

## **Remediation Strategies for Learners At Risk of Failure: A Course Based Retention Model**

*By Agnes Gajewski and Meera Mather*

### **Abstract**

This paper presents an overview and discussion of a course based remediation model developed to enhance student learning and increased retention based on literature. This model focuses on course structure and course delivery in a compressed semester format. A comparative analysis was applied to a pilot study of students enrolled in a course utilizing the remediation model to evaluate its effectiveness.

Retention is probably the single most important issue facing education professionals at the post-secondary level, regardless of the type of school they are in... And it is not just an issue for individual schools – it is an issue for society as a whole as well. (Isaac, 2008, p.2)

### **Introduction**

The retention of students at postsecondary institutions has been a pressing concern for decades. Over the past 30 years, attrition rates in post-secondary institutions have remained at an alarming 30-40% throughout North America (Fisher & Engemann, 2009, p. 2). In Ontario Colleges of Applied Arts and Technology, attrition following the first year of studies is higher than that of other provinces in Canada (Lopez-Rabson & McCloy, 2013, p. 5). Statistics vary between Ontario colleges; however, approximately 27 to 46 percent of students fail to persist to graduation after the first year (Fisher & Engemann, 2009; Lopez-Rabson & McCloy, 2013, p. 5). It is inarguable that the retention of students is a priority, as graduation rates are an integral component in sustaining an institution's stability and reputation and maintain vast benefits for students and society as a whole (Marshall, 2008).

The retention of students at colleges has grave social and economic consequences. From the perspective of the institution, remediation is financially beneficial as the cost of recruiting new students are higher than those associated with retaining existing students, and retention is necessary to maintain existing programs (Fike & Fike, 2008; Fisher & Engemann, 2009). Based on their research, Fisher and Engemann (2009) suggest that, on average, institutions face a loss of \$4,000 to \$6,000 annually per student who does not proceed in their program (p. 5). Furthermore, colleges have a responsibility to support and provide academic assistance to ensure the success of the students they admit. The success of students within the institution and following in the workplace can be used as a measure of overall effectiveness and in turn college standing. From the perspective of the student, graduation provides increased access to opportunities and resources, which may in turn result in an improved socio-economic status and standard of living. Combined, these factors have larger social implications. Oudenhoven (2002) argues that, "Remediation... is the solution to meeting the educational needs of large numbers of students who might otherwise never become productive members of a society that desperately needs their contributions" (p. 37). While colleges and students have the same interests and intentions, to ensure student success and the completion of program requirements, a significant number of students fail to graduate. Consequently, issues surrounding retention and remediation at colleges must be addressed.

The intent of this paper is to examine a model for remediation at Centennial College that focuses on the enhancement of student engagement and success. The *Centennial College Course Recovery* (CCCR) model is course-based and developed in consideration of best practices in teaching and learning, as identified in the literature, as well as institutional need, established through document analysis and statistical data. Data from a pilot study exploring the effectiveness of the CCCR model based on the perceptions and experiences of faculty and students will be discussed.

### **Theoretical Perspectives**

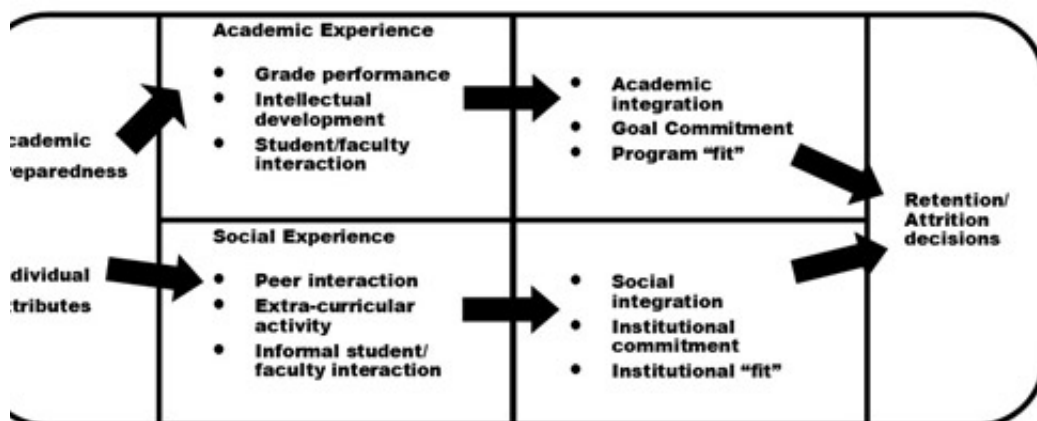
Much of the research and literature on retention focuses on why students drop out from their programs of study. In the literature, a number of delivery models and programs have been reviewed and identified as effective. There has been a consistent recommendation to embed remedial education into the standard curriculum or program of study to make the learning more applicable

and meaningful to students (Hoyt, 1999; Oudenhoven, 2002). To support this proposal, it was noted that remedial learning in isolation had the least long-term benefits (Oudenhoven, 2002). As such, remediation programs should be customized to meet the needs and demands of its students, with on-going studies and evaluations, to determine their effectiveness (Fike & Fike, 2008).

Research demonstrates that approximately 60 percent of the population in need of remediation consists of students who are admitted directly out of high school, while the remaining 40 percent is made up of mature students (Ignash, 1997; Oudenhoven, 2002). Students entering college immediately after high school may be underprepared, as they did not develop the necessary skills to be successful in a post-secondary educational setting. Likewise, those who are mature, attempting to change careers, upgrade, or to obtain a diploma for the first time may not have established study skills or may be unaccustomed to structured learning. Additionally, some remedial students may have unidentified learning disabilities or mental health issues (Oudenhoven, 2002). Adelman (1996) suggests that while the number of students who need remediation has not changed, increasing admission numbers into colleges and a growth in students whose first language is not English has resulted in increased demand for remedial education. Colleges maintain an “open-door policy” where they enroll a greater diversity of students. They are more affordable, more flexible, and more accessible. As such, these institutions often serve mature students, those from lower socioeconomic backgrounds, minority students, and students with diverse language proficiencies (Bailey & Alfonso, 2005; Shults, 2000). These factors may contribute to high attrition rates within colleges.

A number of researchers (Andre & Carpenter, 1997; Braxton, 1997; Calder & Gordon, 1996; Dietche, 1990; Drea, 2004; Gomme & Gilbert, 1984; Grayson & Grayson, 2003; McClenney & Marti, 2006; Noel, Levitz, & Saluri, 1985; Pascarella & Terenzini, 1977; Seymour & Hewitt, 1997) who have dominated the scholarship on retention support Tinto’s *Student Integration Model* (Figure 1), which emphasizes the importance of integrating students into an institution, both academically and socially. In his work, Tinto (1993) explains, “given individual characteristics, prior experiences, and commitments, it is the individual’s integration into the academic and social systems of the college that most directly relates to his continuance in that college” (p. 96). To elaborate on Tinto’s (1975) perspective, individuals possess a number of attributes such as skills, attitudes, knowledge, abilities, family background and prior education that influences their goals. When these goals interact and the student develops a sense of connection to the educational institution academically and socially, then the student persists and successfully completes his or her program of study. Fisher and Engemann (2009) reinforce Tinto’s theory by stating that when students are involved and integrated into a postsecondary institution, the chances are greater for students to remain enrolled at that institution. Tinto also stresses the importance of positive interactions between faculty and students as one of the critical steps in retention. Drea (2004) concurs that “students will be successful when there is a genuine interest in student life by faculty and staff, the building of learning communities to help students integrate” (p.4).

Figure 1: Student Integration Model (based on Tinto, 1975, 1993)



Source: Marshall, C. (2008). The school of language and liberal arts writing program and retention at Fanshawe. *College Quarterly*, 11 (2), 1-26.

Similarly, Astin’s *Theory of Involvement* (1984) focuses on patterns of engagement exhibited by students who have successfully completed their study. According to Astin (1984), students who are involved and connected to their institution are most likely to persist and graduate. Involvement can be described from an academic and co-curricular perspective, where students are active participants in

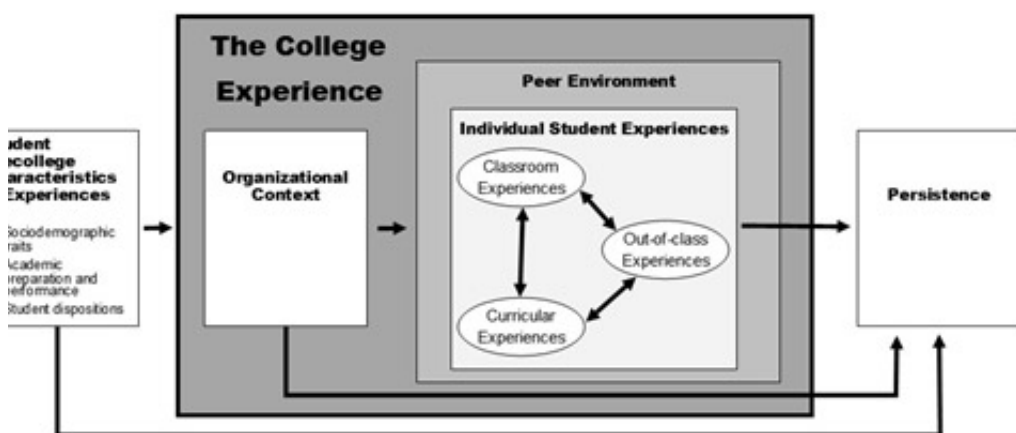
their program and college life (Noel-Levitz Retention Codification, 2008). In addition to being involved, it is necessary that students can relate to their peers, faculty and staff alongside institutional values and to see themselves as valuable contributors to the college community. These factors, in turn, increase the likelihood of completing their program of study.

A more comprehensive and integrated model for studying student retention was proposed by Terenzini and Reason (2005). Their *Comprehensive Model of Influences on Student Learning and Persistence* (Figure 2) expands on Tinto's *Student Integration Model* (1975) and Astin's *Theory of Involvement* (1984). The framework emphasizes four sets of influencers that are directly related to student success: 1) student precollege characteristics and experiences; 2) the organizational context; 3) the student peer environment; and 4) the individual student experience. Terenzini and Reason's (2005) framework proposes that,

Students come to college with a variety of personal, academic, and social background characteristics and experiences that both prepare and dispose them, to varying degrees, to engage with the formal and informal learning opportunities. These pre-college characteristics shape students' subsequent college experiences through their interactions with institutional and peer environments. (Reason, 2009, p. 662)

The college experience includes three sets of primary influences: the institution's internal organizational context, the peer environment, and, ultimately, students' individual experiences. When the pre-college and college experiences interact successfully, students persist and graduate.

Figure 2: A Comprehensive Model of Influences on Student Learning and Persistence (adapted from Terenzini and Reason, 2005)



Source: Reason, R. D. (2009). An examination of persistence research through the lens of a comprehensive conceptual framework. *Journal of College Student Development*, 50(6), 659-682.

Research and literature on remedial education also focuses on courses aimed to improve reading, writing, and mathematical skills of students at community colleges. Levin and Koski (1998) identify the following necessary components in successful remediation courses:

- motivation – building on student interests
- substance – connecting knowledge to real world
- inquiry – focus on the development of inquiry and research skills
- independence – encourage development of ideas, applications, and understandings
- multiple approaches – use collaboration and team work, technology, and tutoring
- high standards – set high standards
- problem solving – determine what needs to be learned and give appropriate resources and supports
- connectedness – emphasize connections between subjects and experiences
- supportive context – recognize that learning is a social activity that requires social interaction, encouragement, and support (In Levin & Calcagno, 2008, p. 186)

Levin and Koski's (1998) model is supported by McCabe and Day (1998) who argue that students need to learn how to problem solve, think critically, and engage in analysis. Boylan (1999) suggests that alternative teaching and learning be used in remedial courses, such as learning communities, collaborative learning, seminars, and critical thinking strategies.

### **Remediation Strategies at Centennial College**

Centennial College, like many other Ontario colleges, has a number of remediation programs, including Foundations programs, General Arts and Science programs, Pre-Health, Career and College Transition, and Credit Recovery Programs, among others which are specifically focused on academic under preparedness. Even with its best efforts, the College recognizes that attrition rate for the most part remains unchanged. This is evidenced in the attrition rate reported for 2011 at 38.7% (2011-2012 Multi-Year Accountability Agreement (MYAA) Report Back) and for 2012 at 39.2% (Centennial College, 2013). With the intention of increasing student retention and improving college engagement and experience, Centennial College has undertaken an initiative to implement a course-based remediation model that focuses on student learning needs.

The framework was developed in consideration of existing research in remedial education at the post-secondary level, effective practices in teaching and learning, and student needs within Centennial College. Research based recommendations for effective remediation propose that programs be focused in subject area courses (Hoyt, 1999; Oudenhoven, 2002; Shults, 2000) with flexible assessments and small class sizes (Shults, 2000). The small class model is also conducive to community oriented and collaborative pedagogies, which have been shown to increase motivation and engagement, especially for students who are at-risk of failure (Bailey & Alfonso, 2005; Levin & Calcagno, 2008; Levin & Koski, 1998; Taylor, Moore, MacGregor, Limbald, 2003). Teaching and learning strategies center on application-based strategies that build on interest, are relevant, and meaningful to the students (Levin & Calcagno, 2008). Moreover, for long-term benefits, the remediation course fosters the development of study habits and skills as well as advisement and consultation with faculty (Bailey & Alfonso, 2005; Hoyt, 1999; Lopez-Rabson & McCloy, 2013; Statistics Canada, 2008).

The CCCR is course based and focuses on the following:

- core concepts within a course
- student needs and strengths based on advisement and needs assessment
- building of study habits and skills
- application-based teaching methods
- collaborative community-based learning
- alternative assessments that are application-based and relevant to student lives
- faculty advisement
- shorter in duration than a semester length course
- cost efficient with eligibility for financial assistance
- characteristics of the faculty

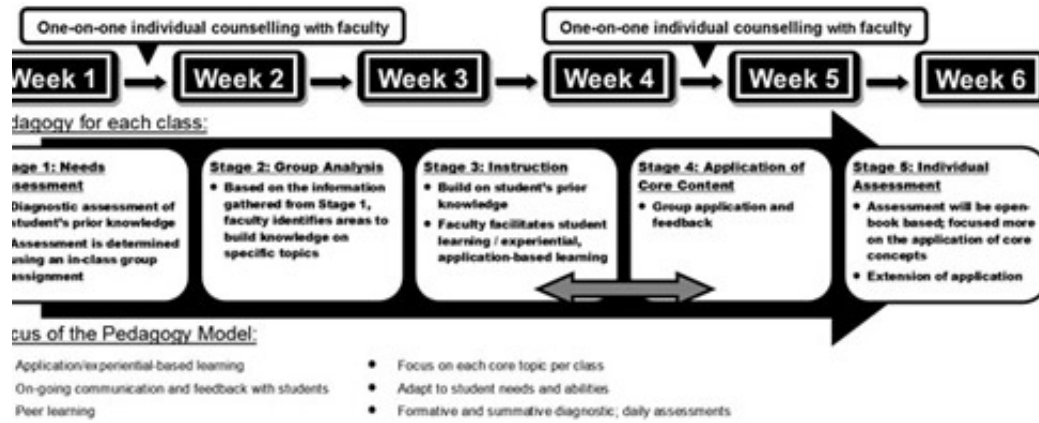
### **An Overview of the Centennial College Course Recovery Model**

All students enrolled in the remediation course will have persisted in one of the program courses but failed. The remediation will have no more than 15 students registered per session. The course will be offered for a duration of six weeks, with three hours of class time per week (18 hours in class). Attendance is mandatory in order to successfully complete the course, with students required to consent to an attendance contract (Figure 3).

Each week, an essential area focused on core concepts in the course will be assessed in a group format to determine the level of understanding and to drive instruction. Instruction will aim to cover the gap between the existing knowledge of the students and the learning outcomes of the course. Following that, students will engage in group work to reinforce the newly learned concepts through application-based activities connecting the learning to real life. During this time, the faculty will circulate between groups to provide feedback, support, and engage with students, asking critical and analytical questions to extend students' thinking. Additionally, each week students will complete an individual assignment, to illustrate their mastery of the core concepts.

The primary goal in the social interactions within the class will be to establish a collaborative learning community to increase engagement and motivation. Faculty will meet individually with the students at least twice per semester, initially to establish individual needs and strengths of the students as well as learning preferences and to identify short and long-term goals. Faculty will follow up with the students and evaluate progress, formally and informally, throughout the six weeks. A final individual meeting with faculty will be held to advise the students on their progress and future directions.

Figure 3: Centennial College Course Recovery Model



Source: Developed by Gajewski, A., Lucas, P., Mather, M., and Purdy, J. (2014)

### The RNED129 Course Pilot: Methodology and Findings

The course based remediation model was piloted in fall 2014 in the area of General Education (GNED) studies. Presently, when students fail a required 42-hour GNED course, they are expected to retake it, which, in turn, impedes their program completion. This remediation model was piloted in an Introduction to Psychology course, which is a required course in the community services and health care program. This course was selected for the pilot because of its relatively high rate of attrition. In the fall of 2013, 15% of students persisted but failed, 24% dropped out, resulting in a 39% total attrition rate. Data for the winter 2014 semester is comparable, with 13% of students who persisted but failed, 17% dropped out, for a total attrition rate of 30%. Based on the data collected, the Introduction to Psychology (GNED129) course was selected for the pilot study.

In order to investigate the effectiveness of the Remediation Model on student learning and experience, data were collected from two cohorts of students enrolled in the pilot Remediation Introduction to Psychology (RNED129) course. A total of 17 students were purposively selected for the study, with twelve males and five females. The aim of the study was to gain insights on the individualized perspectives and learning experiences of the students near completion of the course. A qualitative methodology, consisting of a focus group interview and a written survey, was used with the intention of collecting rich descriptive data. The faculty teaching the course was also interviewed to allow for a comparison between student and faculty experiences and perceptions.

Nine students engaged in a semi-structured focus group interview, spanning a duration of approximately one hour, with prepared questions that allowed for expansion or redirection based on participant responses. It is believed that the focus group methodology concedes a collective opinion with the opportunity for individualized input. Cohen, Manion, and Morrison (2007) suggest that, "participants interact with each other rather than with the interviewer, such that the views of the participants can emerge – the participants' rather than the researcher's agenda can predominate. It is from the interaction of the group that the data emerge" (p. 376). The focus group session took place in the students' classroom during scheduled class time. The faculty member was not present during the interview. Anonymity of the students was maintained, as students were not asked to identify themselves prior to speaking.

A second cohort of students enrolled in the RNED129 course was sampled, with eight participants. Students were asked to complete a cross-sectional descriptive survey during their scheduled class time, near the end of the course term. A Likert scale was used to determine students' views, with opportunity for expansion on each question. The survey was structured in an open-ended format to elicit exploration, where themes could be identified without diminishing the individual experiences and perspectives of participants (Cohen, Manion, & Morrison, 2007).

A constant comparison method was used to analyze data, drawing on emerging themes. Data were compared with the aims and objectives of the CCCR model to determine its effects on student learning and experiences. Two major categories developed from the data analysis: course structure and course delivery. Course structure includes class size, shortened semester length, faculty advising, and emphasis on core concepts. Course delivery includes teaching pedagogy, assessments based on student needs and faculty qualities.

Most of the students indicated that they were unsuccessful when initially taking GNED129 due to the lecture based pedagogy, the large class sizes, which did not allow for one-on-one interaction between faculty and students, requirement for memorization of core concepts and recollection on multiple choice assessments, and overall lack of comprehension. Based on their accounts, these factors combined prevented students from completing the course. Data from the faculty interview paralleled student reports. In addition, the faculty claimed that in GNED129, students are required to independently apply complex concepts with minimal support or guidance.

Participants reported that the structure and delivery of RNED129 addressed their needs and enhanced their learning experiences, aiding them to successfully complete the course. Small class sizes allowed for extensive one-on-one interaction and faculty support. Students reported that the faculty was able to focus on their individualized strengths and needs to foster their learning. Moreover, students indicated that the focus on one main topic/concept per class, followed by application (guided practice) prior to an independent assessment, increased comprehension. To reinforce learning needs and goal setting, students valued the faculty advisement sessions, as they felt that the faculty had a vested interest in their success. The faculty, on the other hand, stated that while the advisement sessions were beneficial at discussing student progress, they did not incorporate any personal factors that could be impacting student learning. The shortened semester reinforced the concepts covered in GNED129, motivating students to attend and participate. All of the participants believed that six weeks were sufficient to repeat the course, allowing them to manage their workload. The shorter course length also resulted in decreased tuition fees, which with Ontario Student Assistance Program (OSAP) eligibility, alleviating financial burden.

Participants primarily attributed their success in RNED129 to the delivery methods utilized in the course. The focus of the CCCR model is on community-based experiential/application learning and student engagement. Core concepts were taught using real life examples, building on the prior knowledge. Students reported significant benefits from the group sessions, where they were required to share and apply concepts through assignments or activities grounded in problem solving and connections to their personal or professional lives. They indicated that the peer learning promoted a deeper understanding due to its collaborative and interactive nature. Students were able to brainstorm ideas, make connections, provide peer guidance, and increase motivation and accountability. The faculty indicated that she was able to assign students tasks that were more challenging than those completed in GNED129, with most students being highly successful on both group and independent tasks due to the amount of time spent on application in class within a group setting. Consequently, the focus on application, as opposed to rote learning, traditionally used in courses, increased comprehension and student retention.

RNED129 applied three modes of assessment: diagnostic, formative, and summative. The faculty reported that student learning was enhanced due to the use of diagnostic assessments, where she was able to gain information and draw on the prior knowledge of the students. In identifying student strengths and weaknesses on the weekly topics, she was able to emphasize on specific content, thus addressing student needs. Formative assessment was ongoing throughout the course, consisting of dialogue between faculty and students. Students stated that they appreciated the immediate feedback and elaboration on the topic, as the faculty circulated and conferenced with students during the group sessions. This approach was identified by participants as contributing to their success on independent tasks and assignments. The culminating task in the course encompassed all concepts learned over the six week period. Students felt confident and were successful in its completion, many suggesting that it reinforced their learning.

A consistent theme that emerged from the data was the importance of the characteristics of faculty. Students repeatedly commented on the caring, patient, and supportive nature of the faculty. They believed that the faculty was genuinely concerned and dedicated to their success. Interview with the faculty revealed the need for faculty to be flexible, knowledgeable in the subject area, interactive, and supportive, as they must adapt and accommodate teaching to the individual needs of the students.

## **Discussion, Implication, and Conclusions**

Student attrition in Ontario colleges is an area that is currently underrepresented in the literature. Despite the high costs of attrition,

to both institutions and students, retention is one of the least understood issues facing post-secondary education. Institutions in higher education have made efforts to address this problem; however due to its complexity, attrition rates remain alarmingly high (DeRemer, 2002), especially within the province of Ontario. According to the findings presented by the Higher Education Quality Council of Ontario, "In the GTA, college graduation rates vary widely, from 54 to 73 percent" (Lopez-Rabson & McCloy, 2013, p. 5). Consequently, a high number of students leave prior to graduation.

In the province of Ontario, studies show reasons for leaving vary, with 51.8 percent of students attributing their decision to institutional factors, 41 percent report dissatisfaction with their program, 27 percent report problems with time management, 26 percent identify disconnection from the college, and 26 percent achieve low grades (Lopez-Rabson & McCloy, 2013, p. 3, p. 22). Moreover, Fisher and Engemann (2009) found that the factors most influential in student decisions to leave their studies were academic under preparedness and low levels of student engagement with the institution (p. 4). In summary, the literature shows that students who leave face academic and social barriers. In response, the CCCR model strives to address both academic and social factors, at the course level, by incorporating measures for student success. This section presents a discussion of the comparative analysis of findings between student and faculty experiences and perceptions in the RNED129 course structured and delivered based on the CCCR model.

Literature on attrition at the post-secondary level suggests that low student to faculty ratios (Maggio, White, Molstad, & Kher, 2005) and modularized or compressed courses (Rutschow & Schneider, 2011) correlate with the greatest degree of success for students in remedial programs. The CCCR model is structured to ensure class sizes remain small, with a maximum of 15 students. This allows for increased individualized interactions between faculty and students and it permits a community environment, where students can participate in peer-based learning. Such a course structure enhances student engagement and motivation, as students believe that they are valuable and active contributors in the classroom. The rationale for the course structure is reflected in the data collected from the pilot study in the RNED129 course. One student stated: "Fewer students, the teacher can focus more one-on-one in smaller groups instead of focusing on fifty students. Everyone has a chance to understand more, instead of saying, 'Here is the information.'"

Advisement was also critical to the course structure in the Remediation Model, as literature suggests that students who interact with their teachers are more likely to succeed and achieve academically. Where teachers engage in regular discussions about course progress and goal settings with students, students believe that the teacher is taking an active interest in their education (Tinto, Russo, & Stephanie, 1994). In the RNED129 pilot, while the advisement sessions were implemented, the challenge was that the faculty held the advisement meetings during class time while students completed group work and focused solely on learning objectives. In an interview, the faculty reported,

I think that they could have been more beneficial; I think that maybe next time I will spend more time alone rather than pulling them out during a session... It is not just learning strategies. I mean, the one student I lost, I didn't know he had all these family things going on... maybe I could have done something differently.

The students however, found the advisement sessions to be beneficial as they were able to discuss their progress in the course.

Literature on attrition and remediation suggests that student engagement and a sense of connection to the institution are instrumental in academic achievement and success (Astin, 1984; Dietche, 1990; Drea, 2004; Fisher & Engemann, 2009; Levin and Koski, 1998; Pascarella & Terenzini, 1977; Terenzini & Reason, 2005; Tinto, 1975, 1993). The focus of the CCCR model development prioritized collaborative peer learning and application of content to real world and student interests, the benefits of which are emphasized by a student who commented, "It's easier to do our work and once we are doing our work it just clicks in our heads because she has connected it to real life experiences." The goal of the remediation course was to foster student engagement and a sense of connection to the class community and the college — an important component of engagement is collaboration with peers. Numerous scholars have identified the importance of social learning to student success, including a supportive environment (Chickering, 1969; Levin & Calcagno, 2008; Levin & Koski, 1998; Marshall, 2008; Milem & Berger, 1997; Tinto, 1975, 1993). Levin and Koski (1998) propose that learning is a social activity which requires dialogue and interaction. In the process of acquiring content-based material, students are honing communication skills and the ability to work with others. Working with peers, offers students a sense of connection to their group, the class, and their education. In turn, this increases motivation and establishes accountability. Data from the RNED129 course study demonstrate the value of a shared learning community, as students consistently communicated their preference for peer-based collaboration. In the focus group session, the building of relationships and sense of community was a

significant factor in student success. A student stated, “Maybe today’s topic, I understand it but he doesn’t understand it so I can help him and other people that (don’t) understand” and another concurs, “In bigger classes when you work individually, no one ever says they don’t understand... but when you work in a group you can actually tell the person you don’t understand, you feel more comfortable to ask questions.”

The effectiveness of peer-based learning was also evident in the assessments utilized in the RNED129 course. Assessments were ongoing; they were used to evaluate student learning and to inform instruction. Each week the faculty would engage students in a diagnostic assessment to determine student needs and their level of understanding of the subject. As suggested by Levin and Calcagno (2008), in remedial courses it is critical for faculty to determine gaps in learning, selecting the most appropriate teaching strategies to support student success. Students would complete a group assignment, where they were required to apply concepts learned that week. Immediate feedback was provided to the students and errors or omissions were corrected. As a result, students gained a deeper understanding and were then able to apply their learning to new problems or tasks in an individual assessment. One student reported,

When I’m here I know what’s going on, I can get all my papers and assignments I get it handed to me right then and there and when I come to the next class my updated mark is written on my paper.

Students were required to master a subject before moving on to the following week’s material. Bloom (1968) suggests that such an approach is effective for remedial students, as it allows for consistent reinforcement of concepts (cited in Boyan and Saxon).

Students discussed the benefit of alternative assessments to their learning. One student reported, “I find with tests pretty much you’re cramming all the information in to write the test as soon as you write the test you forget it;... but when you do assignments, it’s always in your head.” Consequently, students were able to complete assignments that were deemed to be more difficult than those completed in GNED129, as indicated by the faculty, “We did several case studies... the assessments were perhaps even at a higher level than some GNED 129 because there were no regurgitation questions,... [they had to] know the concept apply the concept [to] the problems.” The structures of the assessments set students up for success. Students developed an understanding of the content, they felt a sense of connection to the faculty and their classmates, and they were interested in the topics; thus students were confident, motivated, and actively engaged in the learning.

The CCCR model recognizes that the faculty characteristics are integral to student success in their teaching and influence how they interact with their students, set expectations, advise, support and encourage their learning. If faculty create an environment where students believe that they can succeed, then students are most likely to persist and do well in their education (Levin & Calcagno, 2008; Saret, 2014). In the RNED 129 course, participants spoke highly of their faculty. They believed that she exhibited a caring, patient and supportive attitude by being flexible, adaptable, and accommodating to students’ different learning styles. Such faculty characteristics are instrumental in a remediation course, fostering motivation and student engagement. A participant indicated,

The way the teacher taught, her style was great. There are different types of learners, I was a visual learner; she had lots of stuff on the board, it was good. She also cared because she made sure that we understood the lesson.

Noel, Levitz, & Saluri (1985) emphasized that this kind of caring attitude is central to student success and retention.

In conclusion, the pilot studies in the RNED 129 demonstrate that remediation courses should focus on structure and delivery, as these components are fundamental to student success and course completion. This recommendation is based on the completion rate of 98% in the two pilot courses. The CCCR model is one approach to addressing the pressing concern of attrition in Ontario colleges. This model could be applied in core courses in any program of study for students who are unsuccessful. It assists students in successful completion of the core requirements and motivates them to continue their education. However, further research is required to determine the long-term value of the CCCR model on student success and retention within their program. Regardless, remediation strategies or programs that are student centered, focused on student needs, and those that foster an engaging learning environment are pivotal to student success. As emphasized by Noel, Levitz, & Saluri (1985),

The more students learn, the more they sense they are finding and developing a talent, the more likely they are to persist; and then we get student success, satisfaction, and learning together, persistence is the outcome. Reenrollment



or retention is not then the goal; retention is the result or by-product of improved programs and services in our classrooms and elsewhere on campus that contribute to student success. (p.1. In Marshall, 2008, p. 3)

## References

- Adelman, C. (1996). The truth about remedial work. *Chronicle of Higher Education*, Oct. 4, A56.
- Andres, L. & Carpenter, S. (1997). *Today's higher education students: Issues of admission, retention, transfer, and attrition in relation to changing student demographics*. UBC: Center for Policy Studies in Education.
- Astin, A. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel*, 25(4), 297-308.
- Bailey, T.R. & Alfonso, M. (2005). Paths to persistence: An analysis of research on program effectiveness at community colleges. Lumina Foundation for Education's New Agenda Series, 6(1).
- Bloom, B.S. (1968). *Learning for mastery*. In Boylan, H.R. & Saxon, D. (2002). *What works in remediation: Lessons learned from 30 years of research*. Boone, NC: Appalachian State University, National Center for Developmental Education.
- Boylan, H.R. (1999). Exploring alternatives to remediation. *Journal of Developmental Education*, 22(3), 2-8.
- Braxton, J.M., Vesper, N., & Hossler, D. (1995). Expectations for college and student persistence. *Research in Higher Education*, 36(5), 595-611.
- Calder, W. & Gordon, B. (1996). Developing institutional leadership for student success. *College Canada*, 1(3).
- Centennial College. (2013). *2011-2012 Multi-Year Accountability Agreement (MYAA) Report Back*. Report provided by the Centennial College Corporate Planning Office.
- Chickering, A.W. (1969). *Education and identity*. San Francisco: Jossey-Bass.
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education*. London: Routledge.
- DeRemer, M.A. (2002). *The adult student attrition process (ASADP) model*. (Unpublished Thesis). University of Texas. Texas.
- Dietsche, P. (1990). Freshman attrition in a college of applied arts and technology of Ontario. *The Canadian Journal of Higher Education*, 20 (3), 65-84.
- Drea, C. (2004). Student attrition and retention in Ontario's Colleges. *College Quarterly*, 7(2).
- Fike, D.S., & Fike, R. (2008). Predictors of first-years student retention in the community college. *Community College Review*, 36(2), 68-88.
- Fisher, R. & Engemann, J. (2009) Factors affecting attrition at a Canadian college. Canadian Council on Learning. Retrieved from [http://www.fanshawec.ca/sites/default/files/file\\_attachments/fisher2009.pdf](http://www.fanshawec.ca/sites/default/files/file_attachments/fisher2009.pdf)
- Gomme, I. & Gilbert, S. (1984). Paying the cost: Some observations on the problem of post- secondary student attrition. *The Canadian Journal of Higher Education*, 14(3), 95-100.
- Grayson, J. & Grayson, K. (2003). *Research on retention and attrition*. Montreal, QC: Canada Millennium Scholarship Foundation.
- Hoyt, J.E. (1999). Remedial education and student attrition. *Community College Review*, 27(2), 51-72.
- Ignash, J.M. (1997). Who should provide post-secondary remedial/developmental education? In Ignash, J.M. (1997). *Implementing*

*effective policies for remedial and developmental education*. New Directions for Community Colleges. Jossey-Bass: San Francisco.

Isaac, J.N. (2008). *Reducing college students' writing deficiencies utilizing online remediation approaches*. In C. Stephenson, *Working together to be outstanding: A theoretical framework for retention*(Unpublished Paper). Centennial College, Ontario.

Levin, H.M. & Calcagno, J.C. (2008). Remediation in the community college: An evaluator's perspective. *Community College Review*, 35(3), 181-207.

Levin, H., & Koski, W. (1998). Administrative approaches to educational productivity. In Levin, H.M. & Calcagno, J.C. (2008). Remediation in the community college: An evaluator's perspective. *Community College Review*, 35(3), 181-207.

Lopez-Rabson, T.S. & McCloy, U. (2013). *Understanding student attrition in the six Greater Toronto Area (GTA) colleges*. Toronto: Higher Education Quality Council of Ontario, An Agency of the Government of Ontario.

Maggio, J.C., White, W.G., Molstad, S., & Kher, N. (2005). Prefreshman summer programs' impact on student achievement and retention, *Journal of Developmental Education*, 29(2), 2-33.

Marshall, C. (2007). *Literacy and retention literature review*. Unpublished manuscript, London, ON: Fanshawe College.

McCabe, R.H. & Day, P.R (Eds.). (1998). *Developmental education: A twenty-first century social and economic imperative*. League for Innovation in the Community College and the College Board: California.

McClenney, K., & Marti, C. (2006). *Exploring relationships between student engagement and student outcomes in community colleges*. Austin, TX: University of Texas at Austin.

Milem, J., & Berger, J. (1997). A modified model of college student persistence: Exploring the relationship between Astin's theory of involvement and Tinto's theory of student departure. *Journal of College Student Development*, 38, 387- 400.

Noel, L., Levitz, R. and Saluri D. (1985). *Increasing student retention: Effective programs and practices for reducing the dropout rate*. San Francisco, CA: Jossey-Bass.

Noel-Levitz Retention Codifications. (2008). Student success, retention, and graduation: definitions, theories, practices, patterns, and trends. Retrieved April 12, 2014 from <http://www.stetson.edu/law/conferences/highered/archive/media/Student%20Success,%20Retention,%20and%20Graduation-%20Definitions,%20Theories,%20Practices,%20Patterns,%20and%20Trends.pdf>

Oudenhoven, B. (2002). Remediation at the community college: Pressing issues, uncertain solutions. *New Directions for Community Colleges*, 117 (Spring), 35-44., Wiley Periodicals Inc.

Pascarella, E. & Terenzini, P. (1977). Patterns of student-faculty informal interaction beyond the classroom and voluntary freshman attrition. *The Journal of Higher Education*, 48(5), 540-552.

Reason, R. D. (2009). An examination of persistence research through the lens of the comprehensive conceptual framework. *The Journal of College Student Development*, 50(6), 659-682.

Rutschow, E. Z., & Schneider, E. (2011). *Unlocking the gate: What we know about improving developmental education*. New York: MDRC.

Saret, L. (nd). *Retaining student in classes: Putting theory into everyday practice*. Retrieved on March 1, 2015 from <http://www.oakton.edu/user/1/lsaret/LauraSaretOaktonWebSite/Ways%20Faculty%20Can%20Encourage%20Student%20Retention.htm>

Seymour, E., & Hewitt, N. (1997). *Talking about leaving: Why undergraduates leave the sciences*. Boulder, CO: Westview Press.

Shults, C. (2000). Remedial education: Practices and policies in community colleges. *American Association of Community Colleges*, Washington. ED 448 811

Statistics Canada.(2008). *Participation, graduation and dropout rates*. Youth in Transition Survey: Government of Canada. Retrieved from: <http://www.statcan.gc.ca/pub/81-595-m/2008070/6000003-eng.htm>

Taylor, K., Moore, W.S., MacGregor, J., & Limbald, J. (2003). *Learning community research and assessment: What we know now*. National Learning Communities Project Monograph Series. The Evergreen State College, Washington State for Improving the Quality of Undergraduate Education in cooperation with the American Association for Higher Education.

Terenzini, P.T. & Reason, R. D. (2005). *Parsing the first year of college: Rethinking the effects on college on students*. Paper presented at the Annual Conference of the Association for the Study of Higher Education, Philadelphia, PA.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89-125.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition*. Chicago, ILL: University of Chicago Press.

Tinto, V., Russon, P., & Stephanie, K. (1994). Constructing educational communities: Increase retention in challenging circumstances. *Community College Journal*, 64(4), p. 18-22.

**Agnes Gajewski**, is a Professor in General Education and Liberal Studies and **Meera Mather** is the Chair of General Education and Liberal Studies at Centennial College. They can be reached at [AGajewski@centennialcollege.ca](mailto:AGajewski@centennialcollege.ca) and [MMather@centennialcollege.ca](mailto:MMather@centennialcollege.ca)