Emotional Intelligence Interventions to Increase Student Success

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for the Higher Education Quality Council of Ontario

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Abstract

Recent empirical research suggests a link between emotional and social competencies (i.e., emotional intelligence) and academic success and retention (Downey, Mountstephen, Lloyd, Hansen, & Stough, 2008; Parker et al., 2004; Parker, Summerfeldt, Hogan, & Majeski, 2004). There is further evidence to suggest that emotional and social competencies can be improved through interventions (Bar-On, 2000; Domitrovich, Cortes, & Greenberg, 2007; Elias & Clabby, 1992; Greenberg, Kusche, Cook, & Quamma, 1995; Low & Nelson, 2006; Nelis, Quoidbach, Mikolajczak, & Hansenne, 2009). The goal of the current study was to modify a first semester Technology Career Essentials course to include curriculum related to improving emotional and social competencies in first semester students. The effectiveness of the emotional-intelligence-modified course in improving emotional intelligence levels of students was assessed by comparing emotional and social competency levels in this group of students to the levels in a group of students who did not take the modified course. The results demonstrated that students who completed the modified course were higher in psychological mindedness (i.e., self-awareness) than students who did not take the course.

Introduction

Many students find that the transition from high school to college or university is a very stressful period (Brooks & DuBois, 1995; Ross, Niebling, & Heckert, 1999). This is in part due to the many new challenges that students must face in the first month of classes, such as making new relationships, modifying previous relationships, managing their time and budgets and adapting to a new learning environment with often increased academic expectations. Given the increased demand on students during this transition, it is not surprising that many students who begin a postsecondary education will withdraw before they graduate (Gerdes & Mallinckrodt, 1994; Tinto, 1993). Canadian administrators of postsecondary institutions have attempted to manage this issue by developing a variety of specialized programs to promote academic success and retention (e.g., orientation programs or courses for new students, study skills programs, faculty/peer mentoring programs, and special needs programs) (see Corman, Barr & Caputo, 1992; Matusky, 2001).

Despite these attempts, a large proportion of students will leave in their first year of study. For example, Dietsche (1990) studied retention rates at an Ontario postsecondary institution and found that 30 per cent of first year students withdrew from the program. Additional studies found first year postsecondary drop-out rates of approximately 20 to 25 per cent (Donner & Lazar, 2000; Finnie & Qiu, 2008; Grayson & Grayson, 2003).

It is important to note that some of the persistence data is limited as to how the variables are operationalized. For example, many students who have withdrawn from a particular program but who have switched either programs or institutions have been included in the drop-out or non-completion data. Moreover, the data often do not include students who dropped out but then returned to the institution at a later date (Finnie & Qiu, 2008). To offset this issue, Finnie and Qiu (2008) used Statistics Canada's Youth in Transition, Cohort B ("YITS-B") data set to track

"switchers" and temporary drop-outs. The researchers found that approximately half of Canadian college students (56.5 per cent) graduated from the program in which they had initially registered. However, when the researchers accounted for students who had switched and subsequently graduated from other college programs, the graduation rate was 73.1 per cent. This rate was even higher with the inclusion of students who were still registered in any postsecondary institution (81.9 per cent). The rates were similar for university students (52.1 per cent had graduated from the program in which they had registered five years prior, 69.4 per cent had switched and graduated and 89.9 per cent were still enrolled in a postsecondary institution after five years).

The Canadian retention data are consistent with graduation and retention rates at Fleming College. In 2006/07 the graduation rate, calculated using Ministry of Training, Colleges and Universities (MTCU) guidelines, was 66.2 per cent. In the fall of 2005, 31 per cent of students left the college (i.e., did not switch programs) after the first semester. (Of these, 53 per cent were female and 47 per cent were male.) Each year, Fleming Data Research (FDR) conducts the *Early Leaver Survey* to determine why students withdraw from the college. Although some researchers believe that students withdraw for financial reasons or because of cognitive abilities (see Tinto [1993] for a review), many of the reasons the Fleming students provided were related to emotional and social competencies. For example, 31 per cent of Fleming students left for "Personal Reasons" such as the following: "health related problems (physical, emotional, and family)," wanting "a break from college studies," experiencing "too much stress" or wanting "to live near loved ones". Seventeen per cent left for "Academic Reasons." However, only some of these reasons were what one might consider to be purely academic (such as "courses were too difficult" and "test/exam taking, math, reading, and note taking skills were inadequate"). Many of the other reasons categorized as "Academic Reasons" (such as "had difficulty managing time," "experienced difficulties with some teachers," "missed too many classes and assignments" and "did not feel comfortable approaching teachers") theoretically appear to have been related more to emotional and social competencies than to cognitive or academic difficulties.

The possible link between emotional and social competencies and academic success and retention has been recognized by other educators as well. For example, Carolyn Pool, senior editor of *Educational Leadership,* indicated that "emotional well-being is the strongest predictor of achievement in school and on the job" (Pool, 1997, p.12). Furthermore, there is growing empirical evidence that students who exhibit behaviours consistent with emotional and social competencies (i.e., emotional intelligence) are more apt to be successful in school (Finn & Rock, 1997; Parker, Bond, Wood, Eastabrook, & Taylor, 2006; Parker, Summerfeldt, Hogan, & Majeski, 2004).

Emotional Intelligence and Academic Success

Emotional intelligence can be viewed as a cluster of emotional and social competencies, which include an ability to effectively express, understand and control emotions, in addition to being able to cope and adapt to changes in one's environment. Students with higher levels of emotional and social competencies appear to be better able to cope with the social and emotional demands of making the transition to a postsecondary environment than students who

score low on these abilities. For example, Parker, Summerfeldt, Hogan, & Majeski (2004) examined the transition from high school to university in a group of first year students from a small Ontario university. They used a model of emotional intelligence (Bar-On, 1997, 2000) that consists of four related abilities: “intrapersonal” abilities (consisting of related abilities like recognizing and labelling one’s emotions); “interpersonal” abilities (consisting of related abilities like identifying emotions in others or empathy); “adaptability” (consisting of abilities like being able to adjust one's emotions and behaviours to changing situations or conditions); and “stress management” (consisting of abilities like delaying or resisting an impulse).

At the start of the academic term (September 2000), a large sample of first year full-time students completed the short form of the Emotional Quotient Inventory (Bar-On, 2002 [EQ-i: Short]). At the end of the academic year (May 2001), the EQ-i: Short data was matched with the students’ academic records, and two groups were identified: academically successful students (first year average of 80 per cent or better) and less successful students (first year average of 59 per cent or lower). Consistent with expectations, the academically successful group scored significantly higher than the less successful group on several dimensions of emotional intelligence: intrapersonal abilities, adaptability and stress management (despite having similar high school grade point averages). Similar results were found in a replication of this study at the same Ontario university, using a different measure of emotional and social competencies (Parker, Austin, Hogan, Wood, & Bond, 2005).

This research has been extended in a study of students attending four different American postsecondary institutions (Parker, Duffy, Wood, Bond, & Hogan, 2005). The procedure was identical to that used in Parker, Summerfeldt, Hogan, and Majeski (2004) in that students completed a measure of emotional intelligence at the beginning of the academic year and gave the researchers permission to match their emotional intelligence levels with their academic record at the end of the school year. Students who were deemed academically successful (those with an average above 80 per cent) were higher in total emotional intelligence, as well as scoring higher on many of the emotional intelligence subscales, than students who were deemed academically unsuccessful (those with an average below 60 per cent).

The research by Parker, Summerfeldt, Hogan, and Majeski (2004) was extended to a group of Alabama high school students. Participants completed the youth version of the Emotional Quotient Inventory (Bar-On & Parker, 2000 [EQ-i: YV]), which assesses the same basic dimensions as the adult version. At the end of the academic year, the EQ-i: YV data was matched with the student's academic record for the year. When EQ-i: YV variables were compared in groups that had achieved very different levels of academic success (highly successful students, moderately successful and less successful, based on grade point average for the year), academic success was strongly associated with several dimensions of emotional intelligence. Downey, Mountstephen, Lloyd, Hansen and Stough (2008) also replicated the work of Parker, Summerfeldt, Hogan, and Majeski (2004) with 209 Australian high school students and found similar results. Higher levels of emotional intelligence (measured using the Adolescent Swinburne University Emotional Intelligence Test) were related to higher academic success.

Much of the previous research has focused on the link between emotional intelligence and academic success (measured as the GPA the student achieved during the first year of university studies). More recently, research has identified a link between emotional intelligence and student retention (Parker, Bond, Wood, Eastabrook, & Taylor, 2006). A sample of over 1,200 full-time first year students completed a measure of emotional intelligence during the first week of classes. The researchers identified two groups based on the total sample: 213 students who withdrew from the university before the start of second year and a sample of 213 students who were randomly matched, based on age, gender and ethnicity, and who remained at the university after second year. Both groups of students were of similar ages, had similar high school grades and had similar course loads at the beginning of their first year. The results indicated that students who withdrew from the university were significantly lower in emotional intelligence than students who persisted.

Fleming College: Achieving Excellence in Student Learning

"Achieving Excellence in Student Learning" is the first strategic goal of Fleming College's Strategic Plan. A subset of this plan is to "create a comprehensive learning support program to enable early identification of students at academic risk" and "to provide interventions that are appropriate to the learning needs of the student." In order to meet the strategic goal, we wanted to replicate the research of Parker, Summerfeldt, Hogan, and Majeski (2004) by examining the relationship between the emotional intelligence and academic achievement of Fleming College students. Moreover, we wanted to use the results to enhance the learning and success of Fleming college students, as well as to enhance our ability to target interventions where they are most needed.

A pilot study was conducted in September 2005 to explore whether academically successful students would be higher in emotional and social competencies as previous research had suggested (Parker, Bond, Wood, Eastabrook, & Taylor, 2006). The College Achievement Inventory (CAI) (Parker, Wood, & Bond, in press) is a measure of emotional and social competency that includes four scales related to emotional intelligence, a total emotional intelligence score and four additional scales related to academic success and retention. The four emotional intelligence scales of the CAI are as follows: "emotional understanding" (includes abilities such as identifying and labelling emotions as they are felt and being able to describe feelings to others); "psychological mindedness" (the importance one places on self-awareness and trying to understand oneself and others; an ability to use feelings to guide behaviour); "attentiveness" (abilities such as self-management, maintaining focus on the task at hand, listening attentively to others, paying close attention to detail in order to avoid careless mistakes, tuning out distracting stimuli, keeping organized and completing tasks); and "emotional self-control" (includes abilities such as waiting patiently, engaging in activities quietly when necessary, remaining still, and listening and waiting for the appropriate time to respond).

The four additional scales are "optimism" (this includes characteristics such as contentment with oneself, feeling of equal worth to others and pride in one's accomplishments); "social integration" (this includes feeling understood by others, feeling in tune with others and feeling

able to depend on others for understanding and support); “performance anxiety” (this is characterized by worry or fear in situations in which the attention of others is on the individual and he or she worries that a social mistake will be committed; it also includes an excessive concern about the opinions of others); “social anxiety” (this is characterized by feelings of worry, tension and/or discomfort in social situations, as well as insecurity regarding one’s social abilities).

The CAI was administered to 472 first year Fleming students (206 men, 242 women and 24 unreported gender) and matched to their GPA at the end of first semester. Three groups of students were identified: academically successful students (N = 112) (defined as having a GPA for the first term above 3.5—in other words, an average of 80 per cent or higher); academically satisfactory students (N = 269) (defined as having a GPA for the first term below 3.5 but above 1.5, which represents an average of between 60 per cent and 79 per cent); and academically unsuccessful students (N = 91) (defined as having a GPA below 1.5, which represents an average of 59 per cent or lower). Successful students scored significantly higher than satisfactory and unsuccessful students on the psychological mindedness, attentiveness, emotional self-control and total emotional intelligence scales. It was also found that satisfactory and successful students scored significantly higher than unsuccessful students on optimism.

This study was replicated with a larger sample of students in September 2006 (Parker, Bond, & Wood, 2007). The CAI was administered to 787 first year students (327 men and 460 women) during the first week of the first semester. Students who completed the measure gave the researchers permission to track their academic progress during their first semester at the college. In January, after first term marks had been processed, CAI scores were matched with the student’s academic record (their GPAs for the term). As with the pilot study, three groups of students were identified: academically successful students (defined as having a GPA for the first term above 3.5), academically satisfactory students (defined as having a GPA for the first term below 3.5 but above 1.5) and academically unsuccessful students (defined as having a GPA below 1.5 or as having withdrawn from the college). There were 222 students in the successful group, 401 students in the satisfactory group and 164 students in the unsuccessful group. The results determined that successful students scored significantly higher than satisfactory and unsuccessful students on the psychological mindedness, attentiveness, emotional self-control and total emotional intelligence scales.

Given our knowledge that many students leave the college during the first semester, the CAI was used in October 2006 to identify students who were at academic risk. Of the 787 students who completed the CAI in September 2006, 163 students (20 per cent) were identified as at risk according to CAI indices. These students were invited on several occasions during October 2006 (by e-mail and telephone) to attend a feedback session. The goal of the session was to provide personal feedback on their CAI results and to offer specific strategies for improvement on each of the CAI dimensions. The session was also designed to provide students with contact information regarding various Fleming services that could assist them (such as counsellors at the Student Access and Referral desk, Learning Support Services, Student Advisors, Student Administrative Counsel and the Residence Life Office). Faculty and support staff from the

different service areas also attended the session in order to provide answers in the event that students had specific questions about their services.

Despite being contacted on several occasions, only 5 of the 163 at-risk students (3 per cent) responded and confirmed that they would attend the session. Only three students (0.01%) actually attended the feedback session, and of the three, one student was adamant that she did not need to attend the session because she considered herself high in emotional intelligence. (It should be noted that this particular student scored low on the psychological mindedness scale of the CAI.) This demonstrates the difficulty in offering interventions for students who are low in psychological mindedness. The lack of self-awareness in these individuals hinders their ability to recognize the need for change, which makes them unlikely candidates to volunteer to participate in an intervention program (Beitel, Ferrer, & Cecero, 2004).

Emotional Intelligence Curriculum

Given what we know about the link between emotional and social competencies and academic success and retention, it is not surprising that psychologists and educators have been promoting emotional and social learning in schools (Elias et al., 1997). While many believe in the merits of emotional and social learning, some resist the implementation of school-based intervention programs because of increased pressure to promote academic achievement rather than “soft skills” (Zeidner, Roberts, & Matthews, 2002).

Many educational programs aimed at increasing emotional intelligence are labelled Social and Emotional Learning (SEL) (Zins, Elias, Greenberg, & Weissberg, 2000). Typically, these programs focus on a variety of emotional and social competencies, such as self-awareness, social awareness, responsible decision making, self-management and relationship management (interpersonal skills) (Zins, Weissberg, Wang, & Walberg, 2004). Other intervention programs focus on improving behavioural objectives such as emotional regulation, emotional awareness in self and others, empathy, impulse control, problem solving, and coping with stress and negative emotions (Zeidner, Roberts, & Matthews, 2002).

Although several studies have outlined the benefits of social and emotional learning in relation to academic attitudes, behaviour in school and academic performance (see Zins, Weissberg, Wang, & Walberg, 2004), there is little peer-reviewed published research about the effectiveness of “pure” emotional intelligence programs (i.e., programs that focus on the majority of the emotional intelligence components as opposed to other, non-emotional intelligence variables) (Nelis, Quoidbach, Mikolajczak, & Hansenne, 2009; Zeidner, Roberts, & Matthews, 2002). Moreover, much of the published data has focused on elementary and high school students. For example, Greenberg, Kusche Cook and Quamma (1995) used the Promoting Alternative Thinking Strategies (PATHS) program to improve emotional understanding, expression and regulation in children. The researchers found that students deemed to be high-risk improved their emotional understanding and emotional vocabulary after participating in this program. Domitrovich, Cortes and Greenberg (2007) examined the effects of a Promoting Alternative Thinking Strategies (PATHS) program in a sample of 246 three- and four-year-olds.

The goal of the program was to improve emotional knowledge, inhibitory control, attention and problem solving. The results indicated that children who participated in the PATHs program were significantly higher in emotional and social competencies than children who did not participate in the program.

The Improving Social Awareness—Social Problem Solving Project was developed for children in elementary and high school (kindergarten to Grade 12) and focused on improving emotional awareness, self-control, emotion-focused coping, adaptability, and anger and stress management (Elias & Clabby, 1992; Elias, Gara, Ubriaco, Rothbaum, Clabby, & Schuyler, 1986). The program developers evaluated the effectiveness of the program six years after the participants had received the training and found that members of the group continued to demonstrate gains in pro-social behaviour and that they had lower levels of maladaptive behaviours.

The Javelina Emotional Intelligence Program was developed by Texas A&M University—Kingsville, and the university received a national award from the American College Personnel Association (ACPA) for the program's development. The emotional intelligence curriculum is taught in each of the university's undergraduate academic colleges and focuses on self management, goal attainment and personal responsibility. The researchers indicated that students who completed the program had higher grade point averages (GPAs) and higher levels of retention than students who did not complete the program (Boyle, 2003; Low & Nelson, 2006). It is important to note, however, that this data is unpublished and has not been peer-reviewed.

Nelis, Quoidbach, Mikolajczak and Hansenne (2009) conducted one of the only peer-reviewed studies to date that used a controlled design to measure the effectiveness of an emotional intelligence training program on improving emotional intelligence levels in young adults. The authors developed an intervention program that focused on four emotional intelligence dimensions (understanding emotions, identifying emotions, expressing and using emotions and managing emotions). The results demonstrated that the students in the training group were significantly higher in overall levels of emotional intelligence, as well as in emotional identification and emotion management, than students who did not participate in the training program.

Research Objectives

There is ample empirical evidence of the link between emotional and social competencies and academic success and retention (Parker, Bond, Wood, Eastabrook, & Taylor, 2006; Parker, Summerfeldt, Hogan, & Majeski, 2004). It has also been found that emotional intelligence is an important predictor of job performance and professional success (Bar-On, 2000; Jordan, Ashkanasy, Härtel, & Hooper, 2002; Law, Wong, & Song, 2004). A recent American survey of prospective employers indicated that the skills they most wanted in recent college graduates were emotional and social competencies, such as interpersonal skills, perseverance and leadership (Shivpuri & Kim, 2004).

Although the research is limited, there is initial evidence to suggest that emotional and social competencies can be improved through interventions and curriculum-based programs (Bar-On, 2000; Domitrovich, Cortes, & Greenberg, 2007; Elias & Clabby, 1992; Elias, Gara, Ubriaco, Rothbaum, Clabby, & Schuyler, 1986; Greenberg, Kusche, Cook, & Quamma, 1995; Low & Nelson, 2006; Nelis, Quoidbach, Mikolajczak, & Hansenne, 2009). The purpose of the current study was that a group of students (i.e., the intervention group) would complete a first semester student success course called Technology Career Essentials. As part of the study, the Technology Career Essentials course was modified to include curriculum related to improving emotional and social competencies. Given our knowledge that many students withdraw from the college before the end of first semester, we believed it was important to target interventions/strategies for first semester students. The goal of the course was to improve student's levels of emotional intelligence in a course that already included some elements of curriculum related to emotional intelligence, taught by a faculty member experienced in the area of emotional intelligence. Our hope was that intervening with a group of first semester students would result in improved academic success and completion rates at Fleming College. It was hypothesized that students who completed a first semester course (i.e., Technology Career Essentials), modified to include curriculum aimed at improving emotional and social competencies, would have higher levels of emotional intelligence than a group of students who did not take the course.

Method

Participants

The pre-test (Time 1) intervention group consisted of 82 first semester Technology Career Essentials students (71 men and 11 women). These students were from a variety of programs in the college (e.g., Computer Engineering Technicians, Computer Engineering Technologists, Fire Systems Engineering Technicians and Web Developers). The mean age of the students was 24.65 (SD = 8.97), and the age range was from 18 to 53. All the participants (with the exception of one) were enrolled as full-time students, and 91 per cent of the respondents identified themselves as "Caucasian/White." More than half the students did not have any previous postsecondary experience (61 per cent), whereas 19 per cent had some prior college experience, 6 per cent had some prior university experience, 11 per cent had graduated from a college program and 3 per cent had graduated from university. The post-test (Time 2) intervention group consisted of 60 first semester Technology Career Essentials students (50 men and 10 women). Further details on the participants are provided in Table 1.

The pre-test (Time 1) control group consisted of 716 students enrolled in a first semester *Communications* course (394 men, 309 women and 13 who did not respond). The students were enrolled in a variety of programs across the college from several different schools (e.g., business and technology; law, justice and community service; and skilled trades). The mean age of the Time 1 control group was 20.93 (SD = 5.63), and students in that group ranged in age from 18 to 54. The majority of students were enrolled full-time (with the exception of 12 students who were part-time), and 90 per cent of the respondents identified themselves as "Caucasian/White." Three-quarters of the students did not have any previous postsecondary

experience (74 per cent), whereas 4 per cent had some prior college experience, 11 per cent had some prior university experience, 7 per cent had graduated from a college program and 4 per cent had graduated from university. The post-test (Time 2) control group consisted of 326 students enrolled in a first semester *Communications* course (164 males, 155 females, and 7 who did not report gender) that was be matched with Time 1. Further details on the participants are provided in Table 1. A subset (N = 60) of the Time 2 control group was matched as closely as possible to the Time 2 intervention group on age, gender, ethnicity, high school average and previous postsecondary experience.

Table 1. *Description of participant groups (intervention vs. control) at Time 1 and Time 2*

	Intervention Group (Time 1)	Control Group (Time 1)	Intervention Group (Time 2)	Control Group (Time 2)
N	82	716	60	326
Mean age	24.65	20.93	25.12	20.97
% female	13%	43%	17%	48%
% white	91%	90%	89%	91%
% full-time	99%	98%	98%	99%
% with previous university	9%	15%	9%	13%
% with previous college	30%	11%	29%	11%

Materials

The College Achievement Inventory (CAI)

The CAI is a 102-item self-report measure of emotional and social competency. Students are asked to respond to questions that best describe the way they feel, think or act in most situations. Responses are rated by the participant on five-point Likert scales, ranging from 1 for "strongly disagree" to 5 for "strongly agree." This measure includes four emotional intelligence scales, a total emotional intelligence score, and four related scales. The four emotional intelligence scales of the CAI are as follows:

- "emotional understanding" (includes abilities such as identifying and labelling emotions as they are felt and being able to describe feelings to others)
- "psychological mindedness" (the importance one places on self-awareness and trying to understand oneself and others; an ability to use feelings to guide behaviour)
- "attentiveness" (abilities such as self-management, maintaining focus on the task at hand, listening attentively to others, paying close attention to detail in order to avoid careless mistakes, tuning out distracting stimuli, keeping organized and completing

tasks)

- “emotional self-control” (includes abilities such as waiting patiently, engaging in activities quietly when necessary, remaining still, and listening and waiting for the appropriate time to respond)

The four related scales are:

- “optimism” (this includes characteristics such as contentment with oneself, feeling of equal worth to others and pride in one’s accomplishments)
- “social integration” (this includes feeling understood by others, feeling in tune with others and feeling able to depend on others for understanding and support)
- “performance anxiety” (this is characterized by worry or fear in situations in which the attention of others is on the individual and he or she worries that a social mistake will be committed; it also includes an excessive concern about the opinions of others)
- “social anxiety” (this is characterized by feelings of worry, tension and/or discomfort in social situations, as well as insecurity regarding one’s social abilities)

Note: Higher scores on performance anxiety and social anxiety indicate less anxiety.

Technology Career Essentials: The Intervention Group

The intervention group completed a modified emotional intelligence course (see Appendix A) for the current study. The development of this course was based on model programs from the Collaborative for Academic, Social, and Emotional Learning (CASEL) organization (Ciarrochi & Mayer, 2007), the Consortium for Research on Emotional Intelligence in Organizations (Cherniss & Adler, 2005) and the Laboratory for Student Success (LSS) Signature Series.

We developed the *Positive Connections to Emotional Intelligence* model (PCEI) (see Appendix D) as a foundation for the course. The PCEI is a model that students can use to develop emotional intelligence skills for success in their academic, career and personal lives. It provides a model for change that includes analyzing, learning, understanding and developing social and emotional competencies at the affective, cognitive, experiential and behavioural levels.

The model and modified course draws from emotional and social competency dimensions adapted from empirically researched models of emotional intelligence. It borrows from Boyatzis’ Intentional Change Theory (Boyatzis, 2007); the Experiential Learning Model of Kolb (1984); Self-Science (McCowan, Jensen, Freedman & Rideout, 1998); strengths-based development (Hodges & Clifton, 2004); the Mayer and Salovey skill-based model (1997); the Emotional Learning System (Nelson & Low, 2003); and teachings from positive psychology–the scientific study of, and evidence-based promotion of, optimal human functioning (Linley & Joseph, 2004).

It also draws on emotional and social competency dimensions adapted from current models of emotional intelligence.

The social and emotional competencies developed for the course include five main emotional and social competency dimensions (self-awareness; self-management; social awareness; relationship management; and creative, adaptive and responsible decision making) and a total of 17 sub-skills (see the *Success Skills Menu* in Appendix B). The success skills were adapted from previous models of emotional intelligence (Bar-On, 1997; Goleman, 1998; and Mayer, Salovey, & Caruso, 2000) and best practices for teaching social and emotional learning for academic success (Zins, Bloodworth, Weissbert, & Walberg, 2004), as well as essential employability skills (Conference Board of Canada, 2004) and Fleming's core competencies (The Centre for Teaching and Learning, Fleming College, 2006).

Procedure

All participants voluntarily completed a pre-test of the College Achievement Inventory (CAI) in September (during the first two weeks of the 2008/09 academic year) and a post-test of the CAI in the last two weeks of the 2008/09 semester (the first two weeks of December). The intervention group completed the CAI in paper format in their Technology Career Essentials course, while the control group completed the CAI online in their *Communications* computer lab.

Participants in the intervention group attended the Technology Career Essentials course 3 hours per week (1-hour lecture; 2-hour seminar) for a total of 15 weeks. Weekly topics included those found in the *Success Skills Menu* in Appendix B (e.g., self-awareness; self-management; social awareness; relationship management; and creative, adaptive and responsible decision making).

Results

Pre-Test (Time 1) Results

Fleming Students vs. Normative Sample

The scores from the total sample (intervention plus control group) were compared to scores from a large normative database of postsecondary students (N = 3718, from several colleges and universities in Ontario). Although the Fleming students did not have significantly different scores from those of the normative sample on total EI ($p > .05$), the Fleming students scored significantly higher than the normative sample on emotional understanding, emotional self-control, performance anxiety and social anxiety ($p < .05$) and significantly lower than the normative sample on psychological mindedness ($p < .05$).

Gender

A set of analyses was conducted to determine whether there were any gender differences on the pre-test (Time 1) of the CAI. In the total sample (intervention and control group), females scored higher than males on psychological mindedness [$t (783) = 6.26$, $p < .05$]. However, males scored higher than females on performance anxiety [$t (783) = 4.06$, $p < .05$] and social anxiety [$t (783) = 2.96$, $p < .05$].

Mature Students

A set of analyses was also conducted to examine the differences in the pre-test CAI scale scores among mature students (identified as students aged 22 years and older) and non-mature students (21 years old and younger). In the total sample (intervention plus control group), mature students scored significantly higher than non-mature students on psychological mindedness [$t (792) = 4.68$, $p < .05$], emotional self-control [$t (792) = 2.66$, $p < .05$] and total emotional intelligence [$t (792) = 3.71$, $p < .05$]. The non-mature students, however, scored higher than the mature students on optimism [$t (792) = 2.22$, $p < .05$] and social integration [$t (792) = 3.07$, $p < .05$].

Programs

A set of analyses was conducted to examine the differences in pre-test CAI scale scores for students in a variety of school programs (business and technology students; law, justice and community service students; and students in the skilled trades program). The students in the skilled trades program scored lower than students in the other two programs on total emotional intelligence [$F (2, 747) = 5.49$, $p < .05$], psychological mindedness [$F (2, 747) = 6.17$, $p < .05$] and social integration [$F (2, 747) = 7.40$, $p < .05$]. The students in the skilled trades program also scored lower than students in the law, justice and community service program on emotional understanding [$F (2, 747) = 3.77$, $p < .05$].

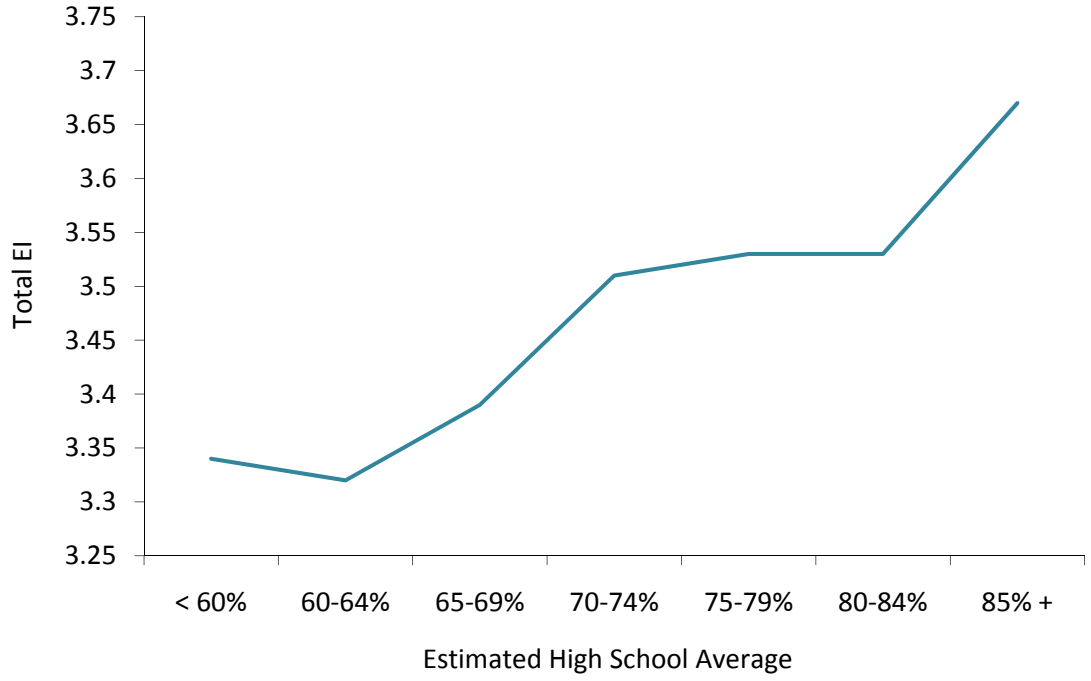
Previous Postsecondary Experience

A set of analyses was conducted to examine the differences in pre-test CAI scale scores based on previous postsecondary experience. Students from the total sample (intervention plus control group) were placed into groups based on their previous postsecondary experience (no previous college or university, some previous college or university, and college or university graduate). The only significant difference between the three groups occurred in the area of psychological mindedness [$F(2, 766) = 6.26$, $p < .05$]. Here, students with some postsecondary experience and postsecondary graduates scored significantly higher than those with no previous experience. However, it is important to note that when the analysis was repeated with age as a covariate, the effect was no longer significant.

High School Average

A set of analyses was also conducted in order to determine whether there was a significant difference in the CAI based on estimated high school average. Students from the total sample (intervention and control group) were placed into groups, based on their estimated high school average (less than 60 per cent; 60 to –64 per cent; 65 to –69 per cent; 70 to –74 per cent; 75 to –79 per cent; 80 to –84 per cent; and 85 per cent or greater). Significant differences were found for total emotional intelligence [$F (6, 784) = 4.71$, $p < .05$], psychological mindedness [$F (6, 784) = 6.09$, $p < .05$], attentiveness [$F (6, 784) = 6.72$, $p < .05$], emotional self-control [$F (6, 784) = 2.19$, $p < .05$], optimism [$F (6, 784) = 4.34$, $p < .05$] and social integration [$F (6, 784) = 3.87$, $p < .05$]. Figure 1 presents the results by estimated high school group for the total EI scale.

Figure 1. *Mean total EI scores by estimated high school average of the total sample*



Intervention vs. Matched Control

A set of analyses was conducted to determine whether there were any differences in the CAI between the intervention group and a matched control group. The intervention group was matched as closely as possible, based on age, gender, ethnicity, high school average and previous postsecondary experience, with a sample from the control group. There were no significant differences between the experimental group and the matched control group on any of the CAI dimensions ($p > .05$). Means and standard deviations for the two groups are presented in Table 2.

Table 2. *Means and standard deviations on CAI dimensions for intervention group and matched control group at Time 1*

	Intervention Group Mean (SD)	Control Group Mean (SD)
Emotional understanding	3.77 (.76)	3.84 (.76)
Psychological mindedness	3.30 (.60)	3.31 (.62)
Attentiveness	3.42 (.72)	3.49 (.86)
Emotional self-control	3.57 (.59)	3.53 (.72)
Total EI	3.52 (.46)	3.54 (.55)
Optimism	3.82 (.69)	3.85 (.66)
Social integration	3.72 (.65)	3.78 (.64)
Performance anxiety	4.17 (.64)	4.14 (.64)
Social anxiety	3.48 (.88)	3.66 (.80)

Post-Test (Time 2) Results

Pre-Post Scores for the Intervention Group

Although the majority of the scores from the CAI were higher at Time 2, for the intervention group (those whose scores could be matched at Time 2 to scores at Time 1), there were no significant changes ($p > .05$) from Time 1 to Time 2. (See Table 3.)

Table 3. *Means and standard deviations on CAI dimensions for intervention group at Time 1 and Time 2*

	Time 1 Mean (SD)	Time 2 Mean (SD)
Emotional understanding	3.74 (.78)	3.79 (.86)
Psychological mindedness	3.35 (.61)	3.46 (.65)
Attentiveness	3.47 (.69)	3.51 (.75)
Emotional self-control	3.59 (.58)	3.48 (.81)
Total EI	3.53 (.47)	3.56 (.55)
Optimism	3.89 (.71)	3.98 (.65)
Social integration	3.73 (.62)	3.85 (.69)
Performance anxiety	4.18 (.64)	4.07 (.76)
Social anxiety	3.50 (.86)	3.67 (.90)

Pre-Post Scores for the Control Group

For the control group, there were significant decreases from Time 1 to Time 2 on the following CAI scales: emotional understanding [t (325) = 2.10, p < .05], attentiveness [t (325) = 4.03, p < .05], emotional self-control [t (325) = 5.80, p < .05], optimism [t (325) = 2.84, p < .05], performance anxiety [t (325) = 2.24, p < .05] and total EI [t (325) = 4.06, p < .05]. There was a significant increase for this group on the social anxiety scale [t (325) = 3.04, p < .05]. (See Table 4.)

Table 4. *Means and standard deviations on CAI dimensions for control group at Time 1 and Time 2 (* p < .05)*

	Time 1 Mean (SD)	Time 2 Mean (SD)
Emotional understanding*	3.77 (.75)	3.70 (.82)
Psychological mindedness	3.20 (.63)	3.24 (.57)
Attentiveness	3.57 (.70)	3.44 (.75)
Emotional self-control*	3.56 (.63)	3.38 (.66)
Total EI*	3.53 (.47)	3.44 (.52)
Optimism*	3.89 (.62)	3.80 (.70)
Social integration	3.82 (.64)	3.81 (.70)
Performance anxiety*	4.14 (.58)	4.08 (.67)
Social anxiety*	3.54 (.83)	3.65 (.82)

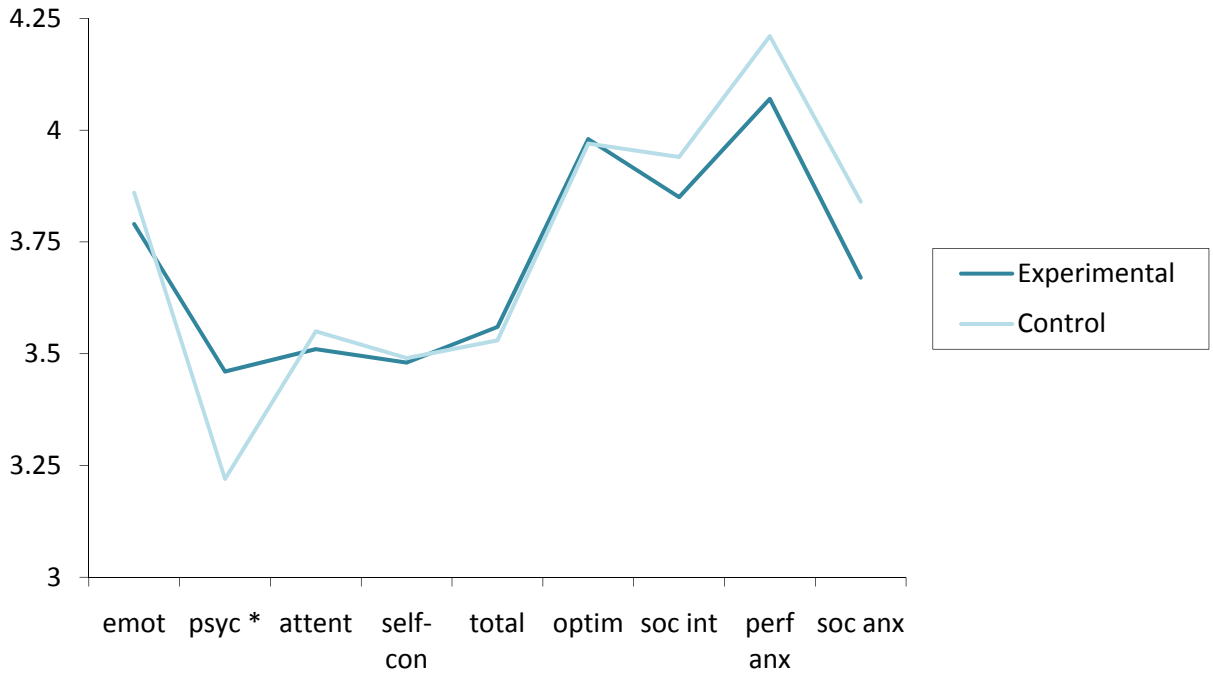
Pre-Post Scores by High School Grades

For the experimental group, an ANOVA revealed that while those with high school averages of less than 75 per cent did not change on total EI, those with high school averages of 75 per cent or higher had significant increases in their total EI [F (1, 58) = 7.27, p < .05]. For the control group, an ANOVA revealed that both those with high school averages less than 75 per cent and those with high school averages of 75 per cent or higher had decreases in their total EI [F (1, 322) = 16.27, p < .05].

Experimental Pre-Post Scores vs. Matched Pre-Post Scores

The experimental group was compared to a matched control group, and there were no differences between the groups on any of the CAI scales at Time 1 (p > .05). However, at Time 2, the experimental group scored significantly higher than the control group on the psychological mindedness scale of the CAI [t (118) = 2.04, p < .05]. (See Figure 2.)

Figure 2. *CAI scores for the experimental group vs. matched control group at Time 2 (* p < .05)*



Academic Success

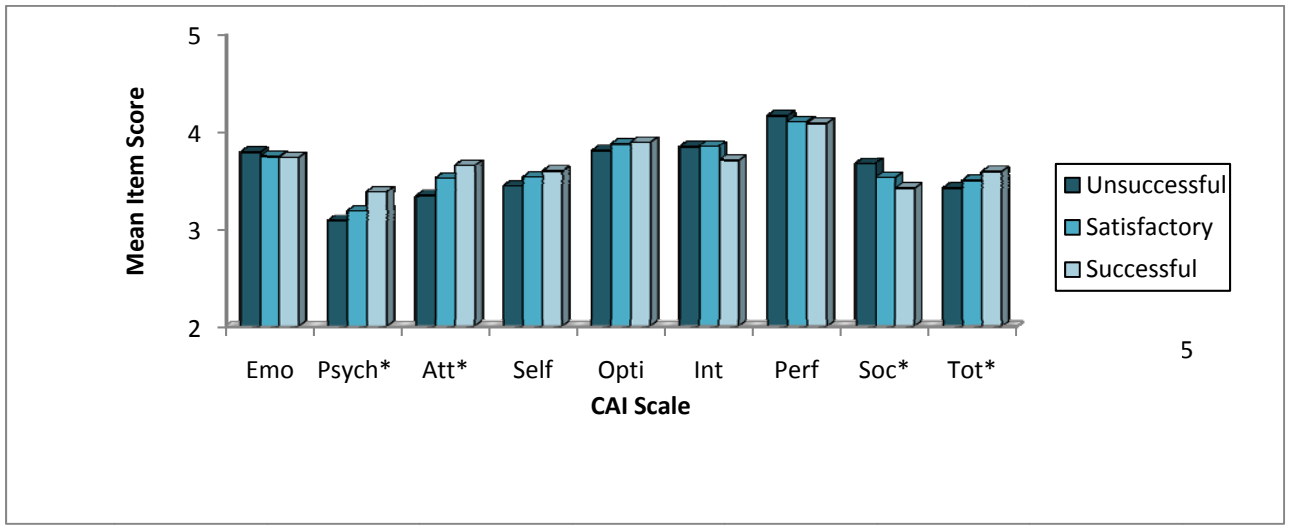
To examine the relationship between EI and academic success, a repeated measures analysis of variance (ANOVA) was conducted with the grade point average (GPA) as the grouping variable for both the intervention and the control group. There were no interactions; the GPA did not impact changes in emotional intelligence from Time 1 to Time 2. Moreover, there were no differences in GPA between the control and intervention groups.

A set of ANOVAs was conducted in order to determine whether there was a significant difference in the CAI at Time 1 for the three GPA groups. Unsuccessful students were defined as having a "first term" GPA below 1.5 (in other words, an average of 59 per cent or lower); satisfactory students were defined as having a first term GPA below 3.5 but above 1.5 an average between 60 per cent and 79 per cent); and successful students were defined as having a first term GPA above 3.5 (in other words, an average of 80 per cent or higher). Successful students scored significantly higher than satisfactory and unsuccessful students on the psychological mindedness [$F(2, 745) = 11.33$, $p < .05$] and total EI scales [$F(2, 745) = 6.64$, $p < .05$]. Successful and satisfactory students scored significantly higher than unsuccessful students on the attentiveness scale of the CAI [$F(2, 745) = 8.87$, $p < .05$]. Unsuccessful students, however, scored significantly higher than successful students on the social anxiety scale [F (2,

745) = 4.72, p < .05], this is a reverse scale, which indicates less social anxiety among the unsuccessful students.

Figure 3 presents mean CAI scores by academic group.

Figure 3. *Mean item scores on CAI dimensions by academic group (unsuccessful, satisfactory and successful)*



Retention

To examine the relationship between EI and retention, an independent t-test was performed. Within the full sample, 51 students withdrew during the first term at the college. Only 2 of these students had both Time 1 and Time 2 CAI scores, so only Time 1 scores could be used in the analysis. The 51 students were matched based on age and gender to those who returned for the second term. Students were not matched based on program because the sample was too small. Using independent t-tests, CAI scores from Time 1 were compared between the two groups. No significant differences were found on any of the CAI scales (p < .05). It was not possible to determine whether the students who withdrew had lower Time 1 scores because there were not enough students in the sample.

Discussion

The hypothesis of the current study was that students who completed a first semester course modified with emotional intelligence curriculum would have higher levels of emotional intelligence than students who did not take the course. The results demonstrated that while students who completed the emotional intelligence curriculum were not significantly higher in overall emotional intelligence levels than students who did not take the course, they were significantly higher in psychological mindedness than students who did not take the course. It is

important to note that there were no significant differences in emotional intelligence between the two groups of students at the beginning of the semester. As noted earlier, very few empirical studies have investigated the effectiveness of a “pure” emotional intelligence program, especially at the postsecondary level. However, the results of the current study are similar to previous research, which found that an emotional intelligence curriculum was effective in raising emotional intelligence levels—and particularly self-awareness (e.g., Elias & Clabby, 1992; Elias, Gara, Ubriaco, Rothbaum, Clabby, & Schuyler, 1986; Domitrovich, Cortes, & Greenberg, 2007; Greenberg, Kusche, Cook, & Quamma, 1995; Nelis, Quoidbach, Mikolajczak, & Hansenne, 2009).

Psychological mindedness is the importance one places on self-awareness and trying to understand oneself and others. Previous research has demonstrated that psychological mindedness is an important factor in academic success and retention (Parker, Bond, & Wood, 2007; Parker, Bond, Wood, Eastabrook, & Taylor, 2006). Psychological mindedness may be an important predictor of academic success because it allows students to cope with the transition to college or university, a transition that students report as being particularly stressful (Cantor, Norem, Niedenthal, Langston, & Brower, 1987; Stewart & Healy, 1985). In fact, the first year of college or university is often cited by students as being more stressful than their upper years of study (Ross, Niebling, & Heckert, 1999). This is not limited to traditional entry students; mature students (either with previous postsecondary experience or as new entries) have also reported feeling anxiety and fear about starting college or university (Phillips, 1986; Steele, Lauder, Caperchione, & Anastasi, 2005).

Recent research has demonstrated that emotional intelligence can moderate the impact of stressful events (Ciarrochi, Deane, & Anderson, 2002; Slaski & Cartwright, 2002). Another study found that individuals higher in emotional intelligence appraised stressful situations as a challenge rather than a threat, and they had higher levels of self-efficacy to help cope with stressors (Mikolajczak & Luminet, 2008).

Students higher in psychological mindedness may be better able to cope with the high levels of stress that arise during the transition period of first semester and during high-demand times such as midterms and finals (Beitel, Ferrer, & Cecero, 2005). Psychological mindedness may also be related to academic success and retention because students with higher levels of psychological mindedness are more likely to be aware of personal and academic difficulties and are more likely to seek help when needed (Beitel, Ferrer, & Cecero, 2005; McCallum & Piper, 1997).

The results revealed that students who completed the emotional intelligence course were not significantly higher in overall emotional intelligence than students who did not complete the course. This may be explained by the short duration of the study (i.e., the post-test was completed in the 13th week of a 15-week course), given that Kirkpatrick (1998) has indicated that assessment of a training program’s effectiveness should be completed after the acquired knowledge and skills have had a chance to develop and be applied. It is possible that the students who completed the course will experience an increase in psychological mindedness that will allow them to improve in the other domains of emotional intelligence during their subsequent semesters. McCallum and Piper (1997) indicated that those with good

psychological mindedness have the insight to examine personal problems and make purposeful, directed behaviour change. In addition, the students who improved their insight and self-awareness because of the emotional intelligence curriculum should be better equipped to cope with the demands of college (Mikolajczak, Luminet, & Menil, 2006), and we predict that they will improve their attentiveness (i.e., self-management), emotional understanding and emotional self-control in subsequent semesters. Future research should include a post-assessment after the first year to determine whether emotional intelligence levels improve with more time for development and application. Unfortunately, it was not possible to re-test the experimental and matched control groups in September 2009 in the current study because the study received ethical approval only for the September 2008 semester.

Although the students who completed the emotional intelligence course improved in all but one of the emotional intelligence scales (i.e., emotional self-control), the changes did not reach significance. This may have been due to the fact that the students were lower in psychological mindedness than a normative sample and two previous cohorts of Fleming College students before they started the emotional intelligence course. Research has demonstrated that a reasonable level of psychological mindedness is needed for individuals to participate successfully in a program designed for behaviour change (McCallum & Piper, 1997). If students were lower in psychological mindedness at the beginning of the course, they may not have had an adequate level of insight to make significant changes during their first semester. As noted above, improvements may be noticed in subsequent semesters.

The lack of significant findings may also be due to the small improvements in self-awareness of some of the students over the semester, which allowed them to assess their levels of emotional intelligence more accurately. The instructor of the emotional intelligence course met with all of the students for a debriefing session after the students had completed their post-test of emotional intelligence. During a meeting with one of the students whose level of emotional intelligence had decreased after completing the course, the student indicated that he had gained so much self-awareness and had learned so much about himself during the course that he felt as if he had answered questions much more honestly and with more scrutiny on the post self-report than he had done during the initial emotional intelligence testing. This may have held true for other students as well.

The volume of homework for the modified emotional intelligence course may also explain the results of the study. In the post-feedback evaluations, many participants indicated that the volume of homework was too high compared to the volume in their other courses. This may have had an impact on the Time 2 assessment because some students indicated that they did not have time to attend another testing session during their busiest time of the semester (i.e., when many of their other assignments were due). The students found it difficult to keep up with the level of homework given each week during the course, and they may have been frustrated that they were asked to complete another assessment.

The inequality of gender in the sample may also explain the nonsignificant results. The sample consisted primarily of males (i.e., there were 50 males and 10 females in the intervention group). There is ample evidence suggesting that women generally score higher in emotional intelligence than men do (see Van Rooy & Viswesvaran, 2004), and in the total sample of the

current study, females had higher levels of psychological mindedness than males did at the beginning of the semester. The results might have been different if the group who completed the emotional intelligence course had included more females. If the group had been more evenly distributed, the females who were higher in psychological mindedness to begin with may have demonstrated greater improvements in overall emotional intelligence at the end of the semester (McCallum & Piper, 1997). Having said this, we are unclear as to whether female technology students would have had higher levels of psychological mindedness at the beginning of the study as the normal controls did if more female technology students had been included in the study.

The intervention group consisted entirely of a group of technology students, and these students may have preferred technology programs because they were more interested in manipulating hardware and software applications than in dealing with people. For example, some students in the course indicated that they had never talked about their emotions before, and some were resistant to working on assessments that focused on their self-awareness. Students made comments such as “I want to learn about computers and engineering, not about people,” “this is useless,” “I just want to be in front of a computer because I am not going to be dealing with people” and “talking about emotions is a sign of weakness.” It is possible that an intervention group consisting of students from various academic programs would result in more significant increases in emotional intelligence levels (Nelis, Quoidbach, Mikolajczak, & Hansenne, 2009).

The results may also be explained by the fact that students completed the emotional intelligence post-test during the final two weeks of the semester. This is a particularly stressful time for students because of the multitude of assignments and tests/exams that need to be handled during this part of the academic year. Students may have felt that they needed to complete the post-test quickly so they could spend time on some of their other academic obligations. For example, several students commented that they felt “rushed” through the post assessment because they wanted to complete the assessment so they could finish their assignments in other courses.

The point in time during which the post-test was completed may also explain the decline in emotional intelligence levels from the pre-test to the post-test for students who did not take the modified emotional intelligence course. The mere fact that the students who took the course remained relatively stable in their emotional intelligence levels suggests that they had acquired some useful skills that made them more resilient in response to the stress experienced at end of term. Mikolajczak, Luminet and Menil (2006) found that students with higher levels of emotional intelligence had more self-efficacy to cope with academic exams. This was partly because of the way the students with higher levels of emotional intelligence appraised the exam period. Those with higher emotional intelligence appraised the exam period as less threatening and were therefore better able to cope.

The results of the current study also lend support to the relationship between emotional intelligence and academic success. For example, the study indicated that students who estimated that their high school grades were 80 to –84 per cent and 85 per cent or greater scored significantly higher on total emotional intelligence, psychological mindedness, attentiveness, emotional self-control, optimism and social integration than students who

estimated their high school average to be below 80 per cent. Moreover, successful students (those with an average of 80 per cent or higher) scored significantly higher than satisfactory students (who had averages of 59 to –79 per cent) and unsuccessful students (who had averages of less than 59 per cent) on psychological mindedness and total emotional intelligence. Successful and satisfactory students also scored significantly higher than unsuccessful students on attentiveness. These results are consistent with previous research demonstrating that psychological mindedness (i.e., self-awareness) and attentiveness (i.e., self-management) are important variables related to academic success (Parker, Bond, & Wood, 2007; Parker, Bond, Wood, Eastabrook, & Taylor, 2006).

Further support of the relationship between emotional intelligence and academic success can be found by examining the changes in emotional intelligence between the pre-test and the post-test in the light of high school grades (75 per cent and higher versus less than 75 per cent). Students who completed the emotional intelligence curriculum and who had high school averages of 75 per cent or higher had significant increases in their total emotional intelligence after the modified course, but those with averages of less than 75 per cent did not change. The students who did not complete the emotional intelligence course experienced significant decreases in their total emotional intelligence, whether they had high school averages of less than 75 per cent or averages of 75 per cent and higher. These results are consistent with previous research (Parker, Bond, Wood, Eastabrook, & Taylor, 2006; Parker, Summerfeldt, Hogan, & Majeski, 2004).

The relationship between emotional intelligence and retention was also examined in the current study. Within the full sample (N = 798), 51 students withdrew during the first semester. The results did not indicate any significant differences in levels of emotional intelligence between the group of students who withdrew and a matched sample who returned for the second semester. These results are not consistent with previous research by Parker, Bond, Wood, Eastabrook, & Taylor (2006), who found that students who withdrew from university after their first year were significantly lower in emotional intelligence than students who persisted. The differences in the results may have been due to differences in the times when retention was measured (i.e., after first semester versus after first year) and the fact that the sample size of the students who left was quite small. Perhaps students who withdraw during their first semester have higher levels of psychological mindedness than students who wait to withdraw until after a full academic year (suggested by the fact that they have been able to identify earlier when an academic program is not suitable for them). It is also unknown whether the students who withdrew simply switched programs or switched institutions (Finnie & Qiu, 2008).

The current study was not without limitations. One limitation was the sample size of the group of students who completed the emotional intelligence course. Initially, 80 students were enrolled, but 12 students withdrew (11 males and 1 female), leaving only 60 students for analysis. A larger sample may have produced different results. Generalizability was also limited because the sample consisted primarily of Caucasian males. Future research should use a larger and more diverse sample. The current study also focused on only a very small proportion of the student population in a very specific program area (i.e., technology students). Future studies should expand the target intervention group to include other program areas (e.g., law and justice, community service, business, nursing).

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Appendix A

Outline of the Modified Emotional Intelligence Course

Many people learn visually (Felder & Brent, 2005). Therefore, we developed a visual model that learners could relate to in the shape of a symbol they see every day when they turn on their computers and electronic devices (i.e., a power button). Our learners are constantly electronically "connected" to people through devices that start by pushing the "power" button. Without power, learners have no successful connection to electronic emotional and social relationship networks (e.g., e-mail, MSN chat, Facebook, Twitter, My Space, cell phones). We took the concept of these popular electronic connections and created a parallel model called *Power for Positive Connections to Academic, Career and Personal Success.* Once the learner develops the skills in this model, they then have the power to connect to success in all areas of their lives. Appendix C shows our visual model of the *Success Skills Menu* found in Appendix B. This visual model of the *Success Skills Menu* was shown to students each week, with the topic(s) of the weekly lesson highlighted. When the power button is pushed, the centre line at the top (indicated with dashed lines in our model) puts the equipment (and the learner's social and emotional *"Success Skills"*) into a fully powered state. This motivates the learner to demonstrate the skills to succeed. In our model, that important "power on" area is labelled "Self-Awareness." Self-awareness is the core of emotional intelligence, including emotional self-awareness, accurate self-assessment and a positive personal mindset that includes self-confidence (Cherniss & Adler, 2005).

The first competency of *Emotional Self-Awareness* is the ability to label feelings and emotions in oneself and others as they happen and to understand why emotions occur. In the College Achievement Inventory (CAI), this self-awareness is labelled Psychological Mindedness. Learners with a high quantity of this competency also understand how their feelings affect what they *think, do and say*; they are *clear about their values and goals;* and they know that when they act without considering their values or what's best for themselves or others, it decreases their energy and can lead to burnout and failure (Cherniss & Adler, 2005).

The second competency associated with self-awareness is *Accurate Self-Assessment.* Learners strong in this competency are aware of their strengths and weaknesses. A study of several hundred managers from 12 different organizations established that accurate self-assessment was connected to superior performance (Boyatzis, 1982). This vital competency was also found in every star performer recognized in a study of several hundred knowledge workers (Kelley, 1998).

The third competency associated with self-awareness is the learner's *Positive Personal Mindset,* which includes *self-confidence*. Studies show that self-confidence is associated with top-quality performance. For example, amid 112 entry-level accountants, those with the strongest self-efficacy (a belief that one has the aptitude to succeed) were rated top on job performance by supervisors 10 months later (Saks,1995). Boyatzis (1982) also found that self-confidence was connected to outstanding performance of managers who had worked in 12 different companies.

Self-Management is also shown in the *Power for Positive Connections to Academic, Career and Personal Success* model. The "self-management" phrase is surrounded by dotted lines, which symbolize how it affects all the other dimensions. A lack of the self-management dimension can negatively impact academic, career and personal success. For example, when assignments are not submitted on time, stress levels increase, and this decreases the thinking process. Furthermore, learners need to show personal responsibility and self-determination to continue to learn and develop their skills (Cherniss & Adler, 2005). A learner with low self-management skills, who therefore cannot complete assignments on time, manage stress or show self-determination, will also have a negative impact on his or her relationships with other people. Team members/co-workers may be cautious about working with them if, for example, they cannot trust the learner/co-worker with low self-management to complete their assigned work on time. Learners/co-workers may also have difficulty in carrying out decision making or dealing with change if they have difficulties in managing themselves. These competencies for the dimensions of *Self-Awareness* and *Self-Management* are the core of our *Power for Positive Connections to Academic, Career and Personal Success* model.

The PCEI Model

The PCEI model shown in Appendix D is adapted from the process of the Boyatzis's Intentional Change Theory. It is an enrichment of an earlier model called the "Self-Directed Learning and Change" model developed by Kolb, Boyatzis and colleagues (Kolb & Boyatzis, 1970). The model shows a process that was developed for, and first used in, a required course in the MBA and executive program at the Weatherhead School of Management. This program helps students become aware of their values and the values of others (Boyatzis, 1994). Research suggests that the program helps promote positive change in many different social and emotional competencies, including accurate self-assessment, achievement drive initiative, empathy, self-confidence and self-control (Boyatzis, 1982), and a series of research studies to date on the Weatherhead School Management program have shown that the improvement in these EI skills has lasted for up to seven years (Boyatzis, 2007).

According to a large number of change studies reviewed and referenced to date, it appears that maintained behavioural change is intentional and must be self-motivated (Bar-On, Maree, & Elias, 2007). This includes coaching that helps individuals as they go through their intentional change development process. Intentional change is a preferred change in a characteristic that is part of who a person is (the Real) or who they may desire to be (the Ideal) or both (Boyatzis, 2007). The process in the PCEI model is similar to Boyatzis' Intentional Change Model, where the cycle is constant (Boyatzis, 2007) and where we do not make behavioural or personal habit changes in increasing steps, at even intervals of time or effort. Instead, change happens in a pattern that looks more like "fits and starts." These fits and starts are *discontinuities* that may consist of a sudden realization or, as some refer to it, an "Aha!" moment. Goleman, Boyatzis & McKee (2002) called these "discoveries." The results of longitudinal and clinical studies determined that the following five steps (discoveries) are always needed to maintain a change in behaviour or skill (Boyatzis, 2007):

1. The learner determines their Ideal Self or Personal Vision—what they desire within their life or what type of person they desire to be.

2. A learner determines their Real Self—how they are perceived by others. This directs them to become aware of their strengths and weaknesses—how what they do compares to their Ideal Self.

3. A learner determines their Learning Plan for the semester.

4. A learner determines ways to apply and practise their skills, and this furthers their progress on the path to their Ideal Self.

5. A learner now seeks out and finds trusting, supportive relationships that assist them throughout the cycle.

Each of the above steps comes to the person's mind as a moment of conscious awareness.

Our PCEI model includes the above five discoveries. However, our course model differs from the overall change process used in Boyatzis' model at the Weatherhead School Management program in that it uses two additional discoveries, bringing the total to seven discoveries for the *Success Skills* taught each week. The learners then *choose* skills for their personal *Learning Plans*, which they then work on *applying and practising* for the rest of the semester. Choice is extremely important in this developmental process because studies have shown that adults learn what they want to learn (Boyatzis, 2007). Choice is also the primary purpose of the EI model Self-Science program, in which students make conscious choices about feelings, thoughts and actions (Freedman, 2003).

Too often, learners seem to respond without consciously thinking about the feelings, thoughts and actions that they have at key moments, so in order to improve their behaviours and skills overall, they need to be more conscious of their feelings, thoughts and actions (McCowan, Jensen, Freedman & Rideout, 1998). The goals of our course, the Self-Science program and the Mayer and Salovey (1997) model of emotional intelligence were to help the learner *identify* their emotions and to *use* the emotion to aid their thinking process. Learners need to be aware that in the gap between events that happen to them and their responses, they have the "response-ability" (Covey, 1990) to be careful about their choices. Once the learner *understands* this, they can use this understanding to guide themselves to *manage* their emotions and have a more suitable and conscious set of feelings, thoughts and actions.

In the PCEI model, the Discovery 1 is to *Identify Successful Student/Employee Behaviour Skills*. Learners, especially those of Generation Y, have the characteristic of realism. They prefer to understand the facts and reality of why each *Success Skill* they are about to learn is important before they learn each skill. If they feel the skill is not important, these learners pay little to no attention to the lesson the teacher is teaching that day (Hammill, 2005). During this first discovery, research was shared with the learners on the importance of the skill topic for that week to their academic, career and personal success. Learners reported that, once the realism of the skill was introduced, they were especially motivated to learn more about the skill.

Discovery 2, *Self-Assessment,* links to the important social and emotional dimension of *Self-Awareness*. The visual "Feel, Think, Do" Venn diagram (see Appendix D) is based on the conscious choices of the Self-Science program, which were described above. These three choices are analyzed from the points of view of the *Ideal Self* and the *Real Self.* The process of intentional change includes learners determining who they want to be —that is, their *Ideal Self* (Boyatzis, 2007), which develops from their ego ideal, their dreams and ambitions. Research from the past 20 years supports the efficacy of positive visualization in the domains of sports psychology, biofeedback, meditation and other areas. The strength of learners concentrating their thoughts on what they desire comes from the affective components of the brain (Goleman, 1995). Therefore, research indicates that learners can be deeply engaged to learn new skills and behaviours if they connect to their passions and their visions of their *Ideal Self*.

Once the learner has a sense of their *Ideal Self,* they turn their awareness to their *Real Self.* This includes who the learner believes they are now and how others perceive them. The *Real Self* may also come from a variety of individual assessments that correspond to the *Success Skill* topic they are presently learning.

Discovery 3 is *Self-Awareness*. Boyatzis (2007) indicates that to truly contemplate their skill development, the learner must have a sense of their strengths and weaknesses. The learner's *strengths* link to what they value and want to maintain about themselves, and this is where their *Ideal Self* and *Real Self* are similar. In the PCEI model, the learner also decides what strong skills and abilities (talents) they *do* have to assist them with the change process in a way that is similar to the theory and practice of Strengths-Based development (Hodges & Clifton, 2004). Their weaknesses include analyzing *Gaps* (i.e., places where their *Ideal* and *Real Self* are *different)*.

Strengths-Based education involves identifying talents (for our course, it included emotional and social *Success Skills*) and integrating those talents into the learner's view of themselves in a way that results in changes of behaviour. In particular, the strengths philosophy is the affirmation that individuals are able to gain far more when they expend effort to build on their greatest talents (strength skills) than when they spend a similar amount of effort to adjust their weaknesses (Clifton & Harter, 2003). Empirical research suggests that strengths-based interventions have a definite impact on a learner's ability to succeed in skill development (Hodges & Clifton, 2004). A recent study with 212 UCLA students also demonstrated that strengths-based development may lead to improved *self-confidence* (Clifton, 1997; Rath, 2002). Similarly, our learners commented in individual feedback at the end of the course that the concept of focusing on their strengths instead of their weaknesses to help them understand themselves and achieve their goals was "extremely motivating" and "empowering" and helped them want to develop their *Success Skills.* To build on these positive effects and to improve future courses, the online StrengthsFinder assessment may be used. (It is available at http://www.strengthsfinder.com.)

A number of the "talents" mentioned in the StrengthsFinder assessment parallel the social and emotional competencies taught as *Success Skills* in our course. As part of this course, the *Skills of Successful Students/Employees* assessment was developed to assess the student's strength

in these *Success Skills*, and their areas of development. Once the learners complete this assessment tool they see a visual representation of their pre- results, then at the end of the course, they do the assessment again to see a comparison visual representation of their pre- and post-course results. The assessment was adapted from Downing (2008), Fleming's core competencies (The Centre for Teaching and Learning, Fleming College, 2006), the Conference Board of Canada (2004), and Nelson and Low (2003).

Discovery 4 is to *Learn and Understand* the skill through knowledge sharing, discussions, experiential learning and self-analysis regarding its importance and benefits. The course looked at the PATHS model, which is based in psychoanalytic theory and is thus distinguished from the vast majority of other learning programs. The PATHS model includes teaching the process of positive discovery, as well as learning how to learn (Kusché, 2002). Assessment for PATHS was developed over 20 years ago, the results of these assessments have demonstrated its success in improving social and emotional competencies, as well as neurocognitive and academic performance (Greenberg, Kusché, & Riggs, 2004). Particular importance is placed on valuing the integrity of each learner, as well as on the support and encouragement of the learner actively participating in and communicating with other learners about the learning process (Zins, Weissberg, Wang & Walberg, 2004). Our course included teaching the neurocognitive connections to learning these skills and also included numerous active participation and experiential exercises, tools/strategies, videos, DVDs and musical (song) connections to help the learner learn and understand the new skill.

The best practices use of "live" models, experiential learning, practice and feedback also occurred during this stage. Research has revealed the importance of observing a live model demonstrating the desired behaviour when a student is learning a new skill or behaviour (Bandura, 2001; Tannenbaum & Yukl, 1992). The curriculum was taught using both the instructor and learners as live models, and video and other media were also employed to model desired behaviours. Behaviours were practised in class and feedback was given to each learner by the instructor and/or their *Motivational Support Coach* (see Discovery 7, *Supportive Relationships*).

The activities, discussions and assignments in the *Learn and Understand* discovery help the learner in a manner similar to that of the PATHS and Self-Science curriculum. The learner is encouraged to strengthen awareness of themselves and others; assess the possible positive and negative results of their choices; and build healthy and useful coping strategies (McCowan, Jensen, Freedman & Rideout, 1998). They are encouraged to remember these strategies and apply them when they come to the *Apply and Practise* discovery.

The *Learn and Understand* discovery also encouraged students to understand the *benefits* of this skill and why it is *important to a student's career, academic and personal life*. This approach is similar to that of the Eco-Behavioural Systems Model/ Social Interdependence theory, which emphasized teaching and connecting skill development in academic, school and personal life, as well as underlining the "real-life" practical needs and resources of the academic environment (Greenberg, Kusché Riggs, 2004; Kelly, Longbottom, Potts, & Williamson, 2004). This *Learn and Understand* discovery concept is also part of the Emotional Learning System (ELS), which

provides step-by-step procedures for affective learning and constructive “real-life” change for the learner (Nelson, Low, & Ellis, 2007).

After learning the techniques in the *Learn and Understand* stage, learners practised the skills and then shared their experiences with the other learners the following week. We adopted this process from the model Corning Stress Management program, which had equal empowerment results from their learners (Monroy, Jonas, Mathey, & Murphy, 1997).

As our course progressed, learner’s feedback indicated that they had feelings of empowerment, increased self-confidence and a realization that they were demonstrating more effective emotional and social competencies. Learners also indicated that they taught the strategies they discovered in the *Learn and Understand* section to their friends, family members, spouses and partners and that this enriched their relationships. Some even indicated that these other individuals (who had learned the skills “second hand”) also had positive experiences as a result of using their newly acquired skills outside of their relationship with the learner.

Discovery 5 is *My Learning Plan,* in which learners *decide/choose* their goals so that they may build on strengths while reducing gaps and developing their skills. In their plan, students describe, in writing, how they will increase their emotional and learning competence in their chosen *Success Skill* areas. In one of the longitudinal studies performed at the Weatherhead School of Management, Leonard (1996) demonstrated that when MBA students set goals for developing certain competencies, their competencies increased significantly in comparison to those of other MBA students, who did not set goals. In addition, the learners in our course developed a plan that demonstrated activities matching their *preferred learning style*. A learning style assessment developed by Dr. Joyce Bishop based on Howard Gardiner’s Multiple Intelligence theory was used (Carter, Bishop, Kravits, Lyman, & Maurin, 2007). When a learner’s *Learning Plan* does not match their *preferred learning style*, they become demotivated and often stop the activities, or they become annoyed and decide their goals are not worth the effort (Boyatzis, 1994; Kolb, 1984).

During our course, after their plans were written, learners stated in their closing course feedback that they felt “empowered” because they openly described to the class or their *Motivational Support Coach* (see Discovery 7) real-life scenarios in which they could use the techniques and goal setting they had learned with *Success Skills*.

In Discovery 6, *Apply and Practise,* the learner *challenges* himself or herself to work toward goals and also to experiment with new feelings, thoughts and behaviours. The learner also practises creating new neural connections to facilitate skill mastery and to feel safe in his or her academic, career and personal environment.

Course feedback included statements that after their new skill application and practise, the students saw an improvement in many areas of their life. Among those areas were increased time management, stress management, emotional self-control, self-awareness, and closer relationships with family, friends, co-workers and other learners. Other comments included an increase in their self-confidence (e.g. learners were now confident to approach their teachers), self-esteem (e.g. learners decreased inner negative comments where they told themselves they

could not achieve the marks, to more positive language where they told themselves that they could learn, for example, math and/or achieve high marks in their courses), and/or self-presentation (e.g. learner's perspective was that their marks for presentations increased as well as their participation in their classes).

Discovery 7 is *Supportive Relationships*. This includes facilitation, support and encouragement from which the learner can benefit at each stage of development. The supportive relationships included relationships between the learner and the instructor, the learner and peers (*Motivational Support Coach*es) and the learner and supporters in other areas of their life either at work, at home or within the educational setting outside the classroom environment.

The relationship between the learner and the instructor was enhanced with a one-on-one interview near the beginning of the course. At this interview, the learner presented their assessed *values* in a *Personal Vision* statement, as well as their *Learning Plan* for the *Success Skills* that they had initially chosen as needing development. This task was part of their "Journey to Success" assignment. In their *Personal Vision,* they provided an overview of what they wanted from education, career, and life—and what type of person they wanted to become. Their *Learning Plan* used scores from their *Skills of Successful Students/Employees* assessment to assist them in choosing their developmental goal areas. Specific goals and action plans were presented using a visual image they had selected so they could visualize their success. Both the *Learning Plan* and the *Personal Vision* were discussed. This, along with the way in which learners answered questions during the first day of the course, helped the instructor gauge their readiness. During the interview, the instructor made careful comments about each learner's *Personal Vision,* ensuring that their goals were clear, meaningful and manageable. The instructor and learner also engaged in a discussion about how ready for change the learners believed they were, and about relapse prevention.

Gauging the readiness of the learner was undertaken using questions similar to those in the model EI JOBS program. The questions from this model program gauge participants' motivation and readiness for change (Vinokur, Price, & Schul, 1995), and they therefore gave the instructor an understanding of the learners who needed extra assistance during the change process. The instructor received appreciative comments from most of the learners who at the beginning of the course were lower in readiness. With extra feedback and encouragement from the instructor, learners who were initially low in readiness indicated that they felt capable of increasing their skill levels and that they had achieved some, if not all, of their goals.

In *Relapse Prevention,* the instructor helped learners prepare for the mistakes that inevitably occur when one is attempting to change a habit and/or learning a new social or emotional *Success Skill.* Learners were trained to reframe errors as an opportunity to learn, so that learners could increase their self-awareness and decrease the likelihood of future mistakes (Chernis & Adler, 2005; Cherniss, Goleman, Emmerling, Cowan, & Adler, 1998). In their feedback, learners stated that this approach did assist them in realizing that they were not alone in having relapses and that it motivated them to work harder on new ways to approach their skill development. Some even discovered that they needed to use a *Motivational Support Coach* more to increase their accountability to another person.

Since the Social Interdependence theory was applied to the development of this course, situations were constructed in a cooperative manner and learners encouraged one another's success. They did this by being cooperative, supportive partners and/or group members and/or by acting as peer *Motivational Support Coaches* who encouraged learners inside and outside the classroom via face-to-face conversations, e-mail, texting or phone calls. According to learner feedback, the use of *Motivational Support Coaches* during the *Learn and Understand*, *Learning Plan*, and/or *Apply and Practise* stages was very successful. Sometimes a given learner's *Motivational Support Coach* changed, depending on attendance and the learning activity on that particular day. A recommendation for the next course rendition is for each learner to keep the same *Motivational Support Coach* throughout the course.

Appendix B

Success Skills Menu

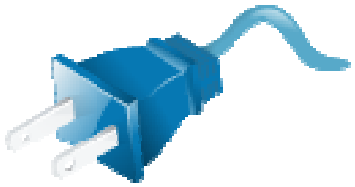
The following *Success Skills* will help learners achieve academic, career and personal success.

Self-Awareness (Intrapersonal)	
Emotional Self-Awareness	You are able to recognize and label your feelings and emotions as they happen. You can distinguish between your emotions, understand why they occurred and appreciate the effects of your emotions on yourself and others. (What you think/do and say.)
Accurate Self-Assessment	You are able to accurately assess your strengths, areas of development and how others perceive you. You understand your needs and values, and you are able to connect them with your goals.
Positive Personal Mindset	You demonstrate a strong sense of self-worth, self-confidence and self-respect concerning your positive abilities and areas of development. You are able to perceive the positive aspects of situations, maintain a positive attitude even in negative situations and enjoy yourself and others.
Self-Management	
Stress Management	You are able to handle stressful situations in school, work and your personal life. You are able to remain calm in challenging situations and you can achieve a sense of balance in your life in order to feel energized.
Emotional Self-Control	You can control strong and disruptive emotions, impulses and reactions in constructive ways.
Personal Responsibility	You are accountable for your personal performance, money and other resources while maintaining integrity.
Self-Determination	You are motivated to pursue and achieve goals with integrity despite obstacles and setbacks.
Engage in Continuous Learning	You are willing to actively engage to continually learn and grow. You use effective learning strategies to plan for and achieve your learning goals.
Time Management	You manage your time and other resources effectively and realistically by organizing, prioritizing and completing tasks on time to achieve your goals.
Social Awareness (Interpersonal)	
Empathy	You are aware of others' feelings and viewpoints. You can listen compassionately to their concerns, and you are able to respectfully communicate with them.
Appreciate and	You are able to understand and respect various people, cultures and

Respect Others' Diversity/ Perspectives	perspectives. You can flex in the way you interact with people according to their areas of strengths and areas of development.
Social/ Service Responsibility	You contribute positively to the development of others. You are able to foresee, identify and help meet the needs of those in your community, including fellow students, customers and colleagues.
Relationship Management (Interpersonal)	
Constructive and Helpful Communication	You are able to listen, respond openly with empathy and send helpful, constructive messages to build relationships.
Build Supportive Relationships	You can establish and maintain mutually satisfying relationships and work with others toward common goals.
Assertiveness	You express your thoughts (including questions, feelings and beliefs) in a positive and constructive manner to teachers, students, employees and employers.
Creative, Adaptable and Responsible Decision Making (Adaptability)	
Positively Adapt to Change Opportunities	You are flexible in managing change and you view these opportunities as a way to learn from mistakes, accept feedback and respond constructively to suggestions.
Creative & Responsible Problem Solving	You are able to responsibly and creatively think and problem-solve using innovative strategies to identify, analyze, implement and evaluate results.

Appendix C

Power for
Positive Connections to
Academic, Career and Personal Success!



Self Awareness

- *Emotional Self-Awareness*
- *Accurate Self Assessment*
- *Positive Personal Mind-Set*

Social Awareness

- *Empathy*
- *Appreciate and Respect Other's Diversity/ Perspectives*
- *Social/ Service Responsibility*

Self-Management

- *Personal Responsibility*
- *Time Management*
- *Stress Management*
- *Emotional Self-Control*
- *Engage in Continuous Learning*
- *Self-Determination*

Relationship Management

- *Constructive and Helpful Communication*
- *Build Supportive Relationships*
- *Assertiveness*

Creative, Adaptable and Responsible Decision Making

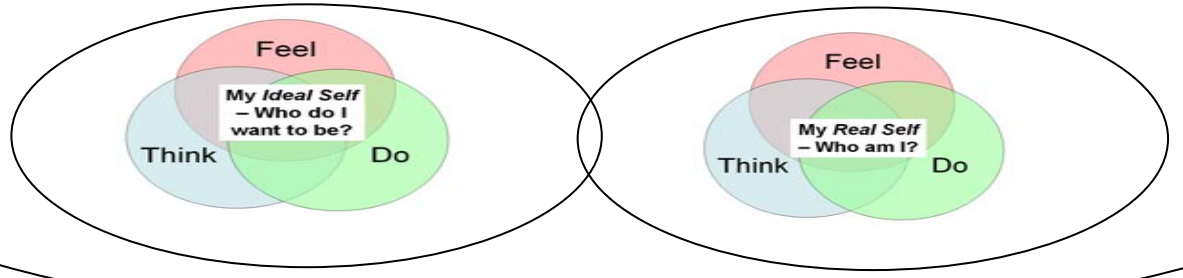
- *Positively Adapt to Change Opportunities*
- *Creative & Responsible Problem Solving*

Appendix D

Positive Connections to Emotional Intelligence Model

1. Identify Successful Student / Employee Behaviour Skill

2. Self-Assessment



3. Self Awareness

My *Strengths*
- Where my Ideal and Real Self are similar
- My strong skills that will help me

My *Gaps* – Where my Ideal and Real Self are different

4. Learn and Understand

- Learn and understand the skill through knowledge sharing, discussions, experiential learning, own analysis of it's importance and benefits

5. My Learning Plan

- Develop a Learning Plan where learner decides/chooses their goals to build on strengths while reducing gaps and develop their skills
- Takes into consideration their learning style.

6. Apply & Practice

- Learner *challenges* themselves to work towards their goals, experiments with new feelings, thoughts, and behaviours
- Practices creating new neural connections towards skill mastery where they feel safe in academic, career or personal environment.

7. Supportive Relationships

- Facilitate, support and encourage at each stage of development