</td>
<td>1</td>
<td>9.1</td>
<td>1</td>
<td>7.1</td>
</tr>
<tr>
<td>Tagalog</td>
<td>4</td>
<td>36.3</td>
<td>3</td>
<td>21.4</td>
</tr>
<tr>
<td>Thai</td>
<td>1</td>
<td>9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ukrainian</td>
<td>2</td>
<td>16.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* A number of participants indicated they spoke more than one language when at home.

*Language(s) read other than English compared to the literature.* Of the 56 PN remedial students in the 2006 study, there was a combined total of 39 (70.9%) the participants in the 2006 study who said they could read another language or languages other than English. The
most common languages identified by those participants were Tagalog/Filipino, French and Cantonese/Mandarin. The main finding from my study in comparing these data was that the remedial and at-risk sub-groups reported they could read only a little more than half as many other languages (a total of 17) as they could speak (a total of 31) in response to Question #20.

Powell (as cited in de Castella, 2013) suggested that age is an influence on the method language is acquired:

Adults may be better at reading and writing to begin with. But children are faster to pick up speaking and listening. School plunges them into the new language, their brains are attuned to sounds and slang and teenagers need language skills to belong to the group. (para. 12)

Another rationale for this finding may be that some of the languages that the participants said they could speak but not read are almost the same when spoken but have a different written form, which makes it difficult to read. For example, Urdu and Hindi languages are linguistically similar but have a different writing script. Individuals can fluently speak and understand both languages but often they are not able to write or read them (The Economist, 2014).

**Summary of Findings Related to Research Question #1**

The demographic profile of the remedial and at-risk participants compared to the non-remedial participants was different. The differences were that students from the remedial and at-risk sub-groups were: (i) older in age, (ii) managed a fuller first semester academic workload, (iii) for more of them their country of origin was not Canada; (iv) they entered Canada at a later age and possessed a variety of post-secondary credentials, such diplomas and Bachelor degrees. The participants from the remedial and at-risk also reported that they were: (v) older in age when they first learned to speak English and (vi) many could speak more languages than they could
read. And, although the remedial and at-risk sub-groups stated they were fluent in English, (vii) some still spoke their first language while in their home environment. Table 16 shows the demographic profiles of the remedial and at-risk participants compared to the non-remedial participants.

Table 16

Demographic Profiles of the Remedial and At-Risk Participants Compared to the Non-Remedial Participants

<table>
<thead>
<tr>
<th>Variables</th>
<th>Remedial and At-Risk Participants</th>
<th>Non-Remedial Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Range</td>
<td>35-44 years old</td>
<td>25 to 34 years old</td>
</tr>
<tr>
<td>First Semester Academic Workload</td>
<td>6 to 9 courses</td>
<td>5 to 8 courses</td>
</tr>
<tr>
<td>Country of Origin</td>
<td>87% born outside of Canada</td>
<td>72% born in Canada</td>
</tr>
<tr>
<td>Age Entry into Canada</td>
<td>52.2% were between 21 and 38 years old</td>
<td>24% were between 6 to 25 years old</td>
</tr>
<tr>
<td>Age First Speaking English</td>
<td>40% between 16 and 38 years old</td>
<td>80% before 10 years old</td>
</tr>
<tr>
<td>Language Spoken At Home</td>
<td>91.3% spoke their first language at home</td>
<td>88% spoke English at home</td>
</tr>
</tbody>
</table>

Research Question #2 asked “How does the performance of the experimental remedial participants in Cohort I compare with that of the at-risk control group in Cohort II with respect to:

a) scores achieved on the NLS/UCWS admissions/placement writing tests?”

b) scores achieved on the COMPASS/Accuplacer admissions/placement listening tests?”

c) the relationship between selected demographic variables and performance on the linguistic admissions/placement test?”
The Admissions/Placement Testing Process

The process of assessment and screening of students within two weeks of being admitted to the PN Program at Urban College and the cut off scores for both the writing and the listening tests that determined whether or not the students were classified as remedial/at-risk or non-remedial are described in Chapter 3 (refer to Table 4).

Students who scored lower than three on the NLS or lower than seven on the UCWS writing assessment tests (i.e., as total score of 2/6 or lower) were deemed to be “at-risk” or needing remediation in writing skills based on this Admission and Placement testing, whereas those who scored a three and above on the NLS and above seven on the UCWS (i.e., as total score of 3/7 or higher) were assessed as not needing remediation, and classified as “non-remedial”. However, there were some participants who scored 3/7 on their writing assessment tests, but still assigned to the remedial/at-risk groups, while others with the same score were assigned to the non-remedial group. Those participants with a 3/7 range for writing skills were still designated as “remedial” because of a lower listening test score below 90.

(a) Scores Achieved on the NLS/UCWS Admissions/Placement Writing Tests

Based on the classification scale used to assign students to their relevant groups (remedial/at-risk or non-remedial), and the data reported in Banner® (Urban College’s student database), 23 participants (11 in Cohort I and 12 in Cohort II) were deemed to be remedial/at risk for attrition from first semester of the PN program because of their low scores on the Admission and Placement Writing Tests (NLS/UCWS). The remaining 25 students (14 in Cohort I and 11 in Cohort II) were classified as non-remedial based on the same classification scale.

Remedial and at-risk participants. Of the 11 students in Cohort 1 assessed as remedial, two (43.2%) scored five points, and four (36.35%) scored six points on the writing test
Another four (36.35%) scored the benchmark score of 3/7 (but had listening test scores below 90) but none scored higher than that since this was the deciding score between those considered remedial and those considered non-remedial. Of the 12 students who were deemed at-risk in Cohort II, three (25%) scored 2/5; twice as many (6 or 50%) scored 2/6, and the remaining three students scored 3/7 on the writing test. No score was reported for one student and this student was then assigned by the communication faculty as remedial consistent with Urban College policy.

Of the total 23 students in Cohorts I and II who needed remediation based on the admission test scores, five (22%) scored 2/5 points on the writing test; 10 (43%) scored 2/6, and the remaining seven (30%) scored 3/7 points. Since the students in Cohort I assessed as needing remediation actually received the embedded remediation in language skills intervention and those in Cohort II did not, the students in Cohort I are referred to as experimental/remedial students whereas those in Cohort II are the control group and are referred to only as at-risk students throughout this report.

As depicted in Table 16, the pattern of writing test scores is fairly similar overall for the two groups of students identified as needing remedial based on their admissions/placement writing test scores.

**Non-remedial participants.** Of the 14 non-remedial students in Cohort I, twelve (85.7%) scored 3/7 and two (14.3%) scored 4/8 on these writing tests. Similarly, of the 11 non-remedial students in Cohort II, 10 (90.9%) achieved scores of 3/7 and the remaining student (9.1%) achieved a score of 4/8. Again, the performance of the two groups of non-remedial participants was similar, taking into account that Cohort I had 14 students and Cohort II had only 11. Figure
17 depicts the admission and placement NLS/UCWS writing test scores for all 48 of the study participants.

Table 17

*Admission and Placement (NLS/UCWS) Writing Test Scores of Students Designated as Remedial/At-risk*

<table>
<thead>
<tr>
<th>Remedial Experimental Students in Cohort 1</th>
<th>At-Risk Control Group Students in Cohort II</th>
<th>Scores for Combined Remedial and At-Risk Students in Cohorts I &amp; II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number n=11</td>
<td>Number n=12</td>
<td>Number n=23</td>
</tr>
<tr>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>NLS/UCWS Score</td>
<td>NLS/UCWS Score</td>
<td>NLS/UCWS Score</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>18.2</td>
<td>25</td>
<td>21.7</td>
</tr>
<tr>
<td>2/5</td>
<td>2/5</td>
<td>2/5</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>36.35</td>
<td>50</td>
<td>43.5</td>
</tr>
<tr>
<td>2/6</td>
<td>2/6</td>
<td>2/6</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>36.35</td>
<td>25</td>
<td>30.4</td>
</tr>
<tr>
<td>3/7</td>
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<td>3/7</td>
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<tr>
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<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4/8</td>
<td>4/8</td>
<td>4/8</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>9.1</td>
<td>No score</td>
<td>4.4</td>
</tr>
<tr>
<td>4/8</td>
<td>No score</td>
<td>No score</td>
</tr>
<tr>
<td>11</td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

**Comparison of the performance of the remedial and at-risk participants, and that of the non-remedial participants on the writing admission tests.** As expected, the largest group, that is 10 (43.5%) of the 23 remedial and at-risk participants, scored 2/6 and another five (21.7%) tested even lower at 2/5, which means that about two-thirds (65.1%) of the remedial/at-risk participants scored 2/6 or less. And, as expected as well, none of the remedial/at-risk participants achieved scores of 4/8, whereas three (12% of non-remedial students) did so. But I was surprised to find that seven (30.4%) of the remedial students tested at the more advanced level of ≥ 3/7 for writing skills. I discovered that even though these seven participants scored close to the non-remedial range for writing skills (which required score of 3/7), they were assigned by the communication faculty to the remedial/at-risk sub-group because of their lower listening test scores, which was below 90. Similarly, although a total of 23 of the 25 students
scored ≥ 3/7 on the writing tests they were deemed to be non-remedial because of their strong writing scores. None of the 25 non-remedial participants scored lower than 3/7 cut off for the writing skills test. The results of the chi-square test of independence were non-significant, $\chi^2(6) = 1.70$, $p = .945$, indicating that the distribution of the NLS/UCWS scores was similar in the populations of students represented by the three study groups.

<table>
<thead>
<tr>
<th>NLS/UCWS Writing Admission and Placement Test Scores for both Cohorts by Sub-group (n=48)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No Admission</strong></td>
</tr>
<tr>
<td>Cohort I-Remedial (n=11)</td>
</tr>
<tr>
<td>Cohort I-Non-Remedial (n=14)</td>
</tr>
<tr>
<td>Cohort II-At-Risk (n=12)</td>
</tr>
<tr>
<td>Cohort II-Non-Risk (n=11)</td>
</tr>
</tbody>
</table>

Legend: NLS = National Secretariat Score and UCWS = Urban College Writing Score – reported and NLS/UCWS score (i.e., 2/4 to 4/8).

Note. Variation in the number of participants per sub-group.

Figure 19. NLS/UCWS writing scores for both cohorts by sub-group.

NLS/UCWS writing skills test scores compared to the literature. The findings in this study are consistent with what I found in the literature as reported in the 2006 study. The remedial group in the 2006 research study was comprised of 56 students who had also scored between 2/5 and 4/8 on the same NLS/UCWS tests. Ten (18.2%) of these participants tested out at 2/5 compared to the five (21.7%) in my study; 40% (n=22) scored a 2/6 compared to 43.5% (n=10) in my research; another 30.9% (n=17) tested at 3/7 in comparison to the seven (30.4%) in my study, and finally 10.9% (n=6) scored a 4/8 compared to none of the participants in my study.
According to Popovic (2013) 33% of colleges conduct a language-proficiency assessment based on student writing samples upon their admission to an Ontario college. Popovic (2013) stated that “research has continually shown that academic under preparedness and unpreparedness, especially in terms of literacy and basic skills, causes student underachievement, failure, and higher attrition rates” (p. 10).

(b) Scores Achieved on the COMPASS/Accuplacer Admissions/Placement Listening Tests

Those who scored below 90 of the possible 120 points on the COMPASS/Accuplacer Listening admissions placement test were classified as remedial/at-risk students. Admission and placement listening test scores were not stated in the Banner® information system database for one of the participants in Cohort I but were provided for the other 47 participating students. As no specific explanation was provided with respect to why the scores of that one participant’s admission scores were not recorded that student was automatically classified as remedial by the communication faculty.

Remedial and at-risk participants. Of the 11 remedial/experimental students in Cohort I, six (54.5%) scored below the 90 cut-off point but four (36.4%) of them scored between 85 and 89. The remaining five (45.5%) scored above the cut-off point; one (9.1%) scored in the range of 90 to 94, another two (18.2%) achieved between 95 and 99 points, and finally, one participant (9.1%) actually achieved the highest possible score of 120. Of the 12 students in the at-risk control group in Cohort II, five (41.7%) scored below the 90 point cut-off score; three (25%) of these had scores in the 85 to 89 range which was just below the cut-off. Seven (63.6%); two (16.7%) in the 90 to 94 (16.7%), another two (16.7%) between 95 and 99, and finally, three (25%) of the participants also achieved the highest score of 120. However, there were some students who achieved above 90 on their listening assessment tests and were still assigned to the
remedial group, while others with the same score were assigned to the non-remedial group. Participants with a $\leq 90$ on their listening skills admission test were classified as “remedial” because of their writing test score was 2/6 or less. As depicted in Table 18, the pattern of listening test scores is fairly similar overall for the two groups of students identified as needing remedial support based on their admissions/placement listening test scores.

Table 18

*Admission and Placement (COMPASS/Accuplacer) Listening Test Scores of Students Designated as Remedial/At-risk*

<table>
<thead>
<tr>
<th>Remedial Experimental Students in Cohort I</th>
<th>At-Risk Control Group Students in Cohort II</th>
<th>Scores for Combined Remedial and At-Risk Students in Cohorts I &amp; II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>%</td>
<td>Compass ACPI Score</td>
</tr>
<tr>
<td>n=11</td>
<td>1</td>
<td>9.1</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>75 to 79</td>
</tr>
<tr>
<td>1</td>
<td>9.1</td>
<td>80 to 84</td>
</tr>
<tr>
<td>4</td>
<td>36.35</td>
<td>85 to 89</td>
</tr>
<tr>
<td>1</td>
<td>9.1</td>
<td>90 to 94</td>
</tr>
<tr>
<td>2</td>
<td>18.15</td>
<td>95 to 99</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>100 to 114</td>
</tr>
<tr>
<td>1</td>
<td>9.1</td>
<td>115 to 120</td>
</tr>
<tr>
<td>1</td>
<td>9.1</td>
<td>No score</td>
</tr>
<tr>
<td>11</td>
<td>100</td>
<td>12</td>
</tr>
</tbody>
</table>

Non-remedial participants. Because the lowest score possible for being deemed non-remedial was 90, none of the 14 participants in the Non-Remedial Group achieved a score lower than 90 on their Admission and Placement test for listening skills. Four participants (28.6%) scored between 95 and 99, and only one (9.1%) scored in the 90-94 range. Not surprisingly, the majority of the participants (n= 9; 64.3%) from this sub-group scored 120, the highest score of possible. Similarly, just over half (54.5%; n=6) of the 11 non-remedial participants in Cohort II
also achieved the maximum score of 120; three (27.3%) scored between 95 and 99 and another two (18.2%), scored just above the cut-off at 90 to 94 range. Figure 20 depicts the admission and placement COMPASS/Accuplacer listening test scores for all 48 of the study participants.

<table>
<thead>
<tr>
<th>No Admissions Scores</th>
<th>I n 70 to 74</th>
<th>75 to 79</th>
<th>80 to 84</th>
<th>85 to 89</th>
<th>90 to 94</th>
<th>95 to 99</th>
<th>100 to 104</th>
<th>105 to 109</th>
<th>110 to 114</th>
<th>115 to 120</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cohort I Remedial (n = 11)</strong></td>
<td>9.1%</td>
<td>9.1%</td>
<td>0%</td>
<td>9.1%</td>
<td>36.4%</td>
<td>9.1%</td>
<td>18.2%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Cohort I Non-Remedial (n = 14)</strong></td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>7.1%</td>
<td>28.6%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Cohort II At-Risk (n = 12)</strong></td>
<td>0%</td>
<td>8.3%</td>
<td>0%</td>
<td>8.3%</td>
<td>25%</td>
<td>10.7%</td>
<td>16.7%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Cohort II Non-Remedial (n = 11)</strong></td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>18.2%</td>
<td>27.3%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Legend: COMPASS/Accuplacer = Listening Scores – Range of possible scores: 70 to 120.

Note: Variation in the number of participants per sub-group.

**Figure 20.** COMPASS/Accuplacer listening scores for both cohorts by sub-group.

**Comparison of the performance of the remedial and at-risk participants, and that of the non-remedial participants on the listening admission tests.** In comparing the academic performance of the remedial group in Cohort I that experienced the embedded remediation intervention, with the at-risk students in Cohort II, it is important to remember that though they were similar and both groups were identified as at-risk, there were some important differences in the scores achieved on the listening Admissions and Placement tests. The results of the chi-square test of independence were non-significant, $\chi^2(10) = 0.63$, $p = 1.000$, indicating that the distribution of the COMPASS/Accuplacer scores was similar in the populations of students represented by the three study groups.
The listening scores of remedial and at-risk participants varied across seven of the ten classification ranges. Twelve (52.2%) of the 23 remedial/at risk participants tested within the prescribed remedial scale of 70 to 89. Interestingly, although the remaining eleven participants (47.8%) scored higher, and their scores were within the non-remedial range of between 90 and 120, they were still placed in the remedial/at-risk sub-group consistent with the policies of the Literacy Skills Program because of their ≤ 2/6 score on their NLS/UCWS writing test. It was particularly noteworthy that four (17.4%) of the 23 remedial and at-risk participants actually scored the highest score possible (i.e., 120) on the listening test on admission.

The overall score the Remedial Group achieved on their COMPASS and Accuplacer listening test was 82.5, compared with the score of 99.1 of the At-Risk Group. This 16.6 score difference is substantive when reviewing the proficiency levels presented in Appendices C and D. A score of 82.5, which is the lowest score at a Proficiency Level 3 (82-91), is the level at which students should be able to understand most exchanges which occur at a near-normal to normal conversational context, these students generally grasp main ideas and details, although comprehension is sometimes affected by length, topic familiarity, or cultural knowledge. Whereas with the At-Risk Group, a score of 99.1 was the highest score that could be attained on a Proficiency Level 4 (91-99). Students at Level 4 typically are able to understand linguistically complex discussions, including academic lectures and factual reports and also understand almost all reductions, elisions, and blends in the spoken language.

By comparison, the performance of the participants in the two non-remedial cohorts was more consistent with the cut-off scale. Fifteen (60%) of the 25 non-remedial participants scored in the highest listening range of 115 to 120; another seven (28%) of them scored in the 95 to 99
range, and the remaining three (12%) scored between 90 to 94 which was the lowest range set to
differentiate them from the remedial classification.

**Listening skills test scores compared to the literature.** The 2006 study reported similar
findings as in this study. Of the 56 students who made up their remedial population, 49.1%
(n=27) of the participants tested within the suggested remedial boundaries of 70 and 89
compared with the 52.2% (n=12) in my study. The other 50.9% (n=28) participants scored
between 90 and 120, compared with the 47.8% (n=11) in my research and these were placed in
the remedial group only because they achieved the low ≤ 2/6 score on their NLS/UCWS writing
test.

(c) **The Relationship between Selected Demographic Variables and Performance on the**
*Linguistic Admissions/Placement Test*

In comparing the relationship between the remedial/ at-risk and the non-remedial first
semester PN student’s language variables to their listening (COMPASS/Accuplacer) test scores,
I found there was a relationship between their test scores and the following three demographic
variables: age when they learned to speak English, most fluent language, and age of entry into
Canada. There did not appear to be any relationship between test scores and the other
characteristics, namely: current age range, gender or country of origin.

**Age when participants learned to speak English.** The age when participants learned to
speak English seemed to be related to the admission test listening scores, particularly in the
remedial/at risk groups. The younger the participants were, the higher the COMPASS/
Accuplacer score was. For example, four (17.4%) of the remedial/at-risk participants achieved a
score of 120, which was the highest grade that could be attained on that test. All four of these
participants were under the age of ten when they learned to speak English. Duff (2008) explains:
There is a critical or ‘sensitive’ period for optimal language learning, particularly foreign language pronunciation, ending around the age of puberty and it is also thought that younger children are more open to other languages than older children and adolescents. (p.7)

Similarly, de Castella (2013) contends that the most important factor in language acquisition is age, with a maximum ability at birth and a decline around puberty. In de Castella’s recent report from 2013 with 100 children who were ten years old, de Castella suggested there “were very high correlations between the children’s age, their short-term working memory, their native language scores, and their scores on English as a second language tests” (2013, para. 3).

Overall, my findings in all four sub-groups showed that generally the older the participants were when they learned to speak English, the lower the listening score. For example, P10, a participant from the Cohort I experimental/remedial group began speaking English at age 24 and had the lowest listening score of participating students from Cohort I, which was 71. P32, a participant from the Cohort II control/at-risk group began speaking English at age 38 and had the lowest listening score of participating students from Cohort II, which was 71 (refer to Tables 27 and 28 in Chapter 5). This suggests that the age at which an individual first learned English may be a factor related to linguistic performance. This was true for both the remedial and at-risk sub-groups.

Most fluent language spoken by participants. Not surprising, the second variable associated with performance on these language skills tests, was the language that the participants reported they were most fluent in. As depicted in Table 13, 37 (77.1%) of the 48 participants who scored within the non-remedial ranges of 90 and 120 on the listening test, 39 (81.3%) reported that they were most fluent in English.
According to Spacey (2014), language fluency develops over time and with lots of practice. Spacey (2014) suggested in order for individuals for whom English is not the first language to become fluent in English it is important that individuals immerse themselves in the language, which is done first by listening and, then by speaking. The more opportunities the language learners have to listen and speak, the better their chances of becoming fluent English language speakers.

**Age on entry into Canada.** The third variable I explored was whether there was a connection between the participants’ age of entry into Canada and the score achieved on the admission and placement listening test. Consistent with the findings of de Castella (2013) who said that, “The younger the immigrant, the better (para. 3)”, in my study, the older the participants were when they immigrated to Canada, the lower their listening scores. For example, a participant from the Remedial Group in Cohort I reported she was 24 years old when she arrived in Canada, had a low listening score of 71, and stated that she was most comfortable speaking her native tongue rather than English. Another student from the At-Risk Group in Cohort II was 38 years old when she immigrated to Canada, had a low listening score of 74, and also reported that she was most comfortable speaking her native language rather than English (refer to Tables 27 and 28 in Chapter 5).

**Immigration from non-English speaking countries.** In comparing the likely language challenges of the 23 remedial/at-risk with the 25 non-remedial participants, twenty (86.9%) of the remedial/at-risk sub-groups had immigrated to Canada from non-English speaking countries compared with only seven (28%) of the non-remedial sub-groups. Table 10 depicts these findings.
**Language(s) spoken at home.** Secondly, with respect to the language(s) spoken at home, of the remedial/at-risk participants, just over half (n=12; 52.2%) said they spoke both English and their first language at home. Only three (13%) of the remedial/at-risk participants reported English as their primary language at home.

By comparison, of the non-remedial participants, 88% of the 25 non-remedial participants said they spoke both English and another language at home, and the other 72% (n=18) compared with only 13% (n=3) of the remedial/at-risk students said English was their only dominant language. Table 11 presents these data.

**First language learned.** As to the first language that the participants learned to speak, only six (26.1%) of the participants from the remedial and at-risk sub-groups compared with more than twice as many (n=16; 64%) of the non-remedial participants said it was English. Table 10 describes these findings.

**Summary of Findings Related to Research Question #2**

The findings in this study identified a relationship between language challenges and the results achieved on the Admission and Placement test scores. The data revealed that participants whose country of origin was other than Canada, did not have the opportunity to frequently speak English at home, identified English as being their second language, were older when they first learned to speak English and immigrated to Canada from another country scored in the remedial range of NLC ≤ 2/UCWS ≤ 6 for writing and below 90 for listening.

Research Question #3 asked (a) “How did the students in the experimental group perform in the remedial intervention as measured by final grades achieved in the Literacy Skills I remediation course, and, (b) what is the relationship between student characteristics and their performance in the Literacy Skills I course?”
The following findings are reported in response to the third research question and interpreted with respect to themes identified in the literature review. The participants’ responses to survey questions 2 through 10 on the Background and Language Questionnaire and their final grades from the embedded remediation courses were analyzed in order to answer this research question. Final course grades were obtained from Banner® as described in Chapter 3.

**The Literacy Skills I Remediation Course**

The Literacy Skills I course was the embedded remedial intervention that only the experimental/remedial students in Cohort I experienced. It consisted of students attending a total of four hours per week; two hours of embedding per core course in their fourteen week timetable. The two core courses that the Literacy Skills program focused on in Semester 1 were Anatomy and Physiology and Nursing I.

**(a) How Did the Students in the Experimental Group Perform in the Remedial Intervention as Measured by Final Grades Achieved in the Literacy Skills I Remediation Course?**

Each of the eleven students participating in this embedded remedial course passed the Literacy Skills I course. One participant (9.1%) scored 73%; four (36.4%) achieved final grades between 75 and 79; one scored 75, another 77, and two scored 78 per cent. One earned 86% and another 87%. Perhaps surprisingly, three (27.3%) of the participants achieved grades between 90 and 94%. None of the grades was lower than 70%. The final grades earned in the Literacy Skills I course by the Remedial Group in Cohort I are presented in Figure 21. All 11 of the students successfully completed the remediation course and all other courses they took that semester and were subsequently promoted to the second semester of the program.
Final Grades for Cohort I Remedial Group in the Literacy Skills I Remediation Course in Winter 2011 Semester (n=11)

<table>
<thead>
<tr>
<th>Grade Range</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 to 64</td>
<td>n=1</td>
</tr>
<tr>
<td>65 to 69</td>
<td>n=4</td>
</tr>
<tr>
<td>70 to 74</td>
<td>n=1</td>
</tr>
<tr>
<td>75 to 79</td>
<td>n=2</td>
</tr>
<tr>
<td>80 to 84</td>
<td>n=3</td>
</tr>
<tr>
<td>85 to 94</td>
<td></td>
</tr>
<tr>
<td>95 to 100</td>
<td></td>
</tr>
</tbody>
</table>

Figure 21. Final grades for Cohort I remedial group in the Literacy Skills I remediation course in Winter 2011 semester.

(b) What is the Relationship between Student Characteristics and their Performance in the Literacy Skills I Course?

In order to determine if there was a relationship between the student’s characteristics and their achievement in their final grade in the embedded remediation course, the background characteristics of the study participants from the Remedial Group (n=11) were analyzed. I found there was a higher grade achievement (i.e., >86% or A letter grade) for the embedded remediation course if participants were younger when they learned to speak English, achieved a non-remedial score of ≥2/6 on the NLS/UCWS writing test but a remedial score of below 90 on the listening test, indicated they were fluent in English and had achieved a previous post-secondary credential. There were a few small differences amongst the varying characteristics of two of the participants (P3 and P6). They both achieved a remedial score of 2/6 on the NLS/UCWS writing test but a non-remedial score of ≥90 on the listening test. Interestingly, both of these participants were the oldest of the five to learn to speak English and also under the age of twenty when they immigrated to Canada.
To demonstrate these observations, the performance of five participants from the Remedial Group in Cohort I whose grades were higher than 86% (or an A letter grade) in the Literacy Skills I course were selected as examples as depicted in Table 18.

**Summary of the Findings Related to Research Question #3**

All eleven of the remedial students from the Experimental Group who participated in the Literacy Skills I course passed the course with final grades ranging between 73% and 90%. The data collected from the Background and Language Survey did not indicate a strong relationship between student characteristics among the remedial group and their achievement in the Literacy Skills I course based on their final course grade.

Table 19

*Examples of Student Characteristics Related to High Performance in the Literacy Skills I Course*

<table>
<thead>
<tr>
<th>Variables</th>
<th>P2</th>
<th>P3</th>
<th>P6</th>
<th>P7</th>
<th>P9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literacy Skills I Grade (&gt;86%)</td>
<td>90</td>
<td>90</td>
<td>86</td>
<td>90</td>
<td>87</td>
</tr>
<tr>
<td>NLS/UCWS Score (≥ 2/6)</td>
<td>3/7</td>
<td>2/6</td>
<td>2/6</td>
<td>3/7</td>
<td>3/7</td>
</tr>
<tr>
<td>COMPASS ACLI (≤ 90)</td>
<td>89</td>
<td>99</td>
<td>120</td>
<td>82</td>
<td>86</td>
</tr>
<tr>
<td>Age Range</td>
<td>25 to 34 years</td>
<td>18 to 24 years</td>
<td>25 to 34 years</td>
<td>35 to 44 years</td>
<td>35 to 44 years</td>
</tr>
<tr>
<td>Program Route Entry</td>
<td>OCAS</td>
<td>OCAS</td>
<td>OCAS</td>
<td>OCAS</td>
<td>OCAS</td>
</tr>
<tr>
<td>Program Course Load</td>
<td>8/9</td>
<td>7/9</td>
<td>8/9</td>
<td>9/9</td>
<td>9/9</td>
</tr>
<tr>
<td>Parental Responsibilities</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Post-Secondary Credential</td>
<td>Diploma and Bachelor’s Degree</td>
<td>None</td>
<td>Bachelor’s Degree</td>
<td>Diploma</td>
<td>Bachelor’s Degree</td>
</tr>
<tr>
<td>Country of Origin</td>
<td>Philippines</td>
<td>Hungary</td>
<td>Turkey</td>
<td>Uganda</td>
<td>Philippines</td>
</tr>
<tr>
<td>Age Entered Canada</td>
<td>22</td>
<td>16</td>
<td>19</td>
<td>32</td>
<td>24</td>
</tr>
<tr>
<td>Age Speaking English</td>
<td>1</td>
<td>10</td>
<td>10</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Most Fluent Language(s)</td>
<td>English and Tagalog</td>
<td>English and Hungarian</td>
<td>English</td>
<td>English and Uganda</td>
<td>English and Tagalog</td>
</tr>
</tbody>
</table>

Legend: P = Participant by Number Assigned
Summary of Chapter Four

In Chapter Four I presented and analyzed the quantitative findings for research questions one, two and three of this study which were to explore the demographic profiles of the remedial/at-risk participants compared with that of the non-remedial participants, based on the participants’ responses in the Background and Language questionnaire. I compared the performance of the participants from the Remedial Experimental Group in Cohort I to that of the At-Risk Control Group in Cohort II based on the scores achieved on the NLS/UCWS writing and COMPASS/Accuplacer listening admissions/placement tests. Finally, I also examined how the students in the Experimental Group performed in the remedial intervention based on their final grades in the Literacy Skills I remediation course, and if any of their characteristics were related to their performance in the Literacy Skills I course.

Chapter Five presents and analyzes the results for research questions four and five, which surveyed the perceptions of the embedded remediation intervention of the remedial students from Cohort I. It also examines the relationship between the remedial students’ performance in the embedded remediation course (Literacy Skills I) and the overall grades achieved in the Anatomy and Physiology and Nursing I courses in the first semester, and the retention rates.

The discussion in Chapter Six focuses on conclusions and implications for practice and policy, as well as further research on the topic of embedded remediation curriculum and the relationship between student characteristics and their success in the remedial work. I also suggest that Tinto’s theories that grounded this study be expanded to more specifically include consideration of the needs of non-traditional adult students.
Chapter Five: Findings for Research Questions Four and Five

This chapter presents the findings that answer research questions four and five related to the participating remedial students’ perceptions of the impact of the remediation intervention on their academic performance, the challenges this presented and the overall grades achieved in their performance on two of the core courses in Semester I of the Practical Nursing program, and the participants’ retention rates.

Research Question #4 asked “What are the perceptions of the students who experienced the embedded remediation (i.e., the Cohort I Remedial Sub-group) regarding the impact of the embedded remediation intervention?”

The students in the Cohort I Remedial Group (n=11) were the only participants who were asked to complete a second section (Section B) of the survey. These questions were comprised of five open-ended qualitative questions. The main purpose for including these questions as part of this research was to examine if the perceptions of the participating students enrolled in the Literacy Skills I courses supported one of the many mentioned rationales to phase out the program. The students enrolled in the Literacy Skills I course expressed their concerns to administrative staff in the past (Administrator, personal communication, May 17, 2011) and to faculty (anecdotal comments) that participation in the Literary Skills I remedial course was a burden to them because of the additional academic hours and workload they had to cope with compared to their colleagues who were assessed as not needing remediation.

I reviewed the qualitative responses in order to identify themes and gain a better understanding of the remedial students’ perceptions of the impact that the Literacy Skills I course had on their experience in the PN program.
Perceptions of Remedial Participants Regarding the Usefulness of the Remedial Literacy Skills I Course

The first question of the mainly qualitative part in Section B of the survey asked the Remedial Group: “Do you feel the remedial Literacy Skills I course has helped your academic performance?” Nine out of the 11 participants (81.8%) answered “no” and only two students (18.2%) stated that the course did help their academic performance. The students, who felt the remediation course was helpful, were then specifically asked which one(s). The Anatomy and Physiology course was identified by both of these students who had indicated that the remediation course was helpful to them. The following participating remedial students (P3, P5, P6, P7, P8 and P9), said the course was not helpful because it “took away from (their) schedule and hectic course load”.

Question #2 of Section B asked: “Do you feel the Literacy Skills I course helped increase you communication skills?” In response to this question, eight of the 11 participants (72.7%), again answered “no”, but three (27.3%) said “yes”, the course did increase their communication skills. Those who felt it did help said it encouraged them to participate more in class, which in turn helped them to practice speaking English. The students who felt the Literacy Skills I course did not help increase their communication skills said they felt separated from their non-remedial classmates, and they either believed their English was acceptable compared to others in the class, or they said that there should have been a greater focus on improving their speaking skills.

The third question of Section B asked the Remedial Group: What did you like the most about taking the Literacy Skills I course? The three main themes that I identified in the eleven responses to this question were (i) that it helped students to review their Anatomy and Physiology course material, (ii) they liked the professors who taught the course, and (iii) they
appreciated that the class sizes were small enough to allow for more teacher contact time and collaboration with their peers. It is noteworthy that these responses relate to Tinto’s theories of academic and social integration.

Question #4 of Section B asked: What did you *like the least* about taking the Literacy Skills I course? The major theme that I identified in these eleven responses was that some of the students felt they were misplaced into the course, and participating in the class took a lot of time away from their other courses.

The fifth question of in this part of the survey asked the Remedial Group: Do you believe that your communication skills are adequate for nursing? All eleven participants said, “yes”, they believed their communication skills were adequate for nursing. This suggests that the students felt that they either did not need the remediation in the first place, or their communication skills had improved to the point where they felt they were adequate for providing patient care.

**Summary analysis of the open-ended questions on Section B of the Background and Language Questionnaire for the Cohort I remedial group.** Some of the participants’ comments were positive, some were neutral, but most were negative. For example, a positive comment made by one of the participants about what they liked best about taking the Literacy Skills I course was, “Helped me with Anatomy. Class size was smaller so I could talk on-on-one with the teacher” (P2). A more neutral comment offered by one of the students regarding whether the course helped her to improve their communication skills was, “Maybe a bit because they pushed me to really speak in front the class, and teachers were somewhat okay” (P11). I identified a negative theme in the comments made by more than one student (e.g., P5; P7). This was that the remedial course was, “Waste of time, especially with the hectic course load. Not helpful at all”.
The themes identified in the responses of the remedial participants to the five open-ended questions were consistent with those of the students interviewed in a study of the Urban College in collaboration with the Academica Group Inc. report (2011) which found that:

A substantive number of students were extremely resistant to participating (e.g., refusal to attend classes, petitions, etc.). One core issue is the perception of unfairness when their colleagues have fewer class hours and can go home earlier or spend additional time on other subjects or preparing for placement. Many students were convinced either that their communication skills were sufficient or that they could improve them on their own in some way at some other time. This was particularly true of the native English speakers who didn’t believe that they belonged in a class with those for whom English is a second language. (p. 27-28)

Summary of Findings Related to Research Question #4

The perceptions of the remedial students in Cohort I who participated in the Literacy Skills I course were not supportive of the usefulness of the remedial intervention. The course was considered time consuming, generally did not help them improve their communication skills, and they would have preferred more opportunities to develop their oral skills, such as pronunciation. The more favourable comments focused on the fact that they enjoyed the attention they received from their professors because the classes were smaller in size and appreciated the additional time reviewing Anatomy and Physiology. These aspects facilitate academic and social integration as proposed by Tinto (1975; 1998).
Research Question #5 asked “What is the relationship between the students’ participation in the embedded remediation course (Literacy Skills I) and the overall grades achieved in (a) the Anatomy and Physiology, (b) the Nursing I course in the first semester, and (c) the retention rates of the remedial students?"

The two core Semester 1 courses, Anatomy and Physiology and Nursing I were chosen for the pilot project phase in 2006/07 by the communications professors who designed and implemented the Literacy Skills program. They were purposefully selected because of a consistent pattern of low course retention rates in the Anatomy and Physiology course in the first semester. The Nursing I course was the other option because students were expected to complete a writing module as part of the final grade evaluation, as writing is an important means of communicating among nurses and other members of the health care interdisciplinary team and demanded of the nursing program and profession. The benefits of linking the core courses of Anatomy and Physiology and Nursing I to the Literacy Skills I course curriculum is that it helps to improve the relevance of the content, therefore increasing retention of the content taught in the core courses.

(a) Anatomy and Physiology Final Course Grades

The Anatomy and Physiology course was designed to provide students with a basic understanding of the structure and functions of the human body from the biochemical level to the organ systems (e.g., cardiovascular and skeletal). Upon completion of the course, students were required to achieve a minimum passing grade of 60%. The grade of 60% was based on two term tests (multiple choice and short answer format) worth 20%, an end of term bell-ringer exam worth 20%, for which students are timed in a lab setting to identify anatomical structures on three dimensional models and finally, a multiple choice comprehensive final exam worth 40%.
**Remedial and at-risk participants.** As a group, the remedial students in Cohort I achieved final cumulative grades in the Anatomy and Physiology course between 60 and 79 per cent. The largest number (n=4; 36.4%) earned between 74 and 79 per cent. Three (27.25%) earned course grades in the 60 to 64 range, and another three scored between 65 and 69 per cent. None of the participants from the Remedial Group in Cohort I scored lower than 60 per cent or higher than 79 percent in this course.

Unanticipated was the fact that the participants from the At-Risk Group in Cohort II (who had no remedial support) performed better overall than the participants from the Remedial Group in Cohort I and as a group their grades ranges between 60 and 89 percent. Six (50%) of these participants earned grades higher than the highest grades earned by the participants in the Remedial Group. Perhaps surprisingly three (25%) of the at-risk participants earned between 80 and 84 per cent, and another three (25%) achieved grades that were between 85 and 89 per cent.

The results of the chi-square test of independence were significant at 0.05 level, $\chi^2(2) = 7.47$, $p = .024$, indicating that the distribution of the Anatomy and Physiology final grades (A, B, and C level) was different in the populations of students represented by the Remedial and At-Risk groups. However, these results would not be significant at a more conservative alpha level.

The cumulative final course grades for Anatomy and Physiology for the twenty-three participants from the Remedial Group in Cohort I and the At-Risk Group in Cohort II are presented in Figure 22.
Figure 22. Anatomy and Physiology final grades for participants in the Cohort I remedial and Cohort II at-risk sub-groups

Non-remedial participants. Similar to the grades achieved by the participants in the Non-Remedial Group in Cohort I, the final grades in the Anatomy and Physiology course of the Non-Remedial Group in Cohort II also ranged between 60 and 89 per cent; however one (9.1%) of these participants earned a grade in the highest range of 85 to 89 per cent. Three participants earned between 60 and 64 per cent (the lowest range) and another three scored between 75 and 79 per cent. Interestingly the scores of the participants from the Non-Remedial Group in Cohort II were fairly evenly distributed; two participants (18.2%) earned grades that fell in each of the grade ranges with the exception of one student only in the 70 to 74 percent range. None of the remedial participants scored grades lower than 60 or higher than 89 per cent either. The cumulative final course grades for Anatomy and Physiology of participants in all four sub-groups are presented in Figure 23.
Comparison of remedial/at-risk and non-remedial participants on final grades achieved in the Anatomy and Physiology course. The overall combined final average in the Anatomy and Physiology courses for the 23 experimental remedial and at-risk participants was 73.5%. However, although their performance on the admissions language skills test was quite similar (Table 20 and Figure 19) the participants in the At-Risk Group achieved a higher overall grade of 76.8% compared with the Remedial Group which was only 70.2%. This is an unexpected finding since I expected that the participants who had experienced the embedded remediation intervention would perform better than their relatively similar colleagues in the At-Risk Group who did not have the remedial experience. Based on the analysis of the responses to the survey questions by the participants from the remedial and at-risk sub-groups, a possible explanation for the -6.6% overall average grade difference could be that as a group, the participants from the Remedial Group in Cohort I began to speak English at a later age, managed
a fuller course load and had immigrated to Canada more recently than had the participants in the At-Risk Group in Cohort II (refer to Tables 27 and 28 in Chapter 5).

Interestingly, for the non-remedial participants the final average grades for Anatomy and Physiology were 71.3% for Cohort I and 73.8% for Cohort II. And, for the two combined non-remedial sub-groups the overall average was 72.6% compared with the slightly higher overall average of 73.5% for the combined remedial/at-risk group. The overall combined average of 72.6% for the non-remedial sub-groups was also lower than the average course grade of 76.8 % achieved by the participants from the At-Risk Group in Cohort II and only slightly higher than the 70.2% that was achieved by the Remedial Group in Cohort I. However, it must be remembered that these findings are based on only a small sample of participants in each sub-group in this study. Figure 24 presents the aggregated final grades in the Anatomy and Physiology course for all groups and the trajectory for the remedial and at-risk students in Cohort I and Cohort II. The results of the chi-square test of independence were non-significant, \( \chi^2(6) = 8.32, p = .216 \), indicating that the distribution of the Anatomy and Physiology final grades (A, B, and C level) was similar in the populations of students represented by the four study groups.

![Anatomy and Physiology Final Grade Average Distribution for both Cohorts by Sub-group (n=48)](image)

**Figure 24.** Anatomy and Physiology final average grade distribution both cohorts by sub-group.
Anatomy and Physiology test scores compared to the literature. In my review of the literature I found no studies directly related to the focus of my study. The only literature I found that had some relevance to this study from the 2008 interim report. However, the 2008 interim report compared if remedial and post-secondary non-remedial groups had similar or different academic outcomes in a similar Anatomy and Physiology course, whereas my study focused, not only on a comparison of the academic outcomes of remedial and non-remedial participants, but more specifically on a comparison of the academic outcomes between the Remedial Group which had experienced a remedial intervention, and those of the similar At-Risk Group who had not experienced that remedial intervention.

The author of the 2008 interim report concluded that the two remedial cohorts (Cohort 1, Winter 2007 and Cohort 2, Fall 2007) who participated in that comparative study found that “Embedded remediation had a highly significant moderate effect for academic performance in the Anatomy and Physiology course in Cohort I, which was +7.54 grade points and in Cohort II, which was +6.68 grade points” (p. 2).

(b) Nursing I Final Course Grades

The Nursing I course introduces students to the various professional Standards of Practice (e.g., medication and documentation) set by the profession’s governing body, the College of Nurses of Ontario (CNO). The minimum passing grade for the course is 60%, which can be achieved by students completing a multiple choice and short answer term test worth 20%, a reflective paper worth 15%, a passport for student success assignment valued at 10%, a scholarly paper worth 20% and finally, a multiple choice comprehensive final exam worth 35%.

Remedial and at-risk participants. None of the remedial/at risk participants in either cohort scored lower than 65 percent in the Nursing I course. In the Remedial Group from Cohort
I, the largest number of student in any grade range was four (36.4%) who scored in the 65 to 69 per cent range. In comparison, the largest number of the at-risk participants in any grade range was the five participants who scored between 80 and 84 per cent. Only one participant in each of the remedial groups scored between 85 and 89 per cent.

In summary and again surprisingly, the At-Risk Group in Cohort II who had no remedial intervention earned higher grades (an overall average of 77.6%) in the Nursing I course than did the Remedial Group in Cohort I who had experienced the intervention, but achieved a lower overall average grade of 73.3%. This means that the remedial group achieved a -4.3% grade below the At-Risk Group in the Nursing I course. One possible rationale as to why that happened may be related to the theme I identified in the remedial participants’ comments stating that what they liked least about the Literacy Skills I course was that it took time away from the students’ overall program studies. For example, (P7) stated, “It wasted a lot of my time I would have used to read principle course (material) like other students”. The compiled final course grades for Nursing I of the remedial and the at-risk groups are presented in Figure 25.

**Figure 25.** Nursing I final grades for participants in the remedial (Cohort I) and at-risk (Cohort II) sub-groups.
**Non-remedial participants.** None of the participants in the non-remedial group of Cohort I scored lower than 70% or higher than 84%, whereas one student in each of the remedial and at-risk groups achieved grades in the 85 to 89 per cent range. The majority (n=9; 64.3%) of the participants in the non-remedial Cohort I group scored between 75 and 79 percent and the majority (n=8; 72.7%) of the non-remedial students in Cohort II scored even higher in the range of 80 to 84%. The results of the chi-square test of independence were non-significant, $\chi^2(2) = 2.74, p = .254$, indicating that the distribution of the Nursing I final grades (A, B, and C level) was similar in the populations of students represented by the Remedial and At-Risk study groups. The distribution of final combined grades achieved in the Nursing I course by all four of the sub-groups is presented in Figure 26.

![Nursing I Final Grades for both Cohorts by Sub-group (n=48)](image)

*Note: Variation in the number of participants per sub-group.*

**Figure 26.** Nursing I final combined grades for both cohorts by sub-group.

**Comparison of remedial/at-risk and non-remedial participants for Nursing I final grades.** Contrary to my expectations, at 73.3% the overall average grade of the Remedial Group in Cohort I in the Nursing I course was again somewhat lower than the 77.6% average of their
similar at-risk colleagues in Cohort II. The average final course grades for the non-remedial sub-groups were 76.1% for Cohort I and a slightly higher 79.3% for Cohort II. The overall average for the 25 non-remedial students in total was 77.7%. By comparison, the combined overall average 75.5% for the 23 remedial and at-risk students was only slightly lower. Figure 27 depicts these findings. The results of the chi-square test of independence were significant, $\chi^2(6) = 20.97$, $p = .002$, indicating that the distribution of the Nursing I final grades (A, B, and C level) was different in the populations of students represented by the four study groups.

![Nursing I Final Grade Average Distribution for both Cohorts by Sub-group (n=48)](image)

*Figure 27*. Nursing I final average combined grade distribution both cohorts by sub-group.

**Nursing I final grades compared to the literature.** Again, I found no specific literature related to how embedded remediation might impact academic performance. The only study I found that had some similarities to this study was from the 2008 interim report. The main difference was that that study only explored if remedial and post-secondary (non-remedial) groups had comparable or dissimilar academic performance outcomes in a similar nursing course, while this study included a comparison with the two Non-Remedial Groups from Cohort
I and Cohort II, it focused more specifically on the comparison of academic performance outcomes between the remedial/experimental and at-risk/control sub-groups. The author of the 2008 interim report concluded that embedded remediation had “a small but significant effect” in the (nursing course). For Cohort I (Winter 2007 semester), it was +2.61 grade points and “a small but non-significant effect” for Cohort II (Fall 2007 semester), which was +2.39 grade points (p. 2). The findings in my study were inconsistent with those findings.

(c) Retention of Remedial Experimental Participants

The completion rate in the embedded remediation course (Literacy Skills I) was 100%, with an overall average grade in that course of 82.4% for the Cohort I remedial/experimental participants. Furthermore, all 11 of the students who participated in this intervention were successful in all the courses in Semester I and were promoted to Semester II - a 100% retention rate. Because of the uniqueness of this linked course that was developed by the communications faculty at Urban College, it is difficult to compare this result to other embedded remediation literature. However, based on previous semesters at Urban College, the overall average of this group of participants was similar to that of other remedial students in the past. For example, the overall average grade in the Literacy Skills I course for the entire cohort admitted in the previous year was 83.2% in the Winter Semester 2010 and 82.7% in the Fall Semester 2010.

The participating remedial students were successful not only, in the Literacy Skills I course but also, the Anatomy and Physiology and the Nursing I courses as well as all of their other Semester 1 courses, and therefore all eleven of the participants were promoted to Semester 2 of the PN program.
When comparing the performance of the remedial participants from Cohort I with that of the at-risk participants from Cohort II, the participating students from the remedial/experimental group achieved an overall grade of 70.2% in Anatomy and Physiology compared with the overall final grade average of 76.8% by the At-Risk Group, which is +6.6% higher than the remedial group’s average grade. The overall grade for the Remedial Group in Nursing I was 73.3%, whereas the participants from the At-Risk Group achieved a 77.6%, a higher overall course grade of +4.3%.

Although the At-Risk Group achieved higher overall course grades in both courses, it is important to note that (based on the data collected in the Background and Language Questionnaire) the participants from the Remedial Group experienced many more challenges than did the students in the At-Risk Group.

The key differentiating variables reported were: the age when participants learned to speak English; the age when participants entered into Canada; the primary most fluent spoken language; the academic course load and the overall results scored on the listening admission tests. For example, all of the 11 participants from the Remedial Group were born outside of Canada, whereas only nine of the 12 participants (75%) from the At-Risk Group were born outside of Canada. Furthermore, only three of the participants (27.3%) from the remedial/experimental group indicated English was the language they were most fluent in speaking. That finding was markedly different from the at-risk group, in which all reported English was the primary language that they were most fluent in when speaking, even though nine (75%) of that group said they were born outside of Canada. In addition, the three other participants (25%) from the at-risk/control group identified English as their first language, which
means that all 12 participants of the at-risk group spoke English more often than those of the remedial/experimental group.

An additional and very important finding that could explain why the At-Risk Group’s overall higher course grades may be that the At-Risk Group had a reduced course load as seven (58.3%) of the 12 were registered in only six out of the maximum nine courses offered in Semester 1. Only one participant (8.3%) from the At-Risk Group was registered in all nine courses. By comparison, seven of the eleven participants (63.6%) in the remedial/experimental group took either eight or nine courses.

Further analysis of the key characteristics such as age when participants learned to speak English, age when participants entered into Canada, primary language spoken at home, academic course load and the overall results scored on the listening admission tests, suggests a relationship between differences in these variables and lower grades achieved by the experimental/remedial group in Cohort I in Anatomy and Physiology, Nursing I and the Literacy Skills I courses. For example, P10, a participant from the Cohort I remedial/experimental group entered Canada at age 24 and only then began speaking English, was most fluent speaking Vietnamese rather than English, and was enrolled in 8/9 Semester 1 courses. P10 also had the lowest listening score of participating students from Cohort I, which was a 71 (Proficiency Level 2) and only achieved a grade of 63% in Anatomy and Physiology, 65% in Nursing I, and 73% in Literacy Skills I. All of P10’s grades were the lowest achieved compared to the other ten participating students. Interestingly, P10 provided the most positive feedback in the qualitative portion of the survey, as she felt that the Literacy Skills I course helped increase her communication skills, “I live alone and it helped me to practice speaking English so that was helpful” and “I liked that I was able to try and improve my English” (P10). These findings are presented in Tables 20 and 21.
Table 20

*Academic Profile of Performance of Cohort I Remedial Participants in Semester 1, (n=11)*

<table>
<thead>
<tr>
<th>Participant (n=11)</th>
<th>NLS</th>
<th>UCWS</th>
<th>COMPASS</th>
<th>Anatom and Physiology</th>
<th>Nursing I</th>
<th>Literacy Skills I</th>
<th>Age Speaking English</th>
<th>Age Entered Canada</th>
<th>Most Fluent Language</th>
<th>Course Load</th>
</tr>
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<tbody>
<tr>
<td>P1</td>
<td>?</td>
<td>?</td>
<td>69</td>
<td>74.6</td>
<td>78</td>
<td>7</td>
<td>28</td>
<td>28</td>
<td>Other</td>
<td>7/9</td>
</tr>
<tr>
<td>P2</td>
<td>3/7</td>
<td>89</td>
<td>79</td>
<td>85.4</td>
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<td>1</td>
<td>22</td>
<td>16</td>
<td>English</td>
<td>8/9</td>
</tr>
<tr>
<td>P3</td>
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<td>98</td>
<td>75</td>
<td>78</td>
<td>90</td>
<td>10</td>
<td>16</td>
<td>16</td>
<td>English</td>
<td>7/9</td>
</tr>
<tr>
<td>P4</td>
<td>2/6</td>
<td>95</td>
<td>69</td>
<td>73.4</td>
<td>75</td>
<td>6</td>
<td>25</td>
<td>9/9</td>
<td>Other</td>
<td>6/9</td>
</tr>
<tr>
<td>P5</td>
<td>2/5</td>
<td>87</td>
<td>60</td>
<td>66.5</td>
<td>80</td>
<td>13</td>
<td>20</td>
<td>19</td>
<td>English</td>
<td>8/9</td>
</tr>
<tr>
<td>P6</td>
<td>2/6</td>
<td>120</td>
<td>78</td>
<td>81.8</td>
<td>86</td>
<td>10</td>
<td>19</td>
<td>6/9</td>
<td>Other</td>
<td>9/9</td>
</tr>
<tr>
<td>P7</td>
<td>3/7</td>
<td>82</td>
<td>72</td>
<td>68.8</td>
<td>90</td>
<td>6</td>
<td>32</td>
<td>9/9</td>
<td>Other</td>
<td>9/9</td>
</tr>
<tr>
<td>P8</td>
<td>3/7</td>
<td>88</td>
<td>75</td>
<td>68.6</td>
<td>78</td>
<td>7</td>
<td>32</td>
<td>English</td>
<td>6/9</td>
<td></td>
</tr>
<tr>
<td>P9</td>
<td>3/7</td>
<td>86</td>
<td>69</td>
<td>70</td>
<td>87</td>
<td>6</td>
<td>24</td>
<td>Other</td>
<td>9/9</td>
<td></td>
</tr>
<tr>
<td>P10</td>
<td>2/6</td>
<td>71</td>
<td>63</td>
<td>65</td>
<td>73</td>
<td>24</td>
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<td>8/9</td>
<td>Other</td>
<td>8/9</td>
</tr>
<tr>
<td>P11</td>
<td>2/5</td>
<td>92</td>
<td>63</td>
<td>74.5</td>
<td>79</td>
<td>7</td>
<td>23</td>
<td>8/9</td>
<td>Other</td>
<td>8/9</td>
</tr>
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<td>Overall Average</td>
<td>82.5</td>
<td>70.2%</td>
<td>73.3%</td>
<td>82.4%</td>
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</table>

Table 21

*Academic Profile of Cohort II At-risk Participants in Semester 1, (n=12)*

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<thead>
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<th>Participant (n=12)</th>
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<th>UCWS</th>
<th>COMPASS</th>
<th>Anatom and Physiology</th>
<th>Nursing I</th>
<th>Literacy Skills I</th>
<th>Age Speaking English</th>
<th>Age Entered Canada</th>
<th>Most Fluent Language</th>
<th>Course Load</th>
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<td>99</td>
<td>87</td>
<td>85</td>
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<td>31</td>
<td>English</td>
<td>8/9</td>
<td></td>
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<tr>
<td>P27</td>
<td>2/5</td>
<td>85</td>
<td>74</td>
<td>71</td>
<td>N/A</td>
<td>25</td>
<td>25</td>
<td>Other</td>
<td>6/9</td>
<td></td>
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<td>85</td>
<td>75</td>
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<td>7</td>
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<td>English</td>
<td>8/9</td>
<td></td>
</tr>
<tr>
<td>P29</td>
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<td>84</td>
<td>80</td>
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<td>23</td>
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<td>77</td>
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<td>35</td>
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<td>60</td>
<td>68</td>
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<td>22</td>
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<td>English</td>
<td>8/9</td>
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<tr>
<td>P32</td>
<td>2/5</td>
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<td>87</td>
<td>67</td>
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<td>38</td>
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<td>6/9</td>
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<tr>
<td>P33</td>
<td>2/6</td>
<td>120</td>
<td>75</td>
<td>82</td>
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<td>2</td>
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<td>English</td>
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<td>82</td>
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<td>English</td>
<td>7/9</td>
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</tr>
<tr>
<td>P35</td>
<td>2/5</td>
<td>90</td>
<td>80</td>
<td>81</td>
<td>N/A</td>
<td>20</td>
<td>24</td>
<td>Other</td>
<td>6/9</td>
<td></td>
</tr>
<tr>
<td>P36</td>
<td>3/7</td>
<td>85</td>
<td>66</td>
<td>85</td>
<td>N/A</td>
<td>3</td>
<td>3</td>
<td>English</td>
<td>6/9</td>
<td></td>
</tr>
<tr>
<td>P37</td>
<td>2/6</td>
<td>120</td>
<td>78</td>
<td>78</td>
<td>N/A</td>
<td>1</td>
<td>N/A</td>
<td>English</td>
<td>6/9</td>
<td></td>
</tr>
<tr>
<td>Overall Average</td>
<td>99.1</td>
<td>76.8%</td>
<td>77.6%</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Overall grades achieved in (a) the Anatomy and Physiology, (b) the Nursing I course in the first semester, and (c) the retention rates (not just those who participated in this study)

Because such a small number of students from each sub-group participated in the study, it was difficult to determine reliably whether or not the embedded remediation course did or did not have a direct relationship on retention rates and overall grades achieved in Anatomy and Physiology I and Nursing I. Therefore, to explore further if the embedded remediation had any
impact on student performance, *all* remedial students from Cohorts I and II (not just those who participated in this study) who tested NLS/UCWS ≤ 2/6 on their writing test and below 90 on their listening test were reviewed. The following factors, such as the total number of students admitted into the program, Semester 1 attrition and retention rates, failure rates in Anatomy and Physiology I and finally, failure rates in Nursing I were assessed for *all* students admitted to both Cohorts I and II.

**Total Number of Cohort I Students Admitted into Semester 1** (not just those who participated in this study)

A total of 125 students were enrolled in Cohort I during the winter term of 2011. Based in the Admission and Placement test scores, 49 participants (39.2%) were assessed as needing remediation and were required to take the Literacy Skills I intervention course. Sixty-four participants (51.2%) qualified as non-remedial, which means they were not required to take the remediation course. Eleven students (8.8%) withdrew from the program sometime between Weeks 1 to 10 and one student (0.8%) was granted a standing deferred. Data obtained through consultation with the Academic Advisor revealed the majority of the withdrawals and standing deferred status were directly related to health, family, financial or communication issues. Table 22 presents those findings.

Table 22

<table>
<thead>
<tr>
<th>Cohort I Student Population</th>
<th>Number of Students</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remedial</td>
<td>49</td>
<td>39.2%</td>
</tr>
<tr>
<td>Non-Remedial</td>
<td>64</td>
<td>51.2%</td>
</tr>
<tr>
<td>Withdrawals</td>
<td>11</td>
<td>8.8%</td>
</tr>
<tr>
<td>Standing Deferred</td>
<td>1</td>
<td>0.8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>125</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
**Total Number of Cohort II Students Admitted into Semester 1** (not just those who participated in this study)

A total of 137 students were enrolled in Cohort II during the fall 2011 term. Upon reviewing the Admission and Placement test scores, 78 participants (56.9%) were assessed as needing remediation and were required to take the Literacy Skills I intervention course, and 47 participants (34.3%) were classified as non-remedial. Eleven students (8.1%) of this group who also withdrew from the program sometime between Weeks 1 to 10 and one student (0.7%) was granted a standing deferred. And, similar to Cohort I, the majority of the withdrawals and standing deferred status was directly related to health, family, financial or communication issues. Again, these data were provided by the records that were maintained by the Academic Advisor. Table 23 shows the total student enrollment from Cohort II in Semester 1 of the PN program.

Table 23

*Total Number of Cohort II Students Admitted into Semester 1, (n=137)* (not just those who participated in this study)

<table>
<thead>
<tr>
<th>Cohort II Student Population</th>
<th>Number of Students</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>At-Risk</td>
<td>78</td>
<td>56.9%</td>
</tr>
<tr>
<td>Non-Remedial</td>
<td>47</td>
<td>34.3%</td>
</tr>
<tr>
<td>Withdrawals</td>
<td>11</td>
<td>8.1%</td>
</tr>
<tr>
<td>Standing Deferred</td>
<td>1</td>
<td>0.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>137</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Attrition and Retention Rates to the Entire Cohort I Class Overall** (not just those who participated in this study)

Of the entire 125 students in Cohort I class who were admitted to the PN program during the winter term in 2011, there was a total of 113 students who remained in the program at the end of the semester. Table 23 illustrates the total attrition and retention rates for all Cohort I students admitted into the PN program in the Winter 2011 semester.
Cohort I remedial students. A total of 7 (6.2%) of the remedial students were not successful in achieving a passing grade of 60% in one or two of their core nursing courses and therefore did not advance into Semester 2 of the program. Eleven (9.7%) of the total remedial students failed more than three of the core courses and were officially withdrawn from the program. In reviewing the retention rates, there were a total of 31 (27.5%) remedial students who passed all of their Semester 1 courses and were promoted into the second semester of the program.

Cohort I non-remedial students. Eight of the non-remedial students (7.1%) did not pass one or two of their Semester 1 courses and did not advance to the second semester of the program. Twelve (10.6%) of the non-remedial students did not achieve a grade of 60% or above in three or more of their courses, therefore were not able to continue on in the program. There were a total of 44 (38.9%) non-remedial students who were successful in the first semester and continued to Semester 2. Table 24 shows the total attrition and retention rates for all Cohort I students admitted into the PN program in the Winter 2011 semester.

Table 24

<table>
<thead>
<tr>
<th>Attrition</th>
<th>Remedial (n=49)</th>
<th>Non-Remedial (n=64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 2 Course Failures</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>&gt; 3 Course Failures</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>Total Cohort I Attrition Rate</td>
<td>38 = 33.6%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Retention</th>
<th>Remedial (n=49)</th>
<th>Non-Remedial (n=64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promoted to Semester 2</td>
<td>31</td>
<td>44</td>
</tr>
<tr>
<td>Total Cohort I Retention Rate</td>
<td>75 = 66.4%</td>
<td></td>
</tr>
</tbody>
</table>

Note. Numbers do not include students who withdrew or received a standing deferred status.
Summary analysis of total attrition and retention rates of all Cohort I students in Semester 1. At the end of the first semester in the winter 2011 term, a total of 75 Cohort I students (66.4%) were retained in the PN program and promoted to the second semester with the data presented to the PN faculty at a meeting to discuss the issues surrounding attrition and retention in the program. Faculty were informed, “The attrition rate for Semester 1 (of the PN Program) is the highest at the college; it (was) 37%” (Personal communication with an administrator at Urban College, February 21, 2014). The results of the chi-square test of independence were non-significant, $\chi^2(6) = 0.38, p = .827$, indicating that the percentage of students failing courses in Semester I and being promoted to Semester II are similar in Remedial and Non-Remedial groups in Cohort I.

Attrition and Retention Rates of the Entire Cohort II Class (not just those who participated in this study)

A total of 125 students remained at the end of the semester after 11 students withdrew from the program and one received a standing deferred status for personal reasons. Table 25 presents the total attrition and retention rates of Semester 1 PN program students who were enrolled in the Fall 2011 term. Of the total 125 students admitted to the Cohort II class, 78 students were assessed as at-risk and needing remediation and 47 did not need remedial assistance. Table 25 shows the total attrition and retention rates for all Cohort II students admitted into the PN program in the Fall 2011 semester.

Cohort II at-risk students. When analyzing the data in regards to the attrition rates, there were 33 students (25.6%) of the at-risk students in this Cohort who did not achieve a passing grade of 60% in one or two of their primary nursing courses, which prevented them from advancing to Semester 2. Fifteen (12%) from the Cohort II at-risk students were not successful in
three or more of their primary courses and officially failed out of the program. A total of 27 (21.6%) of the at-risk students passed all of their Semester 1 courses, and were therefore promoted into the second semester of the program.

**Cohort I non-remedial students.** Eleven (8.8%) non-remedial students did not pass one or two of their Semester 1 courses and did not move into the second semester of the program. Twelve students (9.6%) did not attain a grade of 60% or above in three or more of their courses and as a result, they were not permitted to continue with the program. A total of twenty-four non-remedial students (19.2%) were successful in the first semester and continued to Semester 2.

Table 25

*Attrition and Retention Rates for Entire Cohort II Class in Semester 1, Fall 2011* (n=125) (not just those who participated in this study)

<table>
<thead>
<tr>
<th>Cohort II (n=125)</th>
<th>At-risk (n=78)</th>
<th>Non-Remedial (n=47)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attrition</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#</td>
<td>%</td>
<td>#</td>
</tr>
<tr>
<td>1 to 2 Course Failures</td>
<td>32</td>
<td>25.6</td>
</tr>
<tr>
<td>&gt; 3 Course Failures</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>No Admission Scores</td>
<td>4</td>
<td>3.2</td>
</tr>
<tr>
<td>Total Cohort II Attrition Rate</td>
<td><strong>74 = 59.2%</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Retention</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#</td>
<td>%</td>
<td>#</td>
</tr>
<tr>
<td>Promoted to Semester 2</td>
<td>27</td>
<td>21.6</td>
</tr>
<tr>
<td>Total Cohort II Attrition Rate</td>
<td><strong>51 = 40.8%</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Numbers do not include students who withdrew or received a standing deferred status.

**Summary analysis of total attrition and retention rates of all Cohort II students in Semester 1.** At the end of the first semester, the overall attrition rate was 59.2% for the students from Cohort II. The statistics were consistent with the figures presented to faculty at a meeting on May 23, 2014 by an UC Administrator to discuss the issues involving attrition and retention in the PN program. Therefore, a total of 51 students (40.8%) from the Fall 2011 cohort were retained in the PN program and able to advance to the second semester of the program in the
Winter 2012 term. The results of the chi-square test of independence were non-significant, $\chi^2(6) = 4.99, p = .082$, indicating that the percentage of students failing courses in Semester I and being promoted to Semester II are similar in Remedial and Non-Remedial groups in Cohort II.

According to the UC Administrator, the retention rate for the cohort starting the first term in September 2011 was 41% (personal communication, May 2014). As well, during the same meeting, one of the faculty members confirmed this number by stating, “I remember that semester very well, it was one of the most challenging ones we have ever had as far as failures because more than half of the group failed out” (Personal communication, May 23, 2014).

**Anatomy and Physiology: Attrition Rate of All Remedial (Cohort I) and At-Risk (Cohort II) Students admitted in** (not just those who participated in this study)

The number of students from both the Remedial Group (n=11) and the at-risk group (n=12) who agreed to participate in this study was small; it was eleven of 49 (22.4%) for the total Cohort I remedial students, and 12 of 78 (15.3%) of Cohort II at-risk students) but all had passed the Anatomy and Physiology course and all were promoted to Semester II. It is reasonable to assume that students who were successful were more willing to participate than those who perhaps were not and, therefore it was difficult to conclude if there was a relationship between embedded remediation and overall grades achieved in Anatomy and Physiology course.

Table 26 compares the attrition rate of all of the remedial students enrolled in the Winter 2011 semester with all of the at-risk students registered in Anatomy and Physiology during Fall 2011. Sixteen students (32.6%) out of the total 49 remedial students and 35 (44.9%) out of the total 78 at-risk students were unsuccessful in the Anatomy and Physiology course.
Table 26

Attrition Rates of all of the Remedial and At-Risk Students in Anatomy and Physiology Course, (n=49 in Cohort I and n=78 in Cohort II) (not just those who participated in this study)

<table>
<thead>
<tr>
<th>Cohort I Remedial Group</th>
<th>Number of Students</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy and Physiology Course Attrition Rate</td>
<td>18</td>
<td>36.7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cohort II At-Risk Group</th>
<th>Number of Students</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy and Physiology Course Attrition Rate</td>
<td>35</td>
<td>44.9%</td>
</tr>
</tbody>
</table>

Note. Numbers do not include students who withdrew or received a standing deferred status

Summary analysis of the attrition rates of the remedial and at-risk students in Anatomy and Physiology. The data from previous semesters were reviewed to compare what the average attrition rate for Anatomy and Physiology was because student characteristics tend to be similar every semester, and if the same types of students are admitted into the program, then it seems there would be a need for remediation. As a result, the remedial students from Cohort I did fall within the standard trends. For example, the percentage of remedial students who dropped out from Anatomy and Physiology in the Winter semester of 2010 was 31.7% and for the fall of 2010 it was 33.3%.

Anatomy and Physiology: Overall Final Course Grade Average by Remedial, At-Risk and Non-remedial Students in Cohorts I and II (not just those who participated in this study)

The interim report (2008) stated “students with remedial language needs often find it challenging to achieve equal or greater academic outcomes than their non-remedial counterparts in a post-secondary context” (p. 2). For this reason, it is meaningful to compare the performance of remedial students and the at-risk students to their non-remedial colleagues for the purpose of evaluating if the embedded remediation may or may not have contributed to gains in the academic performance of remedial students.
Comparative overall average for the final grade for Anatomy and Physiology of the remedial, at-risk and non-remedial students in Cohorts I and II. In total the remedial students (n=49) in Cohort I achieved an overall grade of 64.5%, whereas the at-risk group (n=78) achieved 61.2% in the Anatomy and Physiology course, which was a +3.3% GPA difference in favour of the remedial students who had experienced the remedial intervention compared to the at-risk students in Cohort II who had not. The non-remedial students (n=64) from Cohort I had an overall final grade of 65.5%. This +1% GPA advantage over the remedial students would not be considered to be substantive and is similar to their non-remedial classmates. In Cohort II, the total non-remedial (n=47) students scored an overall average of 67.5%, which is +6.3% higher than their cohort peers, the at-risk students (n=78) which was the first cohort not offered embedded remediation in the PN curriculum. Table 27 depicts a comparison of the final grades earned in the Anatomy and Physiology course by the remedial, at-risk and non-remedial students in Cohorts I and II.

Table 27

Overall Final Grade Average for Anatomy and Physiology Course by Remedial, At-Risk and Non-remedial Students in Cohorts I and II (not just those who participated in this study)

<table>
<thead>
<tr>
<th>Cohort I and II Students n=238</th>
<th>Cohort I Remedial Group n=49</th>
<th>Cohort II At-Risk Group n=78</th>
<th>Cohort I Non-Remedial Group n=64</th>
<th>Cohort II Non-Remedial Group n=47</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Final Grade Average for Anatomy and Physiology</td>
<td>64.5%</td>
<td>61.2%</td>
<td>65.5%</td>
<td>67.5%</td>
</tr>
</tbody>
</table>

Note. Numbers do not include students who withdrew or received a standing deferred status

Summary analysis of the overall average for the final grade for remedial, at-risk and non-remedial students in Cohorts I and II in Anatomy and Physiology. The distinctive linking of the core courses for this embedded remediation program resulted in difficulty finding literature to compare with. Therefore, Urban College records from preceding semesters were
analyzed; in general the overall final grade average for Anatomy and Physiology was representative of all but the at-risk group. For example, the overall Anatomy and Physiology course grade for students in the winter semester of 2010 was 68.1% and in the fall semester of 2010, it was 66.3%, which placed the at-risk group -6.9 and -5.1 below historical course grade average. This suggests there may have been a relationship between student involvement in embedded remediation and overall grades achieved in Anatomy and Physiology.

**Nursing I: Attrition Rates of All Remedial (Cohort I) and At-Risk (Cohort II) Participating Students in** (not just those who participated in this study)

Table 28 describes the failure rates in the Nursing I course by comparing the failure rates of the total number of remedial students registered in the winter semester in 2011 with the total number of at-risk students in the Nursing I course during the fall term of 2011. A total of four students (8.2%) out of the 49 remedial students in Cohort I and eleven (14.1%) of the 78 at-risk students in Cohort II did not achieve above 60%.

Table 28

*Attrition Rates of all Cohort I Remedial and At-Risk Students in Nursing I Course, (n=49 and 78) (not just those who participated in this study)*

<table>
<thead>
<tr>
<th>Cohort I Remedial Group</th>
<th>Number of Students (n=49)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing I Course Failure</td>
<td>4</td>
<td>8.2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cohort II At-Risk Group</th>
<th>Number of Students (n=78)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing I Course Failure</td>
<td>11</td>
<td>14.1%</td>
</tr>
</tbody>
</table>

Note. Numbers do not include students who withdrew or received a standing deferred status

The analysis of the relevant data from preceding semesters indicated that the attrition rate for the Nursing I course was within expected averages for all remedial students of Cohort I. For example, the percentage of remedial students who were not successful in passing Nursing I course during the winter semester of 2010 was 9.3% (n=8) compared with 7.6% (n=10) of the remedial students admitted into the program in the fall term of 2010.
Nursing I: Overall Final Course Grade Average by Remedial, At-Risk and Non-remedial Students in Cohorts I and II (not just those who participated in this study)

The overall final grades of all the remedial students registered in Cohort I and all the at-risk students in Cohort II were also compared. The Cohort I students who experienced the remedial intervention (n=49) achieved an overall grade of 70.8%, whereas the at-risk students in Cohort II (n=78) achieved 69.1%, which is a small but positive +1.7% GPA in favour of the students in Cohort I who experienced the remedial intervention.

When comparing the total non-remedial group of students (n=64) from Cohort I, they had an overall final grade of 68%. This result indicates that the remedial group of students (at 70.8%) had a+2.8% GPA advantage, which is a slightly better performance compared to their non-remedial classmates. However, the at-risk/control students in Cohort II (n=78) who did not have the embedded remediation intervention had a significantly lower overall course average of -9.9% compared to their non-remedial classmates (n=47). Table 29 presents the comparison of the final grades earned in the Anatomy and Physiology course by the remedial, at-risk and non-remedial students in Cohorts I and II.

Table 29

Overall Final Grade Average for the Nursing I Course by Remedial, At-risk and Non-remedial Students in Cohorts I and II (not just those who participated in this study)

<table>
<thead>
<tr>
<th>Cohort I and II Students n=238</th>
<th>Cohort I Remedial Group n=49</th>
<th>Cohort II At-Risk Group n=78</th>
<th>Cohort I Non-Remedial Group n=64</th>
<th>Cohort II Non-Remedial Group n=47</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Final Grade Average for Nursing I</td>
<td>70.8%</td>
<td>69.1%</td>
<td>68%</td>
<td>79%</td>
</tr>
</tbody>
</table>

Note. Numbers do not include students who withdrew or received a standing deferred status.
Summary analysis of the overall average for the final grade for remedial, at-risk and non-remedial students in Cohorts I and II in Nursing I. Given the specificity of these data, no relevant studies were found in the literature. However, when the data from preceding semesters of the Urban College PN program were analyzed, the typical overall final grade average for Nursing I indicated that all of the four sub-groups in the classes admitted were within close proximity of the historical course grade average. For example, the overall course grade for Nursing I of students in the winter semester of 2010 was 75.5%, and in the fall semester of 2011, it was 73.6%.

Summary of Findings Related to Research Question #5

Table 30 presents a comparison of the academic performance by participants and all members of each Cohort.

Table 30

Comparison of Academic Performance by Cohorts – Participants and Total Cohort

<table>
<thead>
<tr>
<th>Cohort I</th>
<th>Cohort II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A &amp; P Agg Grade¹</td>
</tr>
<tr>
<td>Remedial Participants Only (n=11)</td>
<td>70.2%</td>
</tr>
<tr>
<td>Total Remedial Students in Cohort I (n=49)</td>
<td>64.5%</td>
</tr>
<tr>
<td>Non-Remedial Participants Only (n=14)</td>
<td>71.3%</td>
</tr>
<tr>
<td>Total Non-Remedial Students in Cohort I (n=64)</td>
<td>65.5%</td>
</tr>
<tr>
<td>Total Students in Cohort I (n=113)</td>
<td></td>
</tr>
</tbody>
</table>

Legend:
¹ – Refer to Table 27
² – Refer to Table 29
³ – Retention Rate from Semester 1 to Semester 2
Agg – Overall Aggregate Grade
When comparing the performance of the eleven remedial participants from Cohort I with that of the twelve at-risk participants from Cohort II, the participants from the At-Risk Group achieved +6.6% overall course grade in Anatomy and Physiology and +4.3% overall course grade in Nursing I than the Remedial Group. Because small numbers of participants from each sub-group, it would be a hard to conclude if the Literacy Skills I course had a direct relationship on retention rates and overall grades achieved in Anatomy and Physiology I and Nursing I.

The relationship between students’ participation in the Literacy Skills I course and the overall grades achieved in the Anatomy and Physiology course was positive when the total number of students in each sub-group was reviewed. Although the demographic characteristics varied somewhat between the two groups, both the students in the Remedial Group in Cohort I and the students from the At-Risk Group in Cohort II were assessed as needing remediation based on the same admissions testing protocol. While recognizing that limitation it is noteworthy that the overall remedial/experimental students in Cohort I (n=49) achieved a +3.3% grade lead compared to the overall at-risk/control students (n=78) in Cohort II. There was a small effect on the Nursing I final grades, the remedial students had a +1.7% grade lead over the students in the at-risk students.

**Summary of Chapter 5**

In Chapter Five I presented and analyzed the results for research questions four and five, which surveyed the perceptions of the Cohort I remedial participants regarding their experience in and usefulness of the embedded remediation intervention (the Literacy Skills I course). I also presented and the relationship between the students’ participation in the embedded remediation course (Literacy Skills I) and the overall grades the remedial students achieved in the Anatomy and Physiology, Nursing I courses in the first semester, and their retention rates.
The discussion in Chapter Six focuses on conclusions based on the findings, and implications for practice and policy, as well as further research. I also suggest that there be consideration for non-traditional students included Tinto’s theories of academic and social integration.
Chapter Six: Conclusions and Implications

This chapter presents the overall conclusions based on the key findings of this study. The overriding research question that drove this study was whether the participating first semester Urban College Practical Nursing (PN) students, who received remedial intervention, performed better academically than did their colleagues who did not receive this support. Furthermore, the study explored the relationship between selected demographic characteristics of these students and their academic performance. The implications of these findings for practice, policy and further research are discussed in this chapter. Finally, I propose the expansion of Tinto’s Student Integration Model to address the specific needs of non-traditional adult students.

Conclusions

The findings of this study provide insight into the extent to which Urban College’s remedial language intervention, which was the Semester 1 Literacy Skills course, impacted the performance in two linked core in the PN courses (Anatomy and Physiology and Nursing I) of 11 students who were identified as underprepared for the PN program, and how their performance compared with 12 similar colleagues who did not receive the remedial support, even though they too were assessed as performing at a remedial level that would benefit from remedial intervention. The findings also identify the selected demographic characteristics of 23 students assessed as needing remedial assistance and how these may relate to their academic performance.

Demographic Profiles of Remedial/At-Risk of Participants and those Assessed as Non-Remedial (Response to Research Question #1)

The profile based on demographic variables such as age, gender, family responsibilities and language skills was very different for those participants assessed as needing remediation and
those participants who were deemed to be not in need of remediation. Compared to the non-remedial groups, the remedial/at risk groups were older. A majority of the remedial/at-risk participants were born outside of Canada and, overall only half of these participants said they spoke English at home compared with the 80 percent of the non-remedial participants who said they did. Almost 87 percent of the remedial/at-risk participants said English was not their first language, whereas 88 percent of the non-remedial group said it was. When the remedial/at-risk participants did learn to speak English, it was at an older age and they could also speak and read more languages than the non-remedial group. These data are particularly relevant with respect to the need for and the impact of remediation in language skills learning on academic performance. Because of the domination of females in the nursing profession, only a few males participated, but the gender distribution of the participants in this study was shown to be comparable to those who did not participate.

**Admission and Placement Tests (Response to Research Question #2)**

As I expected, the findings identified a relationship between language challenges and the results achieved on admission and placement test scores. Participants who originated from non-English speaking countries, who reported that English was not their first language and who did not speak English at home, scored in the remedial criteria of either below two on the NLS and below six on the UCWS writing test or below 90 on the COMPASS/Accuplacer listening test on admission, which was the reason they were assessed as needing remediation. On the other hand and not surprising their colleagues who scored above these cut off scores, were more likely to be born in Canada, for whom English was their first language spoken, performed better on these linguistic admissions tests and were therefore not classified as needing remediation.
The data also suggested there was a relationship between other language challenges identified and results obtained on college admission tests. Those participants who self-reported they were not fluent in English, were older when they first learned to speak English, and older when they immigrated to Canada, had lower listening scores - all below 90. However, there appeared to be no relationship between language challenges and the overall grades achieved in the two required courses, Anatomy and Physiology and Nursing I. Participating remedial/at-risk students performed as well as the non-remedial students. I recognize that because this was a case study of a small number (n=48; 42.1%) of purposely selected participants these findings cannot be generalized beyond the case study program.

As of Fall 2011, discontinuation of formal admission tests to assess English language skills has made it very difficult to identify students who are academically underprepared, which could mean that these students will be less successful in meeting the demands of and completing the program. Banner® database (Urban College’s data system) showed a large number of remedial students were admitted into the PN program every semester. The Urban College PN Program Review report (2012-13) stated that, “There is currently no mechanism to identify students with language or academic weaknesses making it more difficult to stream or plan supports for those in need, particularly for ESL students” (p. 15).

Because it is likely that there will continue to be many students applying to Urban College who would have tested below the previously set remedial parameters, curriculum options need to be considered to provide developmental level students an opportunity to understand and be able to apply foundational concepts in order to meet the required performance standards and successfully complete the program. As well, options should be available for those
remedial populations so they can learn to enhance their communication skills, which are necessary for the development of professional relationships within the workplace. Admitting students who are known to be underprepared without providing the needed support to enable them to be successful in the program also raises ethical issues. The report of the 2006 study, which focused on similar students, reported that:

In the workplace, RPNs who write at a developmental level would find it challenging to complete everyday writing tasks effectively. More importantly, given the kinds of errors developmental writers tend to make, hiring RPNs who have developmental level writing skills could put patients’ healthcare at risk. Therefore, it is crucial that these students receive the training they need to improve their written communication skills. (p. 56)

**Student Characteristics and Academic Performance (Response to Research Question #3)**

Based on the data collected from the Background and Language Questionnaire there did not appear to be a clear relationship between the following student characteristics and their achievement on the Literacy Skills I course: gender, employment status, and parental responsibilities. However, there was a relationship between age and academic workload. The remedial and at-risk participants were older, managed a fuller first semester academic work load, and entered Canada at a later age than did their non-remedial colleagues. The older students in the remedial/experimental group tended to have higher academic credentials, which suggest that they may have had a professional career in their country of origin before coming to Canada.

Based on those few identified demographic differences, the characteristics of the Remedial Group were not substantively related to their achievement in the embedded remediation course, Anatomy and Physiology and Nursing I, as measured by their final grades.
Perceptions of Students who Experienced the Embedded Remediation (i.e., Literacy Course) Regarding Its Impact? (Response to Research Question #4)

The recurring theme that the program had a heavy course load was identified in the qualitative responses and as well, similar observations were presented in the Urban College PN Program Review report (2012-13) which commented on “the heavy program workload and advanced pace of content delivery” (p. 50). This concern should be considered in program revisions, especially since many of the students in the program have responsibilities outside the classroom setting.

Performance of Remedial Students in the Literacy Skills I Course (Research Question #4)

The comments of the participating remedial students’ about their experience in the Literacy Skills I course were not very positive. Generally they felt that the course did not help their academic performance in the program overall or increase their communication skills, but that the course was of some help in the Anatomy and Physiology course only, since the embedded remedial course focused on that content as well. Other than that, they unanimously agreed that the remedial curriculum was time consuming, which took additional hours away from their other course work. This feedback from Remedial Group participants was consistent with that of the students who participated in the embedded remediation pilot program in the 2007 and 2009 academic years.

However, despite these comments, the students had some constructive feedback suggesting how to improve the PN program for students with language challenges. I identified two major themes in their feedback. The first was that they enjoyed the smaller sized classes because it allowed them more one-on-one time with their professors to address any issues they
were experiencing. The other theme that I identified was they would have preferred more focus in the Literacy Skills I course on improving oral skills. Interestingly, many of the remedial participants felt that although they were placed in the Literacy Skills I course because of their low writing and listening test scores, their actual language weakness was speaking (i.e., pronunciation), not writing or listening.

**Overall Grades Achieved in the Two Core Courses, (Anatomy and Physiology and Nursing I), and Student Retention (Response to Research Question #5)**

**Anatomy and Physiology overall course grades.** The overall final average in the Anatomy and Physiology courses for the combined 23 remedial and at-risk participants was 73.5%. However, although their performance on the admissions language skills test was quite similar (Table 19 and Figure 19) the 12 participants from the At-Risk Group achieved a higher overall grade of 76.8% compared with the Remedial Group which was only 70.2%. Due to the small number of students who participated in the study, the course grades for Cohorts I and II for all of the students in Anatomy and Physiology were included to explore further whether or not embedded remediation had any impact on student performance. Analysis of the grades showed that there was a positive relationship between student involvement in embedded remediation and their Anatomy and Physiology final course grades. The overall course grade was slightly higher for the 49 remedial students in Cohort I with a 64.5% average compared to the 61.2% average of the 78 at-risk students who did not have the opportunity to participate in the intervention.

**Nursing I overall course grades.** The overall Nursing I average grade of 73.3 % for the 11 students in the Remedial Group in Cohort I was again somewhat lower than the 77.6% average of their 12 similar At-Risk Group colleagues in Cohort II. Again, because of the small
number of students who participated in this study, the Nursing I course grades for all 49 of the remedial students in Cohort I and the 78. At-risk students in Cohort II were analysed for the purpose of determining whether or not the embedded remediation had any impact of student performance. The finding indicated that embedded remediation had only a small effect on the final grades in the Nursing I course. Even though there was a positive relationship between participation in the embedded remediation and Nursing I final grades, overall these difference were not substantive. The overall course grade for the 49 remedial students in total was higher at 70.8% than the 69.1% average of the 78 at-risk students in total who did not have the opportunity to participate the Literacy Skills I course.

**Remediation and retention rates.** Despite the less than favourable comments about the impact of participation in the remedial intervention reported by the Remedial Group participants from Cohort I, in the open-ended questions on the Background and Language Survey, the secondary quantitative data related to the academic performance of all of the students in that Cohort, suggest that student involvement in remediation intervention had a positive effect on retention rates in the first semester of the PN program. The retention rate for the remedial/experimental participants was 100%, that is, all of them were promoted to the second semester.

In comparing that to the overall retention rate of the 49 remedial students in the Cohort I section, which includes the 11 who were assigned to the Remedial Group was substantively higher with 31 students (63.3%) being promoted to second semester. Whereas, the overall retention rate of the 78 at-risk students in the Cohort II section (who received no remedial intervention), there were only 27 at-risk students (34.6%) retained and promoted to Semester 2 of the program.
Implications of the Findings

I will now discuss the implications of these findings for practice, policy development and further research. Although this case study was grounded in Tinto’s theories (1975; 1998; 2011) in that these theories directed the focus of exploration, this study was primarily pragmatic in nature.

Since 2001 I have had the opportunity to practice as a nursing educator at three post-secondary education institutions, the same issues related to language weaknesses, change in student demographics and declining retention rates plagued in all three programs. More specifically, in the past seven to 10 years I have observed an increase in the number of students with language challenges who have difficulties completing the PN program successfully. Using the third semester of the Urban College program as an example, in the fall semester of 2009, there were 70 to 90 students enrolled in each Section A and Section B for a total of approximately 150 students. These students would have started the program in the fall semester of 2008. To compare, in the winter semester of 2014, there was a substantive decline in this group of students with only 66 students combined between both sections (Section A and Section B). These students would have started the program in the winter semester of 2012. These numbers indicate that in the short time frame of four years, there has been attrition rate of 56% from the time students start the program until they start the last semester of the program. The findings in this study have implications for practice, policy and further research aimed at improving the success rate of those students who enter the program with inadequate language and communication skills.

Implications for Practice

Practice Implication #1: Create a flexible program. The first implication for practice that should be considered based on the conclusions from the findings of the second research question would be to create a flexible program, which would be offered in a six semester, three-
day-per-week flex format to allow students the flexibility they require to meet personal and other commitments. This program design would allow students to continue to be eligible for funding from the Ontario Student Assistance Plan (OSAP) because the students would carry a 60% workload at a minimum. Furthermore, many of the participants in this study reported that they had family responsibilities and had to work (very many hours per week for some) in order to support themselves which makes program scheduling a very important variable for them.

The flexible program would be comprised of the same courses as the full-time PN program. Currently the full-time schedule offered at Urban College is 29 hours a week in first semester, 28 hours a week in the second and third semesters, and 37 hours in the fourth and final semester. Except for the program completion time and the sequencing of some course offerings, the flexible program would be identical to the full-time program in terms of admission criteria, promotion standards, and curriculum and graduation requirements. For instance, an alumna stated that, “Urban College should have part time schedules and clinical to accommodate those who are working full-time” (The Program Review Report, 2012-13, p. 22).

Although the number of remedial students who provided responses and suggestions to the qualitative questions in the survey was small (n=11), I identified one fairly dominant theme. This was that the program was too heavy in workload and hours. Currently, when students are not in clinical two days per week, they are on campus the remaining three days of the week, with an average of six to eight hours of instruction per day. Furthermore, according to the Program Review report (2012-13), the program tried to include more curriculum than is essentially needed for an entry level Registered Practical Nurse (p. 62).

With the heavy program workload and the amount of hours required to be in class and clinical (i.e., 29 hours/week), it can become challenging for students to adequately study for tests and complete any assignments that are to be submitted. In order to cope with the workload,
especially work that is evaluated for course grade purposes, students may voluntarily absent themselves from their academic course lectures in order to prepare for these tests. For example, in one of the courses every semester during Week 11, that class in particular consistently has the lowest attendance rate. Typically six to ten students out of thirty-five to forty will attend and the remainder “skip class” in order to prepare for a major term test that is scheduled in the first class time slot the next day or completing a nursing care plan for clinical (PN Faculty Member, personal communication, March 19, 2013). If there were a flexible program option, students would not have to feel stressed and conflicted to either attend class and lose three hours to study for a test, or complete an assignment, or not attend class and miss critical lecture content that will eventually be tested or needed to be able to comprehend other course content.

According to Jeffreys (2012), being absent from class can create unfavourable academic outcomes and attendance creates valuable academic rewards. “With limited opportunities to apply learning, students may be at more risk for failure, dissatisfaction, and stress therefore, putting the student at greater risk of voluntary or involuntary attrition” (Jeffreys, 2012, p. 82). For example, even though they were scheduled for only a one three hour class on Fridays (refer to Table 5 in Chapter 3), the fact that the class began in the middle of the day and ended late afternoon could have had a negative impact on students who needed to work part-time. Having the class scheduled in the middle of the day would prevent students from being able to work, even a partial shift. Furthermore if they had to deal with personal or work obligations, they would have been more likely to miss that class than others. Frequently missing a class, particularly for remedial or at-risk students, could result in course failure and potentially failure in the program.

Using the Urban College PN program curriculum as a framework, the following schedule is an example to demonstrate what a six semester flexible model flexible program might look like:
<table>
<thead>
<tr>
<th>Course Titles (pseudonyms)</th>
<th>Hours/Week</th>
<th>Total Hours/Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy and Physiology I</td>
<td>4</td>
<td>56</td>
</tr>
<tr>
<td>Higher Education English</td>
<td>3</td>
<td>42</td>
</tr>
<tr>
<td>General Elective</td>
<td>3</td>
<td>42</td>
</tr>
<tr>
<td>Human Development</td>
<td>3</td>
<td>42</td>
</tr>
<tr>
<td>Nursing I</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td><strong>5 courses</strong></td>
<td><strong>14</strong></td>
<td><strong>196</strong></td>
</tr>
</tbody>
</table>

**SEMESTER 1B (15 Weeks) = Half Course Load of Semester 1**

<table>
<thead>
<tr>
<th>Course Titles (pseudonyms)</th>
<th>Hours/Week</th>
<th>Total Hours/Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy and Physiology II</td>
<td>3</td>
<td>42</td>
</tr>
<tr>
<td>Health Assessment I</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>Nursing Theory I</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>Math for Medication Administration</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>Introduction to Clinical (Lab and Lecture)</td>
<td>3</td>
<td>42</td>
</tr>
<tr>
<td>Nursing Clinical Practicum I</td>
<td>6</td>
<td>42</td>
</tr>
<tr>
<td><strong>6 courses</strong></td>
<td><strong>18</strong></td>
<td><strong>210</strong></td>
</tr>
</tbody>
</table>

**SEMESTER 2A (15 Weeks) = Half Course Load of Semester 2**

<table>
<thead>
<tr>
<th>Course Titles (pseudonyms)</th>
<th>Hours/Week</th>
<th>Total Hours/Semester</th>
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</thead>
<tbody>
<tr>
<td>Sociology</td>
<td>3</td>
<td>42</td>
</tr>
<tr>
<td>Health Assessment II</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>Pharmaceutical Interventions I</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>Human Pathology I</td>
<td>3</td>
<td>42</td>
</tr>
<tr>
<td>Nursing II</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>Nursing Theory II</td>
<td>3</td>
<td>42</td>
</tr>
<tr>
<td><strong>6 courses</strong></td>
<td><strong>15</strong></td>
<td><strong>210</strong></td>
</tr>
</tbody>
</table>

**SEMESTER 2B (15 Weeks) = Half Course Load of Semester 2**

<table>
<thead>
<tr>
<th>Course Titles (pseudonyms)</th>
<th>Hours/Week</th>
<th>Total Hours/Semester</th>
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</thead>
<tbody>
<tr>
<td>Foundational Research</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>Human Pathology II</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>Nursing Clinical Practicum II</td>
<td>12</td>
<td>180</td>
</tr>
<tr>
<td><strong>3 courses</strong></td>
<td><strong>16</strong></td>
<td><strong>236</strong></td>
</tr>
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**SEMESTER 3 (15 Weeks)**

<table>
<thead>
<tr>
<th>Course Titles (pseudonyms)</th>
<th>Hours/Week</th>
<th>Total Hours/Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing Theory III</td>
<td>3</td>
<td>42</td>
</tr>
<tr>
<td>Pharmaceutical Interventions II</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>Nursing Clinical Practicum III</td>
<td>12</td>
<td>180</td>
</tr>
<tr>
<td><strong>3 courses</strong></td>
<td><strong>17</strong></td>
<td><strong>250</strong></td>
</tr>
</tbody>
</table>

**SEMESTER 4 (15 Weeks)**

<table>
<thead>
<tr>
<th>Course Titles (pseudonyms)</th>
<th>Hours/Week</th>
<th>Total Hours/Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing Theory IV</td>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>Nursing Clinical Practicum IV (Pre-Graduate Consolidation)</td>
<td>29</td>
<td>410</td>
</tr>
<tr>
<td><strong>2 courses</strong></td>
<td><strong>31</strong></td>
<td><strong>434</strong></td>
</tr>
</tbody>
</table>

Based on the limited background data that were collected for this study, many students indicated they work and/or have family obligations. Despite the inability to capture the full picture of the entire cohort demographics, the quantitative data that were collected for the Program Review Report were consistent with the qualitative data found in this study. The Program Review Report (2012-13) found that 45.6% of the students reported that they work part-time and 52.6% identified as single parents and/or having families to support. The findings from the students discussed in Program Review Report were similar to those in my study, particularly for the students who were enrolled in the At-Risk Group of Cohort II.

Other PN program competitors have been able to offer flexible (e.g., Centennial College), part-time (e.g., Humber, Mohawk, Seneca) or extended program (e.g., Durham, Georgian, Loyalist, St. Clair) options. I believe that in order to meet the language needs of the students at Urban College, a flexible program should be an option that administrators and faculty need to consider seriously. It would allow students with literacy challenges more time to integrate and associate all of the content they are learning. Bradshaw and Lowenstein (2011) said, “ESL students may need more time to read and digest because they may be translating information back into their (own) language, and some words and phrases do not translate well” (p. 33).

Jeffreys (2012) also proposed that having the flexibility of program courses can have a positive effect on retention when there is a conflict between class schedules and other academic and personal variables. For example, “A 2-day class schedule that is compatible with a nursing student’s other roles, responsibilities and potential academic challenges (e.g., language) can contribute to an increase in study hours and academic achievement” (Jeffreys, 2012, p. 84). Additionally, the practice implication of creating a flexible program would meet the following institutional mandate as a priority objective of Urban College in 2012. According to the Ministry
of Training, College and Universities (2012), Urban College is focused on ensuring their students have balanced on and off campus lives and believe that can be achieved by offering flexible delivery models.

If it were not possible to offer a flexible route model for whatever reasons, then the consideration of extending the current four semester program to five semesters would be an alternative that would benefit the students, as long as the current curriculum was not added to, but rather the existing content could be spread across the additional semester. The extra semester of tuition would be welcomed by many of the students in exchange for the extra time this would give them to actually complete their readings and not skip lectures to study for other tests. There are many other Ontario colleges (e.g., Durham, Georgian, Loyalist, St. Clair) who have already added a fifth semester to their curriculum; therefore Urban College would remain competitive for many students applying to a PN program.

**Practice Implication #2: Smaller class sizes.** The second implication for practice that should be considered, based on the findings related to the fourth research question, would be to implement smaller class sizes. The appreciation for smaller class sizes was a common theme that I identified in the qualitative data provided by the remedial group. The participants reported that smaller class sizes provided them with the opportunity for more teacher contact time and to collaborate with their peers. The American Language Communications Centre (2013) suggested that small class sizes can permit more one-on-one interaction. It is also easier for the faculty to notice students who are experiencing difficulty comprehending the course content. When students are placed in larger classroom environments, students can sometimes feel lost and become overwhelmed. This relates directly to Tinto’s theory of academic and social integration.
Mainstream class size. The ongoing demand and increasing number of applicants to the Urban College PN program, which is approximately 3000 per year (Personal communication with an Urban College administrator, February 21, 2014), has resulted in program changes, such as increasing class sizes to meet the increased demands. Ashar and Skenes and Keil and Partell (as cited in Kerr, 2011) said that, “A number of studies at the PSE level have indicated that increasing class size generally has a negative effect on student retention as measured by persistence to completion and first-year retention rates” (p. 2). For example, the class size for the first semester Math for Medication Administration (pseudonym) course was 237 students during the winter semester in 2014. Historically, there has been high attrition from this class, which was a serious concern for the program (PN Faculty Member, personal communication, Winter 2014). For this reason a pilot project was started in the fall semester of 2014 in which the math class was divided into four small sections of 45 to 50 students in each. Although this is definitely a move in the right direction and I would like to see this approach taken in all of the core nursing courses, I feel having worked with students who have literacy challenges, having 50 to 60 students assigned per class is still too large, especially since Urban College no longer has admission and placement testing, which means there are no records to help faculty identify at-risk students. The concern I have is, despite the fact that both Section A and Section B in all semesters of the program have been capped, in the past three years both sections have been oversubscribed. I believe it will not take long before the four small sections slowly creep back up to 70 to 80 students because of the sheer enrolment pressures. This would increase the risk of underprepared students to “slip though the foundational cracks”.

Remedial class size. Although the PN program no longer supports the use of the Literacy Skills remediation model, if it were to consider reinstating it or if another post-secondary
institution were to consider implementing a similar program, I suggest that the limiting the size of these classes to a maximum of 25 students is essential. Horning (2007) reported that remedial or developmental sections should be limited to a maximum of 20 to 25 students because it takes more time to teach remedial students and the benefits of a smaller class are much more relevant for underprepared populations. Smaller class size was also a benefit commented on by the students in this study.

When classes are too large for underprepared students, the students tend to have difficulty engaging with the content and have difficulty progressing overall. According to Horning (2007) smaller class sizes in the first-year have a strong impact on retention rates, especially for first year underprepared students. For example, Horning (2007) presented the findings from a study that investigated the impact of reduced class sizes on academic performance. The results indicated that by lowering the class size in two writing courses, the data on student performance indicated not only improved pass rates and but there were also fewer students who withdrew from or failed these courses.

**Implications for Policy**

**Policy Implication #1: Reinstate admission and placement testing.** The first implication for policy that should be considered by this case study college, Urban College, is the reinstatement of the admission and placement testing process. Furthermore, language challenge tests should include not only the previous assessments of writing and listening skills but also reading and speaking skills. The PN program at Urban College is a professional program, therefore it should be fully equipped and prepared to focus on and develop language/communication skills required to practice safely in the nursing profession. However, without the use of pre-admission language assessments, the historical program data indicate that
there will continue to be underprepared students in the program who will need to receive help with their literacy issues to be able to succeed not only in the program, but also in providing effective and safe patient care.

As of January 1, 2013 part of the mandatory registration requirements of the CNO is that applicants are required to provide evidence they are proficient in English or French. As part of this new language proficiency requirement, applicants are expected to demonstrate they can communicate and comprehend effectively, both orally and in writing, in either of those languages. According to the CNO there are a number of ways this new criterion can be met but one of those most applicable to post-secondary students is the successful completion of a nursing program in Ontario, or any other Canadian jurisdiction. If PNs graduate from an approved college program, they are exempt from writing the CNO language proficiency exam.

Theoretically, this exemption seems acceptable but the Urban College PN Program Review report (2012-13) raised a critical point that should be seriously considered:

It is not reasonable to assume that some ESL speakers ….with weak English language skills, will be able to develop the required functional language competency required for CNO within two years of the program, given that the program provides no specific language support, and has heavy curriculum demands. (p. 71)

Without knowing the baseline language skills of applicants, there are no formal data available to help faculty or coordinators determine the students’ level of proficiency. For example, in one PN program (PN Faculty Member, personal communication, April 5, 2004) it was discovered in a clinical setting that one of their students had difficulty with language comprehension which had a direct effect on patient safety. This student was only weeks away from completing the program, but the assigned preceptor reported the student had substantive
difficulty understanding conversations and interacting appropriately with both patients and members of the health care team. Even though that particular college did not offer remedial support options to PN students, it did require potential students to complete an English comprehension test at the time of their application to the PN program. Because the college had recorded admission and placement test scores within their system, the program coordinator was able to review the results. The admission test scores revealed that the student had scored an equivalent to a Canadian Language Benchmark (CLB) of 3 across all of the language skills of reading, writing, speaking and listening. The Centre for Canadian Language Benchmarks (CCLB; 2004) stated that this meant, at this level the student’s speaking ability would allow for the “discussion of topics that are about common everyday matters and the interaction is done face-to-face with one person” (p. 10). When listening, the student would be able to “follow simple instructions and directions and frequently require assistance (i.e., explanation and demonstration)” (CCLB, 2004, p. 22). Reading expectations at that level are limited to the ability to “follow instructions that are common every day, often with pictures” (CCLB, 2004, p. 34). And, in writing, the “text would be short (e.g., five to six sentences) and uses familiar everyday words (that are) personally relevant” (CCLB, 2004, p. 45). When comparing this particular student’s CLB scores of three to Cummins’ level of language proficiency, it is considered a Basic Interpersonal Communication Skills (BICS) level (i.e., the "surface" skills of listening and speaking). According to Cummins (as cited in the 2006 study, 2006):

Basic Interpersonal Communication Skills (BICS) refers to language skills used in common daily exchanges. The BICS-ready learner has a vocabulary of around 5000 words and can function comfortably in context-embedded situations. Context-embedded
means that additional cues are available in the environment, (e.g., the opportunity to ask questions, pictures, facial expressions, or visual or auditory supports). (p. 61)

Without the admissions record which showed that this student had scored very low on the admission and placement tests, the program coordinator would have had difficulty removing this student from the clinical practice area. This student’s admission test scores were so exceptionally low that patient safety was most definitely at risk of being compromised. This also raises ethical questions related to the fact that this student was set up for failure by admitting her with these deficiencies without providing remedial assistance. As a result of this particular situation, the college reviewed the admission and placement scores of all students in the program and found that they had a higher than expected number of remedial students and yet they had no remedial supports in place. As a result of this incident, the program created a Health Foundations program for students with English language issues.

**Policy Implication #2: Create a language skills foundations program.** The second implication for policy that should be considered based on the findings from research question #4 is to create an English Skills Language for the Health Professional Program similar to the college that was used as an example in the first policy implication. After the administrators had been alerted to the compromise in patient safety in the situation discussed above, the college was proactive by making the necessary program changes to help their remedial and developmental students improve their language skills. These changes included aligning their program admission and placements test scores to the CNO language benchmarks, and then offering remediation so that program outcomes could be met successfully. If Urban College were to institute a similar English Skills Language for the Health Professional Program, underprepared students admitted into the Urban College program would then be provided the needed language development
support and better preparation to graduate from the program and write the Canadian Practical Nurse Registration Exam (CPNRE).

All graduates of PN programs across Canada must pass the CPNRE in order for entry to practice, which is get a job as a PN. To help provide language challenged students have a better chance to succeed; some colleges have begun to implement foundational programs. Colleges have revamped programs to give borderline students the support and encouragement they need to succeed. For example, ongoing literacy challenges experienced by the first semester of PN students at Centennial College prompted the Program Coordinator and Chair, Nursing Program to collaborate with the ESL Coordinator in 2004 and they designed an academic pathway program called Health Foundations (Faculty Meeting Minutes, personal communication, April 5, 2004). The purpose of the Health Foundations course was to provide ESL students with the opportunity to develop their reading, writing, speaking and listening skills. These are all of the language skills required for effective communication of professionals within a health care setting and are a professional requirement set by the CNO for safe practice (Centennial College, 2005).

During a language benchmark study that was pilot tested at Urban College and six other Ontario colleges in 2006, it was found that students admitted into the PN programs with a Canadian Language Benchmark (CLB) score lower than six tended to struggle substantially during the program with English-related issues. It was highlighted that students were experiencing difficulty in many areas of their program including, but not limited to, understanding and utilizing text material, participating in class discussions, debates, presentations as well as successfully completing the evaluative methods within specific nursing core courses. In addition, students experienced difficulty meeting applied (practice) course
learning outcomes due to their inability to initiate and maintain professional relationships within the practice settings.

Based on the Language Benchmark study findings by the Communications Learning Group, the Health Foundations program was initiated at Centennial College in the Fall of 2005. Both ESL and Canadian-born students identified as weak in English, that is, those who tested lower than a CLB of 6 in any area of English fluency were placed into the program and only if they successfully completed it, were they granted admission into the PN program (Communications Learning Group, 2006).

According to one report by the Centre for Canadian Language Benchmarks (CCLB, 2002) that examined adult rates of English acquisition, an individual who possesses more than seventeen years of formal education can move from a CLB of 6 to 7 after 380 hours of training. The amount of time required in the classroom increases to 412 hours if the person has only one post-secondary degree, and increases again to 452 hours if the person only has a high school education. This means that this program would be designed specifically for students who are classified as developmental because they score a CLB ≤ 5, then there should be a minimum of 904 hours over two consecutive semesters in order for students to advance to a CLB of 7, which is the minimum CLB to gain entry into a mainstream PN program.

The length of the Health Foundations program at Centennial College, for example, is two semesters in length for a total of 975 hours; it consists of 915 hours of English content related to health care, and 60 hours of Anatomy and Physiology, which can be applied as credit when the student is accepted into the PN program (Centennial College, 2009). If Urban College would consider creating an English Skills Language for the Health Professional Program, the program should consider employing professors with teaching experience in second language acquisition
theory, second language classroom pedagogy and curriculum and syllabus design (2006 study).

The main objective of creating an English Skills Language for the Health Professional Program at Urban College should be to focus on the specific language demands of the practical nursing environment, both academic (i.e., theoretical course work) and applied (i.e., clinical practicum).

Table 31 is a proposed Health Foundations model adapted from the Centennial College model.

Table 31

*Proposed Foundations Model Curriculum*

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Course Hours</th>
<th>Weeks</th>
<th>Total Hours</th>
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<tr>
<td>Semester 1</td>
<td>COMM 131</td>
<td>Developing College Communication Skills</td>
<td>3</td>
<td>15</td>
<td>45</td>
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<tr>
<td></td>
<td>ENGL 162</td>
<td>Writing within a Health Care Context I</td>
<td>3</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>ENGL 164</td>
<td>Communication within Professional Relationships I</td>
<td>4</td>
<td>15</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>HCFD 104</td>
<td>Terminology for Health Care Professionals I</td>
<td>4</td>
<td>15</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>GNED 066</td>
<td>Speaking and Listening for North American Health Professionals I</td>
<td>4</td>
<td>15</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>TOTAL</strong></td>
<td>26</td>
<td>390</td>
<td></td>
</tr>
<tr>
<td>Semester 2</td>
<td>SPAT 100</td>
<td>Introduction to Human Body Systems</td>
<td>4</td>
<td>15</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>HCFD 124</td>
<td>Terminology for Health Care Professionals II</td>
<td>3</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>ENGL 163</td>
<td>Writing within a Health Care Context II</td>
<td>3</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>ENGL 165</td>
<td>Communication within Professional Relationships II</td>
<td>4</td>
<td>15</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>ENGL 166</td>
<td>Introduction to Health Care Literature II</td>
<td>3</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>GNED 067</td>
<td>Speaking and Listening for Health Professionals</td>
<td>4</td>
<td>15</td>
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</tr>
<tr>
<td></td>
<td></td>
<td><strong>TOTAL</strong></td>
<td>21</td>
<td>585</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL PROGRAM HOURS = 975**


**Policy Implication #3: Reinstall the remedial literacy skills program.** The third implication for policy that should be considered if the foundation program could not be instituted would be to reinstall the Literacy Skills program. Long and Boatman (2013) stated that, “estimates suggest that around 40 percent of all first-year students in college today are taking some form of remedial coursework; however, this figure can be as high as 6 out of 10 students at some postsecondary institutions” (p. 1). Phipps (1998) proclaimed that the last fundamental component of a remedial program is evaluation. This was the step that I believe was not
completed when the Literacy Skills program was phased out at Urban College and terminated in September 2011. The implication for reinstating the remedial Literacy Skills program is supported by the findings in this study as follows:

1. The remedial students successfully completed the remedial education course given their overall final course grades in the Literacy Skills I course.

2. The retention rate from Semester 1 to Semester 2 of the PN program was higher for the total remedial sub-group in the Cohort I class at 63.3% (n=31) than that of the group of similar at-risk students in the total Cohort II class, that is, 34.6% (n=27). For this reason, the remedial students who experienced the intervention were likely to be more successful in achieving their goal of completing the program than those who were at-risk but did not receive any remediation. In order to fully assess the impact, however, both cohorts would have to be followed to the end of the program, that is, to the end of Semester 4. But, the declining graduation rate over three academic years from 80.5% in 2011 to 73.9% in 2013 (refer to Table 2 in Chapter 1) and the reduced number in eligible writers for the CPNRE in 2013, suggests that the at-risk students who completed the program in 2013 experienced greater difficulty in relation to persisting and meeting their academic goals because they had no access to remedial instruction.

3. The overall course grade advantage that the entire remedial group (n=49) achieved in comparison to all of the at-risk students (n=78), especially for the Anatomy and Physiology course, suggests that remedial supports will have helped students to succeed in the college-level core nursing courses. This is supported by Goldstein and Perin (2008) who stated that, “It has been reported that students who completed remedial reading or writing coursework were generally successful in their college-level courses and showed higher overall achievement than did underprepared students who did not take remedial classes” (p. 91).
Based on the findings in this study, I believe that the Literacy Skills program should be reinstated at Urban College. In cancelling the embedded remediation program, admission and placement testing also no longer exists as part of the admission criteria into the PN program. However, based on the research data from the 2006 study and this study, approximately 40 to 50 percent of students enter the program underprepared. I think that terminating the Literacy Skills program was a disservice to those underprepared students, and reinstating it would be an essential service for their post-secondary education experience. Furthermore, reinstating the Literacy Skills program would meet another institutional mandate suggested by Urban College, which is to increase student access through remediation programs (Ministry of Training, Colleges and Universities, 2012).

This policy implication to reinstate the Literacy Skills program is further supported by the curriculum recommendation proposed by the Program Review Report (2012-13), which proposed that Urban College:

Articulate (an) explicit student retention strategy for the PN program, which identifies highest priorities for student supports/remediation (particularly linked to courses with highest failure rates, and English language foundations) and clarify the nature of and resource expectations for those academic supports. (p. 93)

If the remedial Literacy Skills program is reinstated, then it should employ professors with training in second language acquisition theory (as proposed by Cummins), second language pedagogy and curriculum and syllabus design and teaching experience. There should be an alignment of teaching approaches by faculty members who have expertise in both health concept content and literacy skills. Snow and Brinton (1988a) reported that coordination between the content instructor and the language instructor is essential if the adjunct model is to be effective in its purpose. The benefit of having a language instructor employed within the nursing department
allows for these instructors to collaborate and ensure that the concepts conveyed in the language class are directly related to what is being taught in the academic class.

Tinto (2011) stated that, “through the collaboration of basic skills instructions and faculty who jointly teach college-level technical and vocational courses, students fare better (e.g., credits earned, completion of workforce training) when compared with traditional students at the same proficiency level” (p. 4).

**Policy Implication #4: Instituting mandatory stress management testing.** Based on the feedback from many study participants who stated they were severely stressed by the need to balance work, home and program responsibilities, the fourth and final implication for policy that Urban College should include is the requirement of Stress Management testing as part of the admission process into the PN program. The purpose of the Stress Management test would not be to deny or grant admission into the program, but rather once admitted into the program, each student would be expected to complete a Stress Management test as an indicator to understand their capacity to cope with stress. Walsh-Portillo (2011) said,

> While college administrators continue to chip away at possible causes of student dropout, failures, or withdrawal, it may be possible that we are trying to address a deficiency that was present when the student enrolled, not after college studies began. (p. 10)

One of these factors may well be the ability to manage stress. Limited capacity to cope would only increase the stress experienced by underprepared students as they cope with additional program stress. Understanding that (based on Stress Management testing) and learning about helpful intervention strategies for coping with stress would likely increase their potential for successful completion of program requirements.

The PN program at Urban College is known for being stressful because of the workload demand and the number of hours students spend in the classroom and clinical, which in the first
semester is 29 hours per week. Based on qualitative data obtained through the Background and Language Survey, the remedial student’s perceptions were that they do not have sufficient time to complete their readings and assignments in addition to the Literacy Skills I coursework. As well, anecdotal evidence from past and present students enrolled in the program has revealed they feel stressed because the coursework is extremely rigorous and at times difficult to learn. Faculty have consistently identified that over the last few years, and students openly complained about how stressful the program is. For example, “This program is beyond crazy and stressful”, ‘I swear they’re trying to weed out the weak, this program is ridiculously stressful and only the strong can survive it” (PN Student, personal communication, Winter 2014), “I don’t think I can handle feeling like this anymore; I eat all the time, gained so much weight, my heart pounds in my chest all the time and I don’t sleep because all I do is study but yet I still cannot keep up with the amount of work. I used to be a calm person until I came into this program” (PN Student, personal communication, Fall 2014). “This is a nursing program, it is supposed to be a health related science program but it’s more like a stress inducing program, so how is that health related?” (PN Student, personal communication, Fall 2012). Students have also felt there was either little or no time for them to get additional help if needed from their course professors outside of scheduled class time (PN Student, personal communication, Winter 2015).

The Program Review Report (2012-13) purported that counsellors at Urban College supported the responses of the remedial students regarding the workload and pace of the program; the counsellors also felt it was far too rigorous. As well, they felt that many issues related to English as a second language precipitated stress, anxiety and academic failure or poor performance.

Statistics derived from a survey conducted at Urban College during the Fall 2013/Winter 2014 semesters indicated that out of 17 health science programs, students from the PN program
made up most counselling appointments. Based on a total of 471 appointments, students from the PN program made up 207 of them, which means 43.9% of counselling time was dedicated to helping PN students deal with their issues (UC Manager & UC Director, personal communication, April 29, 2014).

In addition to the program being hectic and stressful, the demographics of the applicant pool creates great diversity in college classrooms. According to Jeffreys (2012) the diversity has resulted from a shift from the traditional student (i.e., younger than 24 years old, white, female, speaks English as a first language, has no dependent children and requires no remedial classes) to the non-traditional student (i.e., over 25 years old, member of an ethnic and/or racial minority group, speaks English as a second language, has dependent children and requires remedial classes). As a higher education nursing educator for the last fourteen years, I completely agree with Jeffreys. The typical college student is not the teenager who just finished high school, living away from home for the first time and having their parents in the background for emotional and financial support. Over the last few years, I have seen the enrollment of non-traditional students increase substantially. It is not uncommon for me to see students on their cell phones in the hallway as they deal with an emergency issue at their child’s daycare, students who were born a decade or more before me and many female students trying to find a way to support themselves and their children after the demise of a martial relationship.

Jeffreys (2012) has suggested student retention is substantively influenced by how well students can manage the interaction of multiple variables, such as student demographic profile characteristics, affective, academic, environmental and psychological factors. With students having to cope with multiple challenges, it is inevitable that these will conflict at some point. Walsh-Portillo (2011) stated that recent studies indicated, “Students are under increasing levels of stress, their ability to manage that stress, adapt to rapidly changing and dynamic environments
while managing to keep impulse control in check, are all factors that may jeopardize a first year student’s success” (p. 11).

The main purpose for having each student admitted into the PN program complete a Stress Management test would be to help the PN academic advisor in conjunction with a counsellor determine if a student should be guided towards a manageable Flexible or Reduced Course Load (RCL) schedule rather than take a full course load as some of the participating remedial students did in this study. Research by Zajacova et al., (2005) indicated that stress and anxiety (i.e., dealing with high costs of college and possibly working at a job during the school year) may reduce a student’s ability to cope effectively with the challenges associated with college; therefore stress can be a potential detriment to students’ academic success.

Students could complete the Stress Management test in the first class of their Human Development course; the time could be built into the curriculum as a mandatory assignment within the curriculum design. A policy should be instituted by the College in which students would need to have completed the Stress Management test in order to meet the program requirements needed to graduate. It would be most appropriate to build in a Stress Management test into this course if it were not administered beforehand, because the purpose of the Human Development course is to develop a holistic view of human growth and development across the lifespan. If a test were selected the cost could be included in the student’s tuition, as with their lab supply fees used to practice their clinical skills.

By instituting a mandatory policy to administer Stress Management tests as a component of the PN curriculum, I believe this strategy could contribute to increasing the retention rate. For example, if a student in the full-time program route were failing, this should signal the need for active intervention; their Stress Management test results should be reviewed and a counsellor should then meet face-to-face with the student to determine if they are dealing with any external
stressors (i.e., illness, family or work). As appropriate the student could be presented with the choice of a Flexible or Reduced Course Load program route to help lessen the burden of a full course load and the student could then be helped to use their extra time to deal with their stressor(s). Lengthening a program may seem to be an unrealistic option financially to some students but the counsellor would remind the student that if they failed a course they would also have to extend their time in the program with additional tuition fees to repeat the failed course, and if they failed more than two courses, they would be withdrawn from the program. Walsh-Portillo (2011) advised that even a small increase in retention would result in huge financial savings not only for administration but most importantly for the student.

**Practice and Policy Implications: Urban College Practical Nursing Program Admissions**

**Pathway Map**

The Urban College Practical Nursing Program Admissions Pathway Map is a framework that I developed (Figure 28) and includes a combination of strategies that would be policy and practice relate, and operationalizes my suggestions above. The pathway map is based on what I have interpreted from the findings of this study, on the literature review, and data analysis related to the themes of embedded remediation, literacy skills, student characteristics and retention. The framework I created could be used to help guide students admitted into the program down an academic path to success in the PN program at Urban College.

**Step 1: Admission and placement tests.** The first step once a student is granted admission into the program is to complete the Admission and Placement Tests in order to assess the four literacy skills. The tests would evaluate reading, writing, listening and speaking, which are the same four language skills that the CNO (2013) requires a PN to be proficient in, in either the English or French languages. Urban College would need to revise their admission and placement test criteria and scores to be aligned with the CELBAN scores, the language tool that
the CNO uses. Based on detailed analysis, CELBAN is an assessment tool that is based on the language demands of the nursing profession across Canada. The CELBAN assessment, “Is not linked to any particular book, language study program, or course study” (CCLB, 2004, p. 3). For example, a comparison of the writing assessment scale currently utilized by Urban College is closely aligned with CELBAN. The NLS/UCWS = 3/7, the UCWS = 7 represents the CLB 7. The Communications Learning Group (2006) stated, “The purpose of the CLB is to provide a structure in which to understand and describe the language used in college programs in terms of the four skill areas” (p. 4).

The admission and placement test scores should include an assessment of all four literacy skills because the Nursing I content and more importantly the nursing profession is incredibly dependent on accurate communication. The demonstration of language proficiency is required in all aspects of nursing because much of the information about a patient's status, treatments, their needs, responses or outcomes to interventions, and physician orders are passed on formally (e.g., documentation) and informally (e.g., verbal reports) from one health care professional to another. In the workplace, where patients’ well-being depends on how well nurses communicate, communicating and understanding one another accurately is absolutely crucial.

**Step 2: Type of program placement.** The next step in the admissions pathway map would be the assigning of the student to the type of placement program based on the admission and placement test scores. As a first generation student myself, I fully support that all Canadians should have access to post-secondary education but I also believe strongly that members of the public (current and future patients) are entitled to safe care provided by competent nurses. Therefore, in order to meet the opportunity identified by the government of Prime Minister Paul Martin in the Speech from the Throne (as cited in Association of Colleges of Applied Arts and Technology of Ontario (ACCATO), 2004), “All Canadians must have the opportunity to develop
and use their skills and knowledge to the fullest. It committed to increased access to postsecondary education…to improve literacy…and move onto the path of lifelong learning” (p. 3). As well, assurance should be given to the public that nurses educated in Ontario college programs are able to demonstrate commitment, competence and quality in their practice. As stated by Tinto (2008), “Simply put, access without effective support is not opportunity” (para. 23).

**English skills language for the health professional program.** The first placement option would be the English Skills Language for the Health Professional Program. This program would be designed specifically for developmental students who achieve language benchmarks of Writing: CLB ≤ 5, Reading: CLB ≤ 6, Speaking: CLB ≤ 6 and Listening: CLB ≤ 8. The students would be expected to take two semesters of intensive linguistic courses that would help them enhance their existing English communication skills so they would be able to meet course outcomes within the PN curriculum. Once students successfully complete the two semesters of the Health Foundations Program, they would be able to start the mainstream PN program. When students complete the PN program, it would be assumed that they would be equivalent to the level of proficiency that the CNO expects a PN should have when they enter into a self-regulated profession.

Using the writing score as an example, a student who scored a CLB of five should move to a CLB of six after the first semester because they would have actively participated in 390 hours of English language classes. At the end of the second semester, students would have participated in an additional 585 hours of intensive English learning and should then advance to a CLB of seven. CCLB (2004) suggested that a minimum of 300 supplementary hours of English preparation are required in order to move up one communication benchmark.
Remedial course. The second placement option would be the Literacy Skills Program. Students who achieve language benchmarks of Writing: CLB ≤ 6; Reading: CLB ≤ 7; Speaking: CLB ≤ 7, and Listening: CLB ≤ 9 would be classified as remedial and admitted into the Literacy Skills program. They would still participate in the mainstream PN program but there would be the reintroduction of the mandatory four hours a week of remedial work embedded within each semester across the first three semesters, which would be done by assigning two-hour adjuncts to two core courses per semester. The courses assigned would be those that historically have the highest failure rate or considered to be the most challenging to students. Research has shown that students who are “Concurrently enrolled in remedial courses and successfully complete these courses perform as well as students enrolled only in college-level courses” (Illich, Hagan & McCallister, 2004, p. 448). This is assuming that those who required the remedial course were initially less prepared than those enrolled only in college-level courses.

The benefits of embedded remediation include an increased understanding and retention of core content, increased professional relevance, increased student motivation, greater academic achievement and improved retention rates. According to Tinto (2011) as students progress through the embedded curriculum, they learn basic skills and program content and as a result can have the same academic achievements as non-remedial students.

Mainstream PN program. The third placement option would be the Mainstream PN Program. Students who have admission and placement test scores of: Writing: CLB = 7; Reading: CLB = 8; Speaking: CLB = 8, and Listening: CLB = 10 would be classified as non-remedial and admitted into the Mainstream PN program because they ostensibly would have adequate language skills necessary to perform effectively at a post-secondary level. These students also have achieved the required benchmarks in regards to language proficiency set by the CNO, would therefore not be expected to participate in additional courses to improve their
literacy skills. The proficiency required by the CNO in English or French as part of the registration process is scores of 7 in Writing, 8 in Reading, 8 in Speaking, 10 and in Listening to satisfy the language requirements (CNO, 2012).

**Step 3: Stress assessment testing and consultation.** The third step in the admissions process would be that all students admitted into the program would be required to write a Stress Assessment Test. All of the students admitted to any of the PN program options would be asked to write the a Stress Assessment test since the entire program has been shown to be stressful for PN students. The students who would have been placed into the English Skills Language for the Health Professional Program would write their a Stress Assessment test once they have successfully completed the English Skills Language for the Health Professional Program and have met the language requirements needed to enter into a PN program.

Administering a Stress Assessment test would not be used to penalize any students’ actual admission into the program; it would be used to determine their capacity to cope with stress and as a guide for active counselling intervention. The first semester of the program has students in the classroom and clinical for a total of 29 hours per week and those 29 hours do not include the hours required for students to prepare for their classes. Drucker (2011) suggested that students should expect to spend two or three hours studying for each course taken. For example, if students take a three credit hour class then it is expected that they should spend 6 to 9 hours per week studying for that class. With the current 29 hours of classroom and clinical hours, it would be expected that students spend an additional 58 to 87 hours per week preparing for class, which would evoke high levels of stress related just the academic commitment to the program. It is not a surprising then that the students are stressed and anxious, especially those with language challenges and outside responsibilities. According to Choi (2005), language challenged students
experience higher rates of anxiety in relation to their communication skills within an academic setting.

Furthermore, Drucker’s heuristic does not include the additional time it would take for at-risk students to complete their preparation, especially for those who are language challenged. For example, it may take at-risk students double the time to complete weekly assigned readings compared to a non-remedial student. Upcraft et al. (2005) indicated that first year students who have language challenges spend many more additional hours studying than do language proficient students.

If a Stress Assessment test were implemented it would help academic advisors, program coordinators and counsellors know which students need to be monitored more closely with respect to their academic performance and who would benefit from additional counselling. The relationship between academic success and stress for non-traditional college students was analyzed in a study by Drago (2004) and results indicated students with lower stress management scores had higher levels of program withdrawal. According to Zajacova et al., (2005) stress related to college has been determined to have a negative impact on academic performance among traditional undergraduates and for immigrant students. Zajacova et al. (2005) state that, “Stress has also been identified as a factor negatively effecting persistence for older non-traditional students” (p. 680).

**Step 4: Flexible or full-time program admission.** The fourth step in the admissions process would give students the option of applying to either a flexible or full-time program. However, students may be immediately recommended by the academic advisor and college counsellor to transfer into the flexible model route if they have a low EI test result and have high non-traditional student characteristics (i.e., > 25 years old, member of an ethnic and/or racial
minority group, male, speaks English as a second language, has dependent children and requires remedial classes).

**Program options.** The flexible format would allow for courses to be completed over six semesters and in the full-time route, students would finish the program in four semesters. Students who begin in the full-time program would have the option of moving into the flexible program up until Week 10 of a semester, which is the last date set by college policy to withdraw from a course without academic penalty. For example, if a full-time student had the following profile; low EI test score, single parent to three children aged three to nine, 33 years old, worked 12 hours a week and at mid-term was identified as failing three courses, the academic advisor would inform this student of his/her academic standing and the student would be encouraged to transfer into the flexible model route. However, the option to select the full-time or flexible program is not limited to any particular student. If a student had a high (positive) EI score, he/she could begin in the flexible program too and they could also move into the flexible program throughout the semester because he/she are just as susceptible as any student to having a crisis occur that may induce stress, therefore they may need to reduce their course load in order to have time to deal with the issue.

Furthermore, if students were to start the PN program in the flexible model route and then begin showing signs of poor academic performance, they could be given the option to take a standing deferred without academic penalty rather than continuing on, risking course(s) or program failure and feeling defeated. They could then re-join the program once they were again able to manage it. When the door is opened through access, there should be options for directing students to academic success. Sanford (1967) said that “Environments that are weighted too
heavily in the direction of challenge without adequate support are toxic, they promote
defensiveness and anxiety” (p. 4).

Integrating an EI test into the post admission process would be consistent with the theory of Tinto’s Student Integration Model, which is comprised of academic integration and social integration. The academic integration of Tinto’s model represents the background characteristics of students and efforts that are implemented to accommodate students in order to help them to overcome their personal and academic related stresses, such as course scheduling and pace. The social integration of Tinto’s model is what the institution is doing to help diverse students fit into the institution if there is a conflict between their backgrounds and academic performance, such as the advisor and/or counsellor providing a flexible route option or standing deferment when a student is in poor academic standing and/or has low EI test scores. Tinto (as cited in Ascending Learning, 2012) stated, “Attrition is often the result of interaction between student and program characteristics. Student integration into the program from an academic and social perspective, is often needed to achieve student success” (p.5).

The overall purpose of implementing Steps 1 to 4 depicted in the PN Admissions Pathway Map is to achieve an increase student success in program completion which means an increase in the program retention rates. Program completion and graduation means that the students have the opportunity to write their practical nursing registration exam and attain meaningful employment.

I believe the steps proposed in the framework I developed would be beneficial in guiding students down the academic path to success in the PN program at Urban College. Wells (2003) stated that “…the problem of student attrition should be addressed with new vigor and new commitment” (p. 230) in order to reduce attrition rates and associated costs to society
Figure 28. Urban College Practical Nursing program admissions pathway map.

Source: Lalonde, A.J. © (2014)
Implications for Further Research

Implication for Further Research #1: Assess impact of remedial intervention over the course of the total program. According to Ross (2012), at two-year colleges the percentage reported of students taking at least one remedial course varies from 41% to as high as 60%. While the assessment of the impact of the remedial intervention on the short-term that is over one semester was informative, it would be even more useful to follow all the participants through all four semesters of the program. Ideally monitoring the various options I have described above and their impact post-graduation during the first year or so of professional practice would be most informative but a comparative study at that level would be complex and costly. I also suggest that consideration be given to not only reinstating admission and placement testing upon enrollment but also a post-test after they have completed their linked course experience, should the Literacy Skills program be reinstated.

I found an obvious gap in the research literature on the topic that was the focus of my case study. Given the challenge I faced in attempting to find similar studies in the literature review and the relevance and importance of this topic, there is a pressing need for research to address the issue of underprepared students in any college program and how best to help them to be successful. Although the findings of this limited case study are not generalizable, I hope the findings will be of interest to other educators who are motivated to assist underprepared post-secondary students who struggle with work-family-school conflicts, which have the potential to interfere with their academic success and retention. I hope that they will be particularly useful to researchers in nursing programs that admit students with literacy challenges, since the CNO has initiated (as of 2013) a language proficiency component as an entry to entry to practice criterion.
**Implication for Further Research #2: Longitudinal study.** Since the findings from this study revealed different demographic characteristics existed between the remedial/at-risk and the non-remedial sub-groups, the next logical step related to this research is an expanded and longitudinal study. The purpose of conducting a longitudinal study with the at-risk group from Cohort II would be to assess what the long-term impact would be on their language skills in the clinical area based on not receiving any remediation support from the PN program, despite the results of the admission and placement tests which indicated they were underprepared. It would be informative to compare the post-graduation performance of the participants from the at-risk group with both the remedial group who have similar characteristics but took the Literacy Skills I course and also non-remedial student with different characteristics. Guhde (2003) stated that, “to succeed in the healthcare environment, proficiency in each area of reading, listening, speaking and writing is necessary” (p. 2).

Longitudinal studies of other student characteristics and participants’ performance in the various suggested program options over the duration of the programs and beyond would also be relevant and informative. It would assist in evaluating which approaches are most helpful (best practices) as well as those that are not.

**Theoretical Framework Considerations**

This research study was grounded in two theories, both by Vincent Tinto. The first theory is Tinto’s Student (Academic and Social) Integration Model (1975) and the second theory is the Learning Communities in Higher Education (Linked Course Model for Remedial Students) by Tinto (1998). As discussed in Chapter One, the Student Integration Model (Figure 1) is “the most influential model of dropout from tertiary education” (McCubbin, 2003, p. 1).
**Tinto’s student integration model.** The key features of the model are pre-enrollment attributes (family background, individual attributes and pre-college education), pre-enrollment commitments (i.e., goal commitment and institutional commitment) and the academic system (grade performance and intellectual development) and social system (peer-group interactions and faculty interactions).

How well an individual uses the components of the academic and social systems is determined by their background characteristics and the pre-enrollment commitment they made to their educational goal and institution. If they use the pre-enrollment attributes and commitments effectively within the academic and social systems, then they have “academically and socially integrated” into their higher education experience and should be able to successfully persist and graduate. However, when one or both of the systems (academic and social) are not compatible with pre-enrollment attributes and commitments, then the outcome can lead to various types of attrition behaviours that Tinto identified. McCubbin (2003) suggested those behaviours include “academic failure, voluntary withdrawal, permanent dropout, temporary dropout and transfer” (p. 1).

According to Tinto (1975) a family’s socioeconomic status, quality of the relationships, interest and expectations parents have for their child’s education are characteristics of the pre-enrollment attribute of family background. As well, Tinto (1975) believed that students who are able to persist through their college experience have parents who are supportive by giving praise and advice and come from a home environment that has minimal relationship conflicts. In my study I did not attempt to explore these important variables.

The individual attributes are considered to be variables such as personality and attitudes, sex (gender) and academic ability. The personality and attitude characteristics that determine if
an individual is going to successfully persist in college are whether they are “unstable, more anxious, and overly active” (Tinto, 1975, p. 101).

Tinto (1975) reported a child’s academic ability was measured based on grade performance demonstrated during their time spent in the secondary school system. Tinto (1975) further declared that past grade performance versus the scores achieved on a standardized test is the preferred predictor of college success and retention. Pre-college schooling is the final pre-enrollment attribute that determines persistence to college completion. Not only does grade point average or class ranking determine an individual’s performance in college but so do the “characteristics of the… school, such as its facilities and academic staff” (p. Tinto, 1975, p. 102). Given that my study focused solely on adult learners at the postsecondary level these variables were not addressed either.

The term “child” which Tinto (1975) used often throughout the description of family background in the Student Integration Model caught my attention. However, the non-traditional students enrolling in higher education programs are “parents” not children and the integration tasks are much different for them than for children. For instance, the pre-enrollment attributes (e.g., family background, individual attributes and pre-college education) described by Tinto are different from the data collected and analyzed in this study, as well as what was presented in the literature review. Many of the students in this study do not fit the definition of the traditional student. In reviewing the terms and descriptions used by Tinto (1975), I was able to relate personally to them and had vivid memories back to 1987 when I had my first college experience. Tinto’s description was appropriate to me as a student then. However, three decades later the pre-enrollment attributes he described do not represent many of the participants in this study or at other higher education institutes. McCubbin (2003) supported my research findings and stated
that, “the Student Integration Model does not generalize beyond traditional students” (p.1) and so did Fisher and Hoth (2010) when they reported that the current college classroom in Ontario is no longer the homogeneous one it once used to be when colleges first opened their doors in 1967.

One suggestion that should be considered based on my analysis is that the pre-enrollment attributes of adult learners who were the focus of my study, is that the Student Integration Model should be expanded to include the background characteristics of the non-traditional students who are more than 25 years of age, are members of ethnic and/or racial minority groups, speak English as a second language, have dependent children and require remedial assistance.

The pre-enrollment commitments are goal commitment and institutional commitment. Goal commitment is typically measured by educational plans, expectations or career expectations. Tinto (1993) stated," Intentions or goals specify both the level and type of education and occupation desired by the individual (p. 115). Institutional commitment is related to the college that the individuals select to attend and is essential to their chances of future employment. Tinto’s theory needs to be expanded to include the process and impact of institutional commitment related to non-traditional students.

I believe that the majority of students demonstrate that they are committed to their goals and institution just by registering for a program, paying the high tuition costs and attending classes for future employment opportunities. However, some students, especially those who are the non-traditional and underprepared in any area especially in linguistic skills begin to encounter conflicts between their pre-enrollment attributes and commitments. For example, some of the background characteristics of the students in this study conflict with their ability to persist. The information I collected from the PN Academic Advisor regarding the characteristics of students from both the experimental and control sub-groups who had withdrawn from the
program (either for academic reasons or left the program voluntarily) indicated they did so because of family issues, challenges with academic workload, personal health reasons or failing status at mid-term. Tinto’s theory would benefit from being expanded to include these non-traditional students.

As many adult learners are goal and institutionally committed when they begin a program, the non-traditional student has many more opportunities for an external event to occur which will change the trajectory of their education and career plans. A suggestion that should be considered based on my findings and analysis of the data is the pre-enrollment commitments (i.e., goal commitment and institutional commitment) of the Student Integration Model are extended to include external commitments or also known as “life happens”. Morris (2002) said that, “In addition to goals and commitments students also bring external commitments, or outside factors that could influence them to persist or dropout” (p. 15).

The variables of pre-enrollment attributes and goals and commitments are taken to the institutional setting. These variables interact with the next category of Tinto's Student Integration Model, which are divided into the academic system or the social system. Within the academic system, the student's educational performance is based on grade results and intellectual development is based on the quality of academic preparation a student had in their prior education. Demetriou and Schmitz-Schiborski (2011) stated that, “completion of a strong high school curriculum is an important predictor of undergraduate success and retention” (p. 303). However, based on the findings reported in the literature review, there are many students entering the post-secondary education system that are unprepared for college-level reading, writing and math, which then requires them to start off their studies by registering in remedial coursework (Swail, 2004). If students are prepared, they are more likely to have a positive
experience that will help them achieve *academic integration* within their educational community. If they are not, there is the potential for a student to not be successful and therefore not retained.

Within the social system, the student's involvement is through peer-group interactions and as well as interaction with faculty. Demetriou and Schmitz-Schiborski (2011) believed that, “positive faculty-student interactions and taking advantage of resources that promote academic success such as learning centers, tutorials and office hours have been demonstrated to positively influence retention” (p. 303-304). If students have a positive social experience, they will have achieved *social integration*. Whereas, having a negative experience can potentially isolate the student and lead them to feel disengaged and not persist to complete their college education.

Class size is likely to have an impact on social integration as in smaller classes, students are much more likely to be able to interact more frequently with faculty and other students.

Based on my findings that 43.4% (Cohort I) and 62.4% (Cohort II) were categorized as academically underprepared because of the scores achieved on the admission and placement tests, I recommend that the Student Integration Model should consider a focus that is directed to language acquisition under the academic system. In the case of Urban College, this could be achieved by reinstating the admission and placement testing policy, as well as the Literacy Skills program. This consideration would provide students with the opportunity to develop their language skills so they feel motivated to continue with their academic studies. Despite the concerns expressed by the remedial participants from Cohort I regarding the amount of time the embedded remediation took from their mainstream program schedule, the students did report that they appreciated the smaller class size of the Literacy Skills I course as it allowed them more time to interact with their peers and professors.
**Tinto’s theory of learning communities in higher education.** The second theory that grounded this study was the Learning Communities in Higher Education (Linked Course Model for Remedial Students) model. According to Tinto (1998) the view regarding remedial education is that it should be offered despite the high monetary costs and the resources related to time and effort by faculty to maintain it. The number of remedial students entering higher education has increased over the years. Since these numbers continue to grow, the use of learning communities is an effective approach that encourages students to feel involved in their learning rather than isolated.

Price (2005) reported that learning communities were designed initially for first year students and targeted to those who were academically underprepared. A learning community is block scheduling that enables students with remedial needs to register together for two or more courses, “typically referred to as linked courses” (Tinto, 1998, p. 2). The purpose of doing so is to form student study groups and linking curriculum that provide students with an interdisciplinary approach. Tinto (1998) stated that, “he has come to appreciate how important student involvement or integration is to student attainment. Simply put, the more students are involved in the social and academic life of an institution, the more likely they are to learn and persist” (p. 2).

By participating in a learning community, students are able to develop networks of support to guide and keep them balanced through academic struggles. According to Tinto (2011) supportive peer groups “employ pedagogies that require students to collaborate and become accountable for the learning of the group and classroom peers. In this way, students share not only the experience of the curriculum, but also of learning within the curriculum” (p. 5). Shared learning through learning communities helps to bridge the academic-social divide that typically
plagues student life (Tinto, 1998, p. 7). A learning community helps students to feel a social connection to the institution while being involved with others in the same academic learning process. Price (2005) suggested that bridging the gap and learning together helps with persistence by increasing the grade point average, the pass rate in courses and students to be retained and passed to the next semester.

Tinto (1998) indicated that involvement in learning leads to persistence. Price (2005) stated that, “participation in learning communities resulted in the same or better grades for cohort students than for those in respective stand-alone course comparison groups” (p. 15). Price also suggested that not only did the students involved in linked courses achieve better grades but had higher retention rates than their peers who did not participate in linked courses through Learning Communities in Higher Education. For example, Price (2005) reported that an evaluation of a pilot project was completed at one American higher education institute that showed the students in the linked courses showed significant improvement in their retention rates. Eighty percent of the students who participated in the linked courses persisted compared with 68 percent for students in regular classes.

Based on the theory related to Tinto’s (1998) Learning Communities in Higher Education (Linked Course Model for Remedial Students), the findings from my study and the literature review support what Tinto has reported on remediation and linked courses. The Literacy Skills remedial program was such a learning community. Therefore, administration should consider finding room within their budget to reinstate the Literacy Skills program or create an English Skills Language for the Health Professional Program. Tinto (2011) stated that “While an embedded program is more expensive to run, recent data showed that students are nine times more likely to graduate” (p.4). Price (2005) stated that “among the students who failed both
reading and writing skills tests before they enrolled, 33 percent of learning community students retook and passed both tests one year later, compared with only 14 percent of control-group students” (p. 15).

**Overall Conclusions**

In answer to the overall research questions that drove this study, the findings suggest that students who participated in the embedded remediation program had higher retention rates and substantially higher final course grades in Anatomy and Physiology but not in the Nursing I course during the first semester in the Urban College PN Program.

Levin and Calcagno (2008) stated that in order to improve the academic performance of remedial students in post-secondary education, the first question the institution should consider asking is: What are the background characteristics of students taking remedial courses? I did not identify any strong relationships between participating students’ demographic characteristics and their success in the remedial work. However, there were characteristics that differentiated the students in the remedial sub-groups from and the other sub-groups. Further research is needed to understand their academic needs and to develop other strategies to improve their academic performance.

Based on the findings of this study, I have suggested many relevant implications for practice, for policy and for further research, as well as considerations for the expansion of Tinto’s two theories (Student Integration Model and Learning Communities in Higher Education (Linked Course Model for Remedial Students) to address the needs of adult non-traditional students. I have developed and proposed the Urban College Practical Nursing Program Admissions Pathway Map. I believe my pathway map would help to meet one of the objectives
from Urban College’s Vision, which is, to ensure the specific education requirements of all students are met (Ministry of Training, Colleges and Universities, 2012).

With the expected continued increase in immigration to Canada and an increasing number of language challenged students participating in higher education there is an urgent need to address effectively the issue of underprepared college students. No admission and placements tests to assess their language skills and no remedial support contribute to a decrease in program retention and graduation rates. Addressing these issues is crucial so that the specific learning needs of all students are met, particularly of those students who are preparing to enter the health care field where communication skills are critical for providing safe patient care.
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Appendix A
Urban College Writing Scale
March 2003

Note. The Experimental Group’s placement testing was assessed using the rubric that was implemented in March 2003. The admissions and placement tests are evaluated by assessors who are experienced English teachers who only assess admission and placement tests, these teachers do not teach within program specific curriculum.

**UCWS 6 (NLS 2.3+)**
Placement: COMM 1005 (COMM 1007)
Characteristics: Acceptable paragraph structure. Sentences have minor errors.

### Focus – Organization – Development

- Main idea is generally clear
- Support is significantly detailed – can create details that support topic sentence/focus
- Organization is explained to include essay structure
- Demonstrates recognizable topic sentence and focus
- Unity & coherence is evident
- Recognizes basic essay structure
- Lacks stylistic flexibility
- Writing demonstrates awareness of purpose and rhetorical mode
- Voice could be in appropriate

### Grammar – Mechanics – Usage

- Writing is weak
- May have errors when using more complex language
- Language is generally accurate but is constrained by a somewhat limited vocabulary, structure, mechanics and fluency
- Could have problems with subject-verb agreement, parallelism, fragments, run-ons, modifiers, pronoun antecedent, tense consistency
- Should not have major errors in tense or sentence structure
- Usage is generally accurate, limited, can have minor errors but does not significantly impede meaning


Urban College Writing Scale (UCWS)
March 2003
UCWS 6 (ESL) (NLS 2.3+)
Placement: COMM 1005(ESL) (COMM 1007)
Characteristics: Acceptable paragraph structure. Sentences have minor errors.

Focus – Organization – Development

- Main idea is generally clear
- Support is significantly detailed – can create details that support topic sentence/focus
- Organization is explained to include essay structure
- Demonstrates recognizable topic sentence and focus
- Unity & coherence is evident
- Basic essay structure sometimes complete
- Lacks stylistic flexibility
- Transitions are used infrequently, too frequently, redundantly or incorrectly
- Writing demonstrates awareness of purpose and rhetorical mode
- Can develop clear / sophisticated main idea through their fluency, organization and development but is limited by use of language
- May have errors when using more complex language

Grammar – Mechanics – Usage

- Writing is weak
- Usage is limited but does not significantly impede meaning
- Writing displays complex tense errors (tenses using modals)
- Writing displays preposition, article and pronoun problems
- Language is generally accurate but is constrained by a somewhat limited vocabulary, structure, mechanics and fluency
- Could have problems with subject-verb agreement, parallelism, fragments, run-ons, modifiers, pronoun antecedent, tense consistency
- Does have major errors in tense or sentence structure


Urban College Writing Scale (UCWS)
March 2003
**UCWS 7 (NLS 3)**  
Placement: COMM 1007    ENGL 1008 (CE)  

### Focus – Organization – Development

- Is able to develop a thesis by using a range of support  
- Responds readily to the demands of the topic with some fluency  
- Organization is apparent but often lacks unity or coherence  
- Is able to integrate personal perspective into writing  
- Presents information logically with a clear purpose  
- Sentence arrangement lacks variety  
- Lacks stylistic flexibility  
- Some sentences may be incoherent or awkward  
- Purpose evident but not well defined  
- Little differentiation of rhetorical mode

### Grammar – Mechanics – Usage

- Writing demonstrates occasional language irregularities which do not interfere with the overall comprehensibility of text  
- Spelling and punctuation are not always consistent  
- Some of these types of the following errors are evident and impede the meaning of the text:  
  - tense shifts  
  - sentence fragments  
  - run-on sentences (comma splice, rambling, fused)  
  - subject-verb agreement  
  - pronoun-antecedent agreement  
  - pronoun usage (case, shift)  
  - misplaced and dangling modifiers  
  - simple parallelism  
  - mixed sentence construction

*Note. The formal teaching of grammar is part of Level 7 English curriculum.*


*Urban College Writing Scale (UCWS)*  
*March 2003*
UCWS 7(ESL) (NLS 3)
Placement: COMM 1007    ENGL 1008 (CE)

### Focus – Organization – Development

- Is able to develop a thesis by using a range of support
- Responds readily to the demands of the topic with some fluency
- Supporting details sometimes insufficient to support the main idea
- Transitions are used infrequently, too frequently, redundantly or incorrectly
- Overall message may be confused or compromised
- Facility for fluency and sophistication in language use

### Grammar – Mechanics – Usage

- Vocabulary is limited, occasionally unidiomatic, or incorrect
- Control of spelling and punctuation conventions is not consistent
- Verb form errors are evident (distinguishing use of progressive and perfect tenses), modal auxiliaries, subject-verb agreement, and occasional past tense endings
- Sentence variety is evident, though errors with compound and/or compound-complex sentences are frequent
- Some of these types of the following errors are evident and impede the meaning of the text:
  - tense shifts
  - sentence fragments
  - run-on sentences (comma splice, rambling, fused)
  - subject-verb agreement
  - pronoun-antecedent agreement
  - pronoun usage (case, shift)
  - misplaced and dangling modifiers
  - simple parallelism
  - mixed sentence construction

**Note:** The formal teaching of grammar is not a part of Level 7 English curriculum.


*Urban College Writing Scale (UCWS)*
*March 2003*
Appendix B
Urban College Writing Scale
April 2011

Note. The Control Group’s placement testing was assessed using the rubric that was implemented in April 2011. The admissions and placement tests are evaluated by assessors who are experienced English teachers who only assess admission and placement tests, these teachers do not teach within program specific curriculum.

UCWS 6 (NLS 2.3+)
Characteristics: Writer demonstrates recognizable topic sentences and focus. Acceptable paragraph structure. Sentences have minor errors.

Focus, Organization, Development
- Addresses the topic appropriately produces an argument
- Main idea is generally clear
- Support is significantly detailed and most relevant and/or appropriate
- Organization reflects basic essay and paragraph structure
- Writer demonstrates recognizable topic sentence and focus
- Unity and coherence are evident but not be sustained throughout
- Recognizes basic essay structure
- Lacks stylistic flexibility

Voice, Vocabulary, Sentence Variety
- Writer demonstrates awareness of audience needs and/or commitment to purpose although voice could be inappropriate at times
- Vocabulary is varied but not expanded
- Demonstrates a range of syntactical structures but expression may appear constrained or limited

Grammar and Mechanics
- May have errors when using more complex language
- Language is generally accurate but is constrained by a somewhat limited vocabulary, structure, mechanics, fluency
- Core feature of written grammar are demonstrated but there may still be problems with subject-verb agreement, sentence fragments, run-ons, modifiers, pronoun antecedents, tense consistency
- Minor usage errors do not impede the meaning but may detract from overall impression of writing

General Equivalency: Depending on other assessment measures, student may be placed at the College English level (COMM 1007 or COMM 1008)


Urban College Writing Scale (UCWS)
April 2011
UCWS 6 (ESL) (NLS 2.3+)

Characteristics: Writer demonstrates recognizable topic sentences and focus. Acceptable paragraph structure. Sentences have minor errors.

### Focus, Organization, Development

- Addresses the topic appropriately produces an argument
- Main idea is generally clear
- May present a complex idea through organization and development but writing is limited by use of language
- Support is significantly detailed and most relevant and/or appropriate
- Organization reflects basic essay and paragraph structure
- Writer demonstrates recognizable topic sentence and focus
- Unity and coherence are evident but not be sustained throughout
- Transitions are used infrequently, too frequently, redundantly or incorrectly
- Lacks stylistic flexibility

### Voice, Vocabulary, Sentence Variety

- Writer demonstrates awareness of audience needs and/or commitment to purpose although voice could be inappropriate at times
- Vocabulary is varied but not expanded
- Demonstrates a range of syntactical structures but expression may appear constrained or limited

### Grammar and Mechanics

- May have errors when using more complex language
- Language is generally accurate but is constrained by a somewhat limited vocabulary, structure, mechanics, fluency
- Core feature of written grammar are demonstrated but there may still be problems with subject-verb agreement, sentence fragments, run-ons, modifiers, pronoun antecedents, tense consistency, articles, prepositions
- Usage errors do not impede the meaning but may detract from overall impression of writing

General Equivalency: Depending on other assessment measures, student may be placed at the College English level (COMM 1007 or COMM 1008)

*General Equivalency: IEP 7 and 8 / CLB 7/8*


*Urban College Writing Scale (UCWS)*

*April 2011*
**UCWS 7** (NLS 3)
Characteristics: Writer is able to develop a thesis by using a range of support. Acceptable essay structure. Good paragraph structure. Weak grade 12 equivalent.

### Focus – Organization – Development

- Able to develop a thesis by using a range of support
- Responds readily to the demands of the topic with some fluency
- Organization is apparent but often lacks unity or coherence
- Present information logically with a clear purpose
- Little differentiation of rhetorical mode
- Sentence arrangement may lack variety

### Voice, Vocabulary, Sentence Variety

- Voice is evident and demonstrates awareness of audience needs and commitment to purpose
- Able to integrate personal perspective into writing
- Vocabulary is appropriate to subject matter, audience and purpose
- Demonstrates a range of syntactical structures

### Grammar and Mechanics

- Occasional language irregularities occur but they do not interfere with the overall comprehensibility of text; however, at times, they detract from the overall impression of the writing and/or clarity of meaning
- Some sentences may be awkward
- Spelling and punctuation may not always be consistent
- Core features of written grammar are demonstrated but there may still be occasional problems with subject-verb agreement, sentence fragments, run-ons, modifiers, pronoun antecedents, tense consistency, misplaced and dangling modifiers, simple parallelism, mixed sentence construction

General Equivalency: Placement in College English (COMM 1007 or COMM 1008)


*Urban College Writing Scale (UCWS)*
*April 2011*
**UCWS 7(ESL) (NLS 3)**

Characteristics: Writer is able to develop a thesis by using a range of support. Acceptable essay structure. Good paragraph structure. Weak grade 12 equivalent.

**Focus – Organization – Development**

- Able to develop a thesis by using a range of support
- Responds readily to the demands of the topic with some fluency
- Organization is apparent but unity and coherence may have weak spots (infrequency or overuse of transitions)
- Supporting details sometimes insufficient to support a more complex main idea
- Presents information with a mostly clear purpose
- Fluency and sophistication in language use is evident
- Sentence arrangement may lack variety

**Voice, Vocabulary, Sentence Variety**

- Voice is evident and demonstrates awareness of audience needs and commitment to purpose
- Able to integrate personal perspective into writing
- Vocabulary is appropriate to subject matter, audience and purpose
- Demonstrates a range of syntactical structures

**Grammar and Mechanics**

- Occasional language irregularities occur but they do not interfere with the overall comprehensibility of text; however, at times, they detract from the overall impression of the writing and/or clarity of meaning
- Errors in more complex structure, article sue, word combinations (e.g., collocations) still occur and may result in occasional awkwardness
- Spelling and punctuation may not always be consistent
- Core features of written grammar are demonstrated but there may be occasional problems with subject-verb agreement, sentence fragments, run-ons, modifiers, pronoun antecedents, tense consistency, misplaced and dangling modifiers, simple parallelism, mixed sentence construction

General Equivalency: Placement in College English (COMM 1007 or COMM 1008)

*General Equivalency: Beyond IEP / CLB 9*


*Urban College Writing Scale (UCWS)*

*April 2011*
Appendix C
COMPASS Listening Test Scores
April 2011

Note. The admissions and placement tests are evaluated by assessors who are experienced English teachers who only assess admission and placement tests, these teachers do not teach within program specific curriculum.

Listening

Pre-Level 1 (1-41): Although student scoring at this level (1-41) may have some limited listening skills in English, they have provided insufficient evidence that they possess the following skills: understanding simple common words and learned phrases related to immediate needs (e.g., greetings).

Proficiency Level 1 (42-66): The understanding of students at Level 1 typically is limited to simple common words and learned phrases related to immediate needs (e.g., greetings). The students have little ability to comprehend even short utterances.

Proficiency Level 2 (67-81): Students at Level 2 typically have the ability to understand brief questions and answers relating to personal information, the immediate setting, or predictable aspects of everyday need. They need to understand short conversations supported by context but usually require careful or slowed speech, repetitions, or rephrasing. Their comprehension of main ideas and details is still complete. They can distinguish common time forms, some question forms (Wh-, yes/no, tag questions), most common word-order patterns, and most simple contractions, but the students may have difficulty with tense shifts and more complex sentence structures.

Proficiency Level 3 (82-91): Students at Level 3 typically are able to understand most discourse about personal situation and other everyday experiences, including conversations with basic academic and/or occupational subject matter. They typically can understand most exchanges which occur at a near-normal to normal conversational rate; these students generally grasp main ideas and details, although comprehension is sometimes affected by length, topic familiarity, or cultural knowledge. They are able to understand different time frames and usually understand utterances using the perfect tenses, conditionals, modals, passives; they are aware of cohesive devices but may be unable to use them to enhance comprehension. Colloquial speech may be difficult. Level 3 students can detect emotional overtones but cannot reliably interpret mood, tone, or intent.

Proficiency Level 4 (92-99): Students at Level 4 typically can understand linguistically complex discussions, including academic lectures and factual reports. Though the students have occasional problems with colloquialisms, idiomatic language, or rapid native speech, they can use context clues to aid comprehension and also can understand most discourse markers. They have acquired the ability to comprehend implications, inferences, emotional overtones, difference in styles, and shifts in register. Level 4 students can understand almost all reductions, elisions, and blends in the spoken language.

Appendix D
Accuplacer (ACPI) Listening Test Scores
Level of English Proficiency (LOEP)

Score of 90 or above: Exempt from listening courses.

- Students at this level are able to comprehend both literal and inferential meaning of spoken material. They typically show proficiency in understanding everyday situations and all types of academic situations. Students at this level can understand a large number of words and can handle more complex vocabulary.

Score of 80 to 89: Listening comprehension for academic purposes in four areas: office hour interactions, discussions, classroom presentations, and lecture note taking.

Score of 70 to 79: For students to focus on social and academic purposes in four areas: one-on-one communication, discussion, classroom presentations, and lecture note taking.

- Students at this level typically are skilled in literal comprehension and can make the more direct inferences but may lack the ability to make more complex inferences and to follow instructions. While they may show proficiency in understanding most everyday situations and common academic situations, they may have difficulty comprehending more complex academic situations, including lectures. Students at this level have a working vocabulary to handle many everyday situations, but will have difficulty with more complex or infrequently used words.

Below 70: Recommended to take an intensive English course with curriculum that emphasizes on the development of basic skills that are fundamental to academic success or professional advancement, such as reading, writing, grammar, listening comprehension and speaking. It also includes cultural orientation, oral presentation, pronunciation, discussion, and computer technology.

Reference: http://www.stcloudstate.edu/placementtesting/policy.asp

From: Assessment Centre Manager  
Sent: Monday, December 12, 2011 10:20 AM  
To: Andrea Lalonde  
Subject: Request

Hi Andrea,

Yes, I remember our conversation a while ago. Please go ahead and include the NLS/UCWS (pseudonym) descriptors in your study.

Let me know if you have any questions about the rubric.

Best wishes for your study.

Assessment Centre Manager

From: Andrea Lalonde  
Sent: Monday, December 12, 2011 8:11 AM  
To: Assessment Centre Manager  
Subject: Request

Dear Assessment Centre Manager,

I'm not sure if you remember me but we were introduced by the PSW Coordinator this past May in the Urban College Assessment Centre. At the time, I had informed you that the Literacy Skills (pseudonym) program would no longer be offered by the Practical Nursing program effective for the 2011 fall semester. As well, I had briefly discussed that for my PhD research I wanted to compare the academic performance of those students who have remedial supports compared to those who do not (i.e., the current cohort of Semester 1 students who do not have Literacy Skills as part of their curriculum).

At this time, I'm close to completing the application form for the REB committee. I spoke with the Chair of Ethics, [redacted] about my project and she suggested I should request permission to use the NLS/UCWS descriptor bands for 2/6 and 3/7 that are posted on Urban College's internal site. The descriptor bands are significant to include with my study because I have explained in my both my research proposal and REB application that students who are in my Experimental Group (those enrolled in the Literacy Skills) are so because they tested at a 2/6. To an outside reader, they will not know what those evaluation numbers refer to.

With the above background information, the purpose of this e-mail is to formally request permission to include a copy of the 2/6 and 3/7 NLS/UCWS descriptors in my study, which is titled "Impact of Embedded Remediation in Literacy Skills for First Semester Practical Nursing Students in one Ontario College Program".

I look forward to your reply.

Sincerely,

Andrea
Appendix F
Invitation to Participate/Information Letter to Prospective Students

Date

Dear Student,

I have asked a research assistant [name here], who has no relationship with any of the students in this class, to assist me with my research study as follows.

I am inviting you to participate in a research project entitled: “Impact of Embedded Remediation in Literacy Skills for First Semester Practical Nursing Students in one Ontario College Program” I am conducting this research study to fulfill the requirements for a doctoral degree in the Community College Leadership Program at the Ontario Institute for Studies in Education at the University of Toronto, under the supervision of Dr. Katharine Janzen.

This study seeks to explore the relationship between embedded remediation and academic achievement in two core courses (i.e., Anatomy & Physiology and Nursing I) (pseudonyms) and retention rates of Practical Nursing students at the end of first semester. Embedded remediation was provided to students identified with remedial language needs through Literacy Skills I (pseudonym). These students started the Practical Nursing program in January 2011. The term “embedded” means that using nursing content-based activities are created from the two core courses for the purpose of students to be able to practice the basics of therapeutic communications, produce short examples of clear, concise writing, engage in vocabulary-building tasks and apply critical thinking and decision making skills within the nursing process.

Only those students over the age of 18 and who completed the first semester of the Practical Nursing program during the Winter Semester of 2011 or the Fall Semester 2011 at Urban College only are invited to participate. Students who will not be asked to participate in this study are those who completed their first semester at either the East Adult Learning Campus (EALC) or West Adult Learning Campus (WALC) (pseudonyms).

You are asked to participate in this study by agreeing to complete a brief questionnaire and giving the researcher permission to access some of your student records that are important to this study. The questionnaire will be completed in class and will take about 10 to 15 minutes of your time. The questionnaire will ask you about your age, gender, education level, academic and employment workloads, childcare responsibilities, residency and citizenship and first language. You will also be asked to provide your name and student identification number so that the researcher can access your student records solely for the purpose of exploring the relationship between your questionnaire responses and those records (i.e., Semester 1 grades and Admission and Placement tests).

The researcher, Andrea Lalonde, will not have access to your signed consent form so she will have no idea who participated or did not participate in the study. Once the completed questionnaires have been deposited into the secure drop box provided, [Name of research assistant] who distributed the surveys, will code them and completely remove your name and/or identification number from the completed questionnaire. The coded list will be kept secure and confidential by the researcher 5 years after the study is completed and then all the data will be completely destroyed.

There are no known or expected risks in participating in this study. Participation is strictly voluntary and you are free to not answer any questions if you choose not to. You may also withdraw from the study at any time, without explanation or any consequences. At no time will you be judged or evaluated and no value judgments
will be placed on your responses. Participating or not participating will have no affect on your status in the Practical Nursing program now or in the future. Should you decide to withdraw during the study at any time before completion of the study, please notify [Name here and email address] of your decision and all information collected from you will be destroyed and not included in the study findings.

The potential benefits of you participating in this study could help to provide valuable information that may assist in decisions regarding the availability of support services for students. The potential benefits to the scholarly and academic community by conducting this study would be the advancement of knowledge and adding to the existing literature base regarding under-prepared students, literacy challenges in post-secondary education and the effect of additional educational support to remedial students. In addition, I plan to share my findings with Urban College. Results may also be presented in educational journals or at conferences, such as Registered Practical Nursing Association of Ontario (RPNAO) and Teaching English as a Second Language (TESL).

All information collected will be kept confidential and at no time will any individual nor the College be identifiable in any reporting, publication or presentation of the findings of this study. Only my faculty supervisor and I will have access to the information collected. Confidential, coded, hard copies of research records will be stored securely in a locked filing cabinet in my office within the Community Services and Health Sciences Practical Nursing Department. All electronic documents will be securely stored on my password protected home computer and backup drive; no network will be used. All digital data will be encrypted consistent with the University of Toronto policies. All raw data (i.e., course grades and admission test results) will either be shredded and/or deleted five years after the study is completed.

Please read this Information Letter and be sure you understand its contents before you consent to participate. If there is anything you do not understand, or you have any questions, please contact me or my thesis supervisor at the contact information below.

If you have any questions about the research study itself, please feel free to contact me, Andrea Lalonde at andrea.lalonde@utoronto.ca or 416-415-5000 (Extension: 3224) or my thesis supervisor, Dr. Katharine Janzen at katharine.janzen@utoronto.ca or 416-978-1232.

Finally, this study has been approved by both the University of Toronto, and Urban College Research Ethics Boards. If you have any questions about your rights as a research participant please contact either the University of Toronto’s Office of Research Ethics at ethics.review@utoronto.ca or 416-946-3273 or Urban College Research Ethics Board at

If you are interested in participating in this study, please stay after this class next week and the research assistant will return with a consent form for you to sign. Once you have signed the consent form and returned it the research assistant, she will give you the questionnaire. Once you have completed the questionnaire, you will then deposit it into a secure drop box at the front of the classroom.

Please keep this letter of information for your future reference. Once the study is completed, if you would like to know the results of the study, a copy of my thesis will be available in the University of Toronto library.

Thank you for taking the time to assist me in my educational endeavours.

Sincerely,

Andrea Lalonde, RN, BScN., MA (Ed), PhD Student
Ontario Institute for Studies in Education
252 Bloor Street West
Toronto, Ontario
M5S-1V5
Telephone Number: 416-415-5000 (Extension: 3224)
E-mail Addresses: andrea.lalonde@utoronto.ca

Faculty Supervisor:
Katharine Janzen, Ed.D.
Ontario Institute for Studies in Education
252 Bloor Street West
Toronto, Ontario
M5S-1V5
Phone: 416 978-1232
Email: katharine.janzen@utoronto.ca
Appendix G
Research Assistant Confidentiality Agreement

Principal Researcher: Andrea Lalonde

Project Title: Impact of Embedded Remediation in Literacy Skills for First Semester Practical Nursing Students in one Ontario College Program

I, __________________________________________________, the Research Assistant to the principal researcher have been asked to:

Use the Research Assistant Script Recruitment of Study Participants in the first week to:

- introduce the study to the students on behalf of the principal researcher one week in advance to the distribution of the questionnaire and provide a verbal explanation regarding the purpose of the study and then leave the Information Letter (Appendix F) for students to take home as a reference should they like to take the time to consider participating.

Return at the end of class in week two to:

- review the purpose of the study and ensure students fully understand what they will be consenting to.
- invite students to ask questions and/or inform them that they may contact the researcher or her thesis supervisor if they have questions.
- distribute the consent form and the background and language questionnaire.
- have access to the contents of the drop box in order to code the questionnaires

Post Questionnaire Submissions:

- code all of the questionnaires (student names will be completely deleted) and then and then give the responses to the principal researcher.
- submit the lists of students (by student identification number and code only) to the Community Services and Health Sciences administrative support staff member responsible for the security of the Banner® data base and retrieve the students’ academic records from Banner®. The administrative support staff member will remove the student identification numbers and forward the only coded academic records to the researcher.

I agree to:

- Keep all research information shared with me and the identities of the participants confidential by not discussing or sharing the research information in any form or format (e.g., electronic data, transcripts, survey responses) with anyone other than the principal researcher.
- Keep all research information in any form or format secure while it is in my possession.
- Return all research information in any form or format to the principal researcher when I have completed the research tasks.
- After consulting with the principal researcher, erase or destroy all research information in any form or format regarding this research project that is not returnable to the researcher (e.g., information stored on computer hard drive).

Research Assistant
__________________________________________________________     ___________________________     ___________________________
(Print Name)                                                                                      (Signature)                                      (Date)

Principal Researcher
__________________________________________________________     ___________________________     ___________________________
(Print Name)                                                                                      (Signature)                                      (Date)

Please retain a copy of this agreement for your records and provide one to the Principal Researcher
Appendix H
Research Assistant Script for Participant Recruitment

Week One

My name is __________________ and on behalf of Andrea Lalonde I am assisting her to collect data for her research project, which she is conducting to fulfill the requirements for a PhD degree in the Community College Leadership Program at the Ontario Institute for Studies in Education at the University of Toronto, under the supervision of Dr. Katharine Janzen. Andrea as you know is also a Professor in the Practical Nursing program here at Urban College. Andrea would like you to know that this study has been approved by both the University of Toronto, and Urban College Research Ethics Boards.

On Andrea’s behalf I am inviting you to participate in her research project entitled: “Impact of Embedded Remediation in Literacy Skills for First Semester Practical Nursing Students in one Ontario College Program.

Her study explores the relationship between the Semester 1 Literacy Skills course (pseudonym) and the academic achievement in your core courses of Anatomy and Physiology and Nursing I and the retention rates of Practical Nursing students at the end of their first semester.

Andrea invites all Practical Nursing students over the age of 18 who entered first semester in the Winter Semester of 2011 and the Fall Semester 2011 at Urban College are invited to participate. Students who completed their first semester at the East Adult Learning Campus (EALC) and West Adult Learning Campus (WALC) campuses will be asked to not participate in this study because you did not take your courses at the Urban College campus and you did not take Literacy Skills I course.

If you would like to take part in this study, please know that at no time will you be at risk of harm and your participation is strictly voluntary and confidential, you are free to not answer any questions if you choose not to. You can also withdraw from the study at any time, without explanation or any consequences. Should you decide to withdraw during the study at any time before completion of the study, please notify me by email and all information collected from you will be destroyed and not included in the study findings.

Participating in this study means that through written consent you agree to complete a questionnaire survey that will take about 10 to 15 minutes of your time. The questionnaire is going to ask you about your age, gender, education level, academic and employment workloads, childcare responsibilities, residency and citizenship and language, such as your mother tongue. You will also be asked to give Andrea permission to access to some of your student records including grades and the results from your Admission or Placement tests.

All information you provide will be kept confidential and at no time will you be identified in any reporting of the findings of this study. The information letter describes the process that Andrea will take to ensure that confidentiality.

Please read the Information Letter I am going to distribute for Andrea and be sure you understand its contents before you consent to participate. I will return next week at the same time as this week and
this time in-between allows you the time to read the information letter. If there is anything you do not understand, or you have any questions, please ask me when I return next week with the surveys. If decide you would like to participate, I will give you a consent form to sign. Signing the consent form means that you understand everything that is written in the information letter and what you are agreeing to what is listed on the consent form.

If you have any questions about the research, please feel free to contact Andrea Lalonde or her thesis supervisor, Dr. Katharine Janzen at the contact information provided on the information letter. Finally, if you have any questions about your rights as a research participant please contact either the University of Toronto’s Office of Research Ethics or Urban College Research Ethics Board at the contact information also provided on the information letter.

If you are interested in participating in this study, please stay after class next week when I return, complete the consent form; return it along with the completed questionnaire to a secure drop box, which will be located at the front of the class. Please remember to keep the yellow copy of your consent form when you do sign it. I repeat these instructions again for those who choose to participate next week.

Please keep the letter of information for future reference. Once the study is completed, if you would like to know the results of the study, Andrea would like you yo know that a copy of her thesis will be available in the University of Toronto library.

Thank you for your time. Again, I will return next week at the same time to distribute the surveys to those who choose to consent to participate in Andrea’s study.

Week Two

The research assistants will distribute the consent form, instruct the students to read it and then asks if the students have any questions after it is read and answers them. The research assistants will inform the students that if they agree to participate, please sign the consent form, deposit the white copy in the secured drop box located at the front of the room and to keep the yellow copy for their personal records. When the students deposit their consent form into the drop box, the research assistants will give the students a copy of the questionnaire and will instruct them to deposit into the secured drop box once it is completed.

For students who decide they do not wish to participate in this study, the research assistants will ask them to leave the room while their classmates who do wish to participate can complete their surveys.

The research assistants will conclude thes session by stating, “On behalf of Andrea, she thanks you for taking the time to assist her in her educational endeavours”.

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Appendix I
Consent Form

UNIVERSITY OF TORONTO
OISE | ONTARIO INSTITUTE
FOR STUDIES IN EDUCATION

University of Toronto
Ontario Institute for Studies in Education
252 Bloor Street West
Toronto, Ontario
M5S-1V5

Primary Investigator: Andrea Lalonde
Tel: 416-415-5000 (Extension: 3224)
andrea.lalonde@utoronto.ca

Date

“Impact of Embedded Remediation in Literacy Skills for First Semester Practical Nursing Students in one Ontario College Program”

I, (please print) __________________________________ have read and understand the information on the research project “What is the Impact of Embedded Remediation in Literacy Skills for First Semester Practical Nursing Students in one Ontario College Program”, which is to be conducted by Andrea Lalonde and all questions have been answered to my satisfaction.

I agree to voluntarily participate in this research. I understand that the project will be conducted in accordance with the Information Letter, a copy of which I have retained for my records.

I understand I have the option to not answer some questions if I choose not to and I can withdraw from the project at any time, without explanation or consequences of any kind.

I agree to participate in this study. I agree to:

- complete the Practical Nursing Student Background Questionnaire
- allow Andrea Lalonde to access my student records relevant to this study (i.e., Semester 1 grades and Admission and Placement tests) as identified in the information letter.

______________________________
Print Name: _____________________________________

______________________________
Signature: _______________________________________

______________________________
Date: ________________________________

Please keep the yellow copy of this consent form for your records.
Appendix J
Background and Language Questionnaire for Cohort I

Practical Nursing Student (Cohort 1) Background Questionnaire

Date: _________________

All information collected from this survey will be kept confidential and at no time will any individual be identified in any reports resulting from this study. Only myself and my research supervisor will have access to the information collected.

Section A

1. What is your name and student number? __________________________ (Name)
   __________________________ (Number)

2. How old are you?
   □ 18 to 24 years of age
   □ 25 to 34 years of age
   □ 35 to 44 years of age
   □ 45 to 54 years of age
   □ 55 years of age and over

3. What is your gender?  □ Male  □ Female

4. Through which route did you enter into the Practical Nursing program?
   □ Ontario College Application Service (OCAS)
   □ Personal Support Worker Pathway to Practical Nursing Program
   □ Pre Health Science Program

5. How many courses did you take in first semester? Check all that apply:
   □ Anatomy and Physiology (pseudonym)
   □ Nursing I (pseudonym)
   □ Nursing Clinical Practicum I (pseudonym)
   □ Literacy Skills I (pseudonym)
   □ Human Development (pseudonym)
   □ Higher Education English (pseudonym)
   □ Application of Computer Technology Skills (pseudonym)
   □ Mathematics for Medication Administration (pseudonym)
   □ General Education Elective

6. Are you employed?  □ Yes  □ No
7. If yes, how many hours do you work per week?
   - [ ] 8 to 14 hours/week
   - [ ] more than 35 hours/week
   - [ ] fewer than 8 hours/week
   - [ ] 25 to 34 hours/week
   - [ ] 15 to 24 hours/week

8. Do you have parental responsibilities?  [ ] Yes  [ ] No
   Number of children ______ Age range of children ________________________________

9. Do you have an Ontario high school diploma?  [ ] Yes  [ ] No
   What level?  [ ] Basic/Workplace  [ ] General/Applied  [ ] Academic/Advanced

10. Do you hold other degrees and/or diplomas?  [ ] Yes  [ ] No
    [ ] Doctorate  [ ] Masters  [ ] Bachelors  [ ] Post-Secondary Diploma

11. Where were you born (country of origin)? ________________________________

12. If not born in Canada, at which age did you enter Canada? _________________

13. What was the highest grade (K-12) that you completed in your country of origin? ______

14. At what age did you enter the formal education system in Canada (K-12)? _________

15. At what grade level did you enter the formal education system in Canada (K-12)? ________

16. What language(s) is/are spoken in the family home?
   - [ ] English  [ ] Other ________________________________

17. What language did you first learn to speak?
   - [ ] English  [ ] Other ________________________________

18. At what age did you begin to speak English? ______________

19. What language are you most fluent with/comfortable speaking now? ______________

20. What language(s) do you speak (other than English)? ______________________________

21. What language(s) do you read (other than English)? _______________________________
Section B

The following section is to be completed by the students who are enrolled in the embedded remediation program took the course during their first semester at Urban College.

1. Do you feel the Literacy Skills I course has helped your academic performance?
   - Yes ☐  No ☐

   If yes, which subject?
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________

   If not, why not?
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________

2. Do you feel the Literacy Skills I course helped increase your communication skills?
   - Yes ☐  No ☐

   If yes, how did it help?
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________

   If not, why not?
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________

3. What did you like the most about taking the Literacy Skills I course?
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________

4. What did you like the least about taking the Literacy Skills I course?
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________

5. Do you believe that your communication skills are adequate for nursing?
   - Yes ☐  No ☐

End of Survey

Thank you for taking the time to complete this survey. Your participation in this research study has been invaluable and is greatly appreciated.
Appendix K
Background and Language Questionnaire for Cohort II

Practical Nursing Student (Cohort 2) Background Questionnaire

Date: __________________

All information collected from this survey will be kept confidential and at no time will any individual be identified in any reports resulting from this study. Only myself and my research supervisor will have access to the information collected.

1. What is your name and student number? __________________________ (Name)
   __________________________ (Number)

2. How old are you?
   - [ ] 18 to 24 years of age
   - [ ] 25 to 34 years of age
   - [ ] 35 to 44 years of age
   - [ ] 45 to 54 years of age
   - [ ] 55 years of age and over

3. What is your gender?  [ ] Male  [ ] Female

4. Through which route did you enter into the Practical Nursing program?
   - [ ] Ontario College Application Service (OCAS)
   - [ ] Personal Support Worker Pathway to Practical Nursing Program
   - [ ] Pre Health Science Program

5. How many courses did you take in first semester? Check all that apply:
   - [ ] Anatomy and Physiology (pseudonym)
   - [ ] Nursing I (pseudonym)
   - [ ] Nursing Clinical Practicum I (pseudonym)
   - [ ] Nursing Theory I (pseudonym)
   - [ ] Human Development (pseudonym)
   - [ ] Higher Education English (pseudonym)
   - [ ] Application of Computer Technology Skills (pseudonym)
   - [ ] Mathematics for Medication Administration (pseudonym)
   - [ ] General Education Elective
6. Are you employed? □ Yes □ No

7. If yes, how many hours do you work per week?
   □ 8 to 14 hours/week □ more than 35 hours/week
   □ fewer than 8 hours/week □ 25 to 34 hours/week
   □ 15 to 24 hours/week

8. Do you have parental responsibilities? □ Yes □ No
   Number of children _______ Age range of children ___________________________________

9. Do you have an Ontario high school diploma? □ Yes □ No
   What level? □ Basic/Workplace □ General/Applied □ Academic/Advanced

10. Do you hold other degrees and/or diplomas? □ Yes □ No
    □ Doctorate □ Masters □ Bachelors □ Post-Secondary Diploma

11. Where were you born (country of origin)? _______________________________________

12. If not born in Canada, at which age did you enter Canada? _______________________

13. What was the highest grade (K-12) that you completed in your country of origin? _______

14. At what age did you enter the formal education system in Canada (K-12)? ___________

15. At what grade level did you enter the formal education system in Canada (K-12)? _______

16. What language(s) is/are spoken in the family home?
   □ English □ Other ________________________________

17. What language did you first learn to speak?
   □ English □ Other ________________________________

18. At what age did you begin to speak English? __________

19. What language are you most fluent with/comfortable speaking now? _________________

20. What language(s) do you speak (other than English)? ______________________________

21. What language(s) do you read (other than English)? ______________________________

   **End of Survey**

Thank you for taking the time to complete this survey. Your participation in this research study has been invaluable and is greatly appreciated.
Appendix L

Letter Requesting Administrative Consent

Date

Urban College
XXX Urban Street East
P.O. Box XXXX, Station X,
Urban, Ontario
X1X-1X1

Attention: Chair, PN, PSW & Pathway to PN Programs

Dear Chair of PN, PSW & Pathway to PN Programs,

As a nurse and an administrator in post-secondary education you understand that professional growth is an integral part of our careers and I would like to thank you for supporting my educational endeavor as a graduate student in the Theory & Policy Studies in Education Department at OISE/UT over the past 16 months. As I enter into the final stage of the program, I am currently planning a research project that will involve students in the first year of the Practical Nursing (PN) Program. In order to begin the project, I will require your written consent. In addition to your consent, I will also be seeking an ethical review from Urban College.

Being a faculty member working in the PN program at Urban College for the past four years, I have developed an interest in under-prepared students, literacy challenges and if these factors contribute to the attrition rates within the PN program. Therefore, the purpose of my study is to determine what if any, is the effect of embedded remediation on academic performance in first semester PN students, and the relationship between selected student characteristics and performance in the embedded remediation. It is expected that the total number of first year PN students to be invited to participate in this research project will be approximately 240 and I hope 170 will actually participate. The project is a comparative project, therefore there will be an experimental and a control group. The students in the experimental group started the first semester of the program in the Winter Semester of 2011; the control group started in the Fall Semester 1 in 2011.

The study involves the use of The Language and Background Survey, it is a 21 question item survey, which will be used to capture the participants’ potential predictive factors such as; name, student identification number, age, gender, education level, academic and employment workloads, childcare responsibilities, residency and citizenship and language (i.e., L1/L1.5/L2). To review the questions in full, please refer to the attachments sent with my e-mail titled Appendix J and Appendix K.

This letter also is requesting your consent to allow me to access the student’s records that are relevant to this study, which are Semester 1 grades and Admission and Placement test scores through Urban College (BANNER®) information system. I also need your permission for either myself or my colleague to consult with the PN Program Academic Advisor to verify the type of entrance pathway to the program (Personal Support Worker (PSW) Pathway to Practical Nursing Program and Pre Health Sciences (PHS) and their status within the program.
Since I am a professor in the PN Program and evaluating the students from an academic perspective, the steps I have taken to minimize the potential perception of coercion because of this relationship are by involving a colleague who will not be involved in evaluating student participants in either of the groups (Experimental and Control). This colleague will introduce the study to the students on my behalf at the end of a class that will be the least disruptive to the student’s academic schedule, distribute the information letter and then provide a verbal explanation regarding the inclusion criteria and the purpose of the study. My colleague will then distribute the consent form and the questionnaire to the students. The students will return the consent forms and completed questionnaires to a secure drop box accessible only to my colleague who will code the questionnaires and separate the student identification from the codes and keep the separate list secure and not accessible to me at any time. I will not be given the student consent forms until after their Fall 2011 semester grades have been formally inputted and submitted.

Subjects will be well informed about the nature of the study and their participation, including the assurance that they may withdraw at any time. In addition, they may request that any information in written form be eliminated from the project. Participants will at no time be judged or evaluated, and will at no time be at risk of harm.

The information gathered from the questionnaire will be kept in strict confidence and stored at a secure location (in a locked filing cabinet in my office) within the Community Services and Health Sciences Practical Nursing Department. All information will be reported in such a way that individual persons and college cannot be identified. All data collected will be used for the purposes of a PhD thesis and perhaps for subsequent research articles. All raw data (questionnaire responses, Semester 1 grades and Admission and Placement tests) will be destroyed five years after the completion of the study.

I will provide you with a summary of the study once it has been completed. I believe this study will provide valuable information that may assist in decisions regarding the availability of support services for future students. By conducting this study, I feel the potential benefits to the scholarly and academic community would be the advancement of knowledge and also adding to the limited existing literature base regarding under-prepared students, literacy challenges in post-secondary education and the effect of additional educational support to remedial students.

If you agree, please sign the letter below and return it to me in the envelope provided. If you have any questions, please feel free to contact me at andrea.lalonde@utoronto.ca. You may also contact my supervisor, Dr. Katharine Janzen at 416-978-1232 or at katharine.janzen@utoronto.ca. Finally, this study has been approved by the Research Ethics Boards of the University of Toronto. If you have any concerns you may also contact the University of Toronto’s Office of Research Ethics 416-946-3273 or ethics.review@utoronto.ca.

Thank you in advance for your cooperation and support.

Sincerely,

Andrea Lalonde

____________________________________
Chair’s Signature

____________________________________
Date
Appendix M
Letter of Permission

From: M.E. Evans (pseudonym)
Sent: Tuesday, June 14, 2011 10:35 AM
To: Andrea Lalonde
Subject: RE: Permission

Hello Andrea,

This e-mail provides permission for you to use all or part of the Language and Background and language questionnaire which was used in the Learner Profiles Project. I understand that you will use the survey for research that you are conducting as a PhD candidate at OISE.

All the best,

M. E. Evans (pseudonym)
Professor, Communications
Urban College (pseudonym)
Ontario, Canada

From: Andrea Lalonde
Sent: Tue 14/06/2011 7:53 AM
To: M.E. Evans (pseudonym)
Subject: Permission

Dear M. E. (pseudonym),

The purpose of this e-mail is to formally request permission from you to use the Language and Background and language questionnaire for the Learner Profile Pilot Project which you created in January 2006 for your research study “Learner Profiles and Language Remediation Project”.

I would like to use some of the questions from your research instrument for my study, “The Effect of Embedded Remediation on Academic Performance in First Semester Practical Nursing Students”. I am conducting this study in order to fulfill the requirements for my doctoral studies in the Community College Leadership Program at the Ontario Institute for Studies in Education at the University of Toronto.

Do you grant me permission to use the Background and Language questionnaire that you developed for the Learner Profile Pilot Project for my study? I look forward to your reply.

Sincerely,

Andrea
Professor, Practical Nursing
Ontario, Canada
Review the background and language questionnaire and then complete the following Content Validity Index (CVI). The CVI was developed by Lawshe (1975) for the purpose of validating the reliability of a research instrument among subject matter expert raters (SMEs) to determine whether each survey question is relevant to the research question being investigated.

**Research Question:** Embedded remediation is effective for academic performance in first semester Practical Nursing courses for the remedial group.

1. Is the knowledge measured by this item ____________________________ to the research question?
   - ☐ essential
   - ☐ useful but not essential
   - ☐ not necessary

2. Is the knowledge measured by this item ____________________________ to the research question?
   - ☐ essential
   - ☐ useful but not essential
   - ☐ not necessary

3. Is the knowledge measured by this item ____________________________ to the research question?
   - ☐ essential
   - ☐ useful but not essential
   - ☐ not necessary

4. Is the knowledge measured by this item ____________________________ to the research question?
   - ☐ essential
   - ☐ useful but not essential
   - ☐ not necessary

5. Is the knowledge measured by this item ____________________________ to the research question?
   - ☐ essential
   - ☐ useful but not essential
   - ☐ not necessary

6. Is the knowledge measured by this item ____________________________ to the research question?
   - ☐ essential
   - ☐ useful but not essential
   - ☐ not necessary

7. Is the knowledge measured by this item ____________________________ to the research question?
   - ☐ essential
   - ☐ useful but not essential
   - ☐ not necessary

8. Is the knowledge measured by this item ____________________________ to the research question?
   - ☐ essential
   - ☐ useful but not essential
   - ☐ not necessary

9. Is the knowledge measured by this item ____________________________ to the research question?
   - ☐ essential
   - ☐ useful but not essential
   - ☐ not necessary

10. Is the knowledge measured by this item ____________________________ to the research question?
    - ☐ essential
    - ☐ useful but not essential
    - ☐ not necessary

11. Is the knowledge measured by this item ____________________________ to the research question?
    - ☐ essential
    - ☐ useful but not essential
    - ☐ not necessary

12. Is the knowledge measured by this item ____________________________ to the research question?
    - ☐ essential
    - ☐ useful but not essential
    - ☐ not necessary
13. Is the knowledge measured by this item ___________________ to the research question?
   □ essential     □ useful but not essential     □ not necessary

14. Is the knowledge measured by this item ___________________ to the research question?
   □ essential     □ useful but not essential     □ not necessary

15. Is the knowledge measured by this item ___________________ to the research question?
   □ essential     □ useful but not essential     □ not necessary

16. Is the knowledge measured by this item ___________________ to the research question?
   □ essential     □ useful but not essential     □ not necessary

17. Is the knowledge measured by this item ___________________ to the research question?
   □ essential     □ useful but not essential     □ not necessary

18. Is the knowledge measured by this item ___________________ to the research question?
   □ essential     □ useful but not essential     □ not necessary

19. Is the knowledge measured by this item ___________________ to the research question?
   □ essential     □ useful but not essential     □ not necessary

20. Is the knowledge measured by this item ___________________ to the research question?
   □ essential     □ useful but not essential     □ not necessary

21. Is the knowledge measured by this item ___________________ to the research question?
   □ essential     □ useful but not essential     □ not necessary

22. Is the knowledge measured by this item ___________________ to the research question?
   □ essential     □ useful but not essential     □ not necessary

23. Is the knowledge measured by this item ___________________ to the research question?
   □ essential     □ useful but not essential     □ not necessary

24. Is the knowledge measured by this item ___________________ to the research question?
   □ essential     □ useful but not essential     □ not necessary

25. Is the knowledge measured by this item ___________________ to the research question?
   □ essential     □ useful but not essential     □ not necessary
Additional Comments: __________________________________________________________
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Subject Matter Expert Rater Information

Name: _________________________________ Signature: ________________________________
Department: ___________________________ Job Title: _______________________________
Place of Employment: ________________________________
Date: ________________________________