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Infusing Emotional Intelligence in a First Semester College Course, Putting Old Heads on Young Shoulders

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Abstract

Recent empirical research suggested a link between Emotional Intelligence and academic retention and success. There was further evidence to suggest that emotional intelligence could be increased through interventions. The goal of the current study was to assess the effectiveness in improving retention by adding an emotional intelligence curriculum to a first semester college course. The effectiveness of the emotional intelligence modified course was assessed by comparing retention and GPA (Grade Point Average) in subsequent semesters between students who had or had not taken the modified course. The results do not support the hypothesis that taking the modified course produces better retention or higher GPA.

Infusing Emotional Intelligence in a First Semester College Course:

Putting Old Heads on Young Shoulders:

Introduction

Remaining in a post-secondary educational institution seems to be daunting for many young people. In 1987 Vincent Tinto decried student attrition in his seminal work "Leaving College, Rethinking the Causes and Cures of Student Attrition." Twenty years later, attrition rates (loss of students between first and second term) at colleges and universities continue hover around the 37% mark (Fisher & Engemann, 2009). A private business that lost over one third of their new customers each year would not stay in business very long. Studies have examined whether it is the students, the institution, or some combination of the two that is the problem. Reviews of the research literature on student retention have found that a student's ability to make a connection with other people, be they other students or professors, and become engaged, helps them stay in school. Another field of research shows that people who have high EI (emotional intelligence) are able to make connections with people. EI became more prominent with the publication in 1995 of Goleman's book "Emotional Intelligence." His idea that EI can contribute to academic success encouraged many schools to develop programs for testing and improving EI (Zeidner, Roberts, & Matthews, 2002). Zeidner went on to say that in his review of the literature, he could find no evidence to support the usefulness of EI in an educational program. Not that it is not useful, just that the research has not been done. He proposed that researchers should be looking at solving this problem.

This study proposes to investigate if an intervention in the form of an EI infused curriculum, will increase overall student engagement and thus increase retention rates. If you

can increase a young person's understanding of their feelings and other people's feelings, then you should be able to increase their ability to get along with other people. This could increase their engagement to such an extent that they stay at their institution for another semester.

The literature shows the following items:

1. The factors that can contribute to retention
2. A definition of EI
3. Attempts to discover if EI has an impact on retention
4. Interventions performed to increases EI

Tinto (1987) postulated that "the success not only of retention programs but of education programs generally hinges on the construction of educational communities at the college, program and classroom level which actively involve all students in the ongoing social and intellectual life of the institution" (p. 210). Supporting this vein of thought, Hossler (2008) wrote "Although the effects of financial aid on persistence are positive, these effects are small and probably indirect. The most beneficial effect of financial aid may be that it increases students' freedom to become more engaged in the academic and social environments of the institutions they attend." (p. 102). Also lending support for the idea that the students who are connected with relationships are more resilient and more likely to persist was Parkin & Baldwin (2009) in a Millennium Research paper called "Persistence in post-secondary education in Canada: The latest research.". In it they stated "one difference between those who persist and those who drop out can best be viewed in terms of resilience. . . In general, resilience in this context refers to the capacity to overcome obstacles, adapt to change, recover from trauma or to survive and thrive despite adversity. Notably, factors contributing to resilience in youth include supportive relationships with adults and parental expectations " (p. 11). More evidence that students who

have made connections with others are more resilient and persistent in staying in school was provided by Fisher and Engemann, (2009). They provided evidence that student engagement is an important factor; however, the conceptual definition of "student engagement" is difficult to operationalize. If somehow you could increase a student's ability to get along with other people, and improve their personal relationships with fellow students or professors, this should increase their engagement.

The research shows that students who are more engaged, resilient, or connected are more likely to stay in school. We now need to examine what helps students develop these characteristics. Emotional intelligence is "a set of skills hypothesized to contribute to the accurate appraisal and expression of emotion in oneself and in others." (Salovey & Mayer 1990 p. 189) Getting along with other people is what Goleman's 1995 book *Emotional Intelligence* is all about. If you increase people's EI, you can help them get along with other people. In it, he asserts that EI is not relatively static like regular intelligence; rather, it can increase over time (Goleman, 1995). If older people, with higher levels of maturity are more understanding of their own and other people's feelings, and it is possible to teach people to be more understanding, it might be possible to put old heads on young shoulders.

A study took up the challenge of solving this problem, (Parker, Saklofske, Wood, Eastabrook, & Taylor, 2005). They measured the EQi (Emotional Quotient inventory) of 238 first year students and then re-measured the students again after 32 months to see if the EQi measurement changed. The results were that EI without an intervention is relatively stable. This indicates that there is good test-retest reliability, but it does not address the test's validity.

They then measured EQi on 1,270 young adults coming to University from high school. They looked at the 213 students who withdrew and compared them to a sample of 213 that were

still enrolled. (Parker, Hogan, Eastabrook, Oke, & Wood, 2006) The "enrolled" sample was matched on age, gender, and ethnicity. They showed that a broad range of emotional and social competencies were significantly higher for those who stayed versus those who withdrew. This leads us to suspect that EI might have some influence on retention.

To further support EI as an influence on retention, Sparkman (2009) measured EQi on 783 incoming college students. He ran statistical analysis to see what parts of EQi predicted academic achievement as measured by enrolment, graduation and Grade Point Average. He indicated that parts of the EQi were positively correlated to graduation. They were "Empathy, Social responsibility, Flexibility and Impulse Control"(Sparkman, 2009, p. iii). He encouraged prospective college students to develop their EI.

Can an intervention change the EI of students? A study in Texas examined changes brought about by an intervention. (Potter, 2006) Potter used a good Solomon four-group design and concluded that there was a positive effect of the EI intervention program in terms of the students' emotional skills level as measured by the Emotional Skills Assessment Process. There were some confounding factors. Specifically whether or not the EI intervention increased academic success. We need quantitative measurements that show what impact these interventions have on retention.

The literature discussed above provided evidence that increasing student engagement can increase retention rates. It also provided evidence that EI measurements were stable without an intervention. Students that stayed in school had significantly higher EI measures compared to others that did not. There was evidence that without an intervention, EI would remain stable over a students' academic career. There was also limited evidence that an intervention would have a positive effect on academic success.

We intended to show that an intervention in the first semester of an EI infused curriculum would increase student retention, because the literature discussed above provided evidence that student engagement increased retention and EI lead to student engagement. The expectation was that there would be a higher retention rate with the test group than with the control group, because students who had increased their EI would be more engaged. The other null hypothesis was that there would be no impact on GPA of the EI intervention. The alternative hypothesis was that an EI intervention would lead to a higher GPA.

Materials and methods

This study used a longitudinal design examining the retention of first year students with a mean age of 19 years (SD =5.8, n = 367), at an Ontario College of Applied Arts and Technology, in the fall of 2008. Fanshawe College of Applied Arts and Technology, is a large, comprehensive community college (located in London, Ontario) with an annual fulltime enrolment exceeding 15,000 students. A longitudinal design was employed over a one year period since this permitted an investigation of an EI (Emotional Intelligence) intervention at the very time that it was exerting its influence. The independent predictor variable was an EI intervention. A random assignment of half of the students received a curriculum infused with EI education. The control half of the students received the regular curriculum. The dependent variable was the enrolment status at the end of the second and third semester, either enrolled or not enrolled for each group. As well, the GPA was examined at the end of the second and third semester.

Insert Figure 1

The intervention took place in the "Strategies for Success" course, BUSI1060, in the fall of 2008. This course was a one hour per week course for first semester students to help them

make the transition from high school to college as smoothly as possible. The normal curriculum consisted of instruction of some of the skills required to achieve college and career success. Areas of focus included: goal-setting, time management, note-taking, test preparation strategies, and managing college life. Both the control and experimental group took the EQ-i (Bar-On Emotional Quotient Inventory) from MHS (Multi-Health Systems Inc.) (Bar-On 2004).

The test results themselves, did not matter to this research. It was just a vehicle to help the students focus on emotional intelligence. The fifteen subscales of the test are: problem solving, self regard, emotional self-awareness, empathy, interpersonal relationships, social responsibility, independence, self-actualisation, assertiveness, flexibility, happiness, optimism, stress tolerance, impulse control, and reality testing. Emotional intelligence is defined as "the ability to monitor one's own feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions." (Salovey & Mayer 1990, p. 189). Here, we are concerned with teaching students about emotional intelligence, teaching students how to observe their feelings, and teaching students how to observe other people's feelings. We use the results from the EQ-i to help the students focus on the areas that they were weak on. The course had fifty minutes of instruction each week for a fourteen week semester. Approximately fifteen to twenty-five minutes each week were devoted to teaching EI material. The professors showed videos from "You Tube" and gave the students examples of things they could do to improve. For example, if they scored low on empathy, the professor would suggest that they listen, really listen to two people every day and give at least one person every day a personal compliment. By helping the student focus on another person, it should help them learn to become more empathetic. By bringing students out of themselves and relating to other people, they should

become more engaged in their studies and stay in school.

A random assignment of half of the students received a curriculum infused with EI education. At colleges, students entered a program of study and took all of the courses in that program in order to obtain a diploma. They had no influence on which courses or professors they were assigned. Because this was a real experiment, in that there was a true random sample, we did not have to control for gender, age, date of admission or program choice. All students in the school of business programs took a common first semester. Students in the Lawrence Kinlin School of Business may have registered in the following programs (in order of number of students): Marketing, General Business, Accounting, Finance, Insurance and Purchasing.

Because the faculty member may have had an impact on the results, we randomly provided each of four faculty members with one test group class (EI infused curriculum) and one control group class (regular curriculum). None of the participating professors were trained in psychology or possessed Bachelor of Education degrees. They, like most teachers at the community college, were hired for their subject matter expertise. The professors involved in this trial had subject matter expertise in the areas of administration, accounting, insurance, and secretarial science. They attended training sessions concerning the EQ-i (BarOn Emotional Quotient Inventory) from MHS (Multi-Health Systems Inc.). At the training they obtained certification and were qualified to administer the EQ-i testing and Higher Education Report (EQ-i HEd). During the training all of the professors worked on improving their own individual EI. Because the training helped each of the professors personally, they became enthusiastic about passing this training on to the students.

Both the control and experimental group of students took the EQ-i (BarOn Emotional Quotient Inventory) from MHS (Multi-Health Systems Inc.) in the first two weeks of classes.

This involved buying a password from the bookstore and answering questions on a computer with an internet connection. They were required to read 133 statements and rate each of them on a 5-point Likert scale ranging from (1) "Very Seldom or Not True of Me" to (5) "Very Often True of Me or True of Me." Students were given marks for doing the test, to ensure a good participation rate. The students in the experimental group received a printout of their results. The results were a bar graph showing their three highest of the 15 subscales and their 2 lowest of the 15 subscales. The control half of the students received the regular curriculum of the "Strategies for Success" course BUSI1060. The control group was not told anything more about emotional intelligence. Throughout the semester, only the experimental group were encouraged to work on improving their emotional intelligence.

Both the control and the experimental group took the test, but there was no follow up in the control group, while the test group had teaching each week. Over the semester, the test group of students were given an explanation of the 15 items that comprise the EQi. They were given instructions on how they could improve weak areas and how the areas that were too high could be modified. The professors taught the experimental students about self-awareness and self expression, social awareness and interpersonal relationships, emotional management and regulation, change management and self-motivation. The individual classes involved teaching of the concepts with definitions and examples of; problem solving, self regard, interpersonal relationships, social responsibility, independence, self-actualisation, assertiveness, flexibility, happiness, stress tolerance, impulse control, and reality testing. The students were required to prepare an assignment "My EQ-i Development Plan". They had to detail their goals for improving their emotional intelligence and were given marks for this. For a copy of the student assignment see the Appendix.

Enrolment data from both the control and experimental group were collected from the college student records system in order to determine each student's GPA and enrolment status (Active, Non-Active) at three significant points in time (1) at the end of the first term (as of December 31, 2008) to indicate that they had completed the first semester and the BUSI1060 course, (2) at the end of the second term (as of April 30, 2009) to indicate term-over-term attrition, and (3) at the end of the third term (as of December 31, 2009) to indicate year-over-year attrition.

Analyses were conducted using SPSS for Windows Release 16.0 (SPSS inc., Chicago Ill, 2008). For the purposes of clarity, descriptive statistics are presented using raw data. Chi square tests were used to examine the association between nominal variables "enrolled" or "not enrolled". Multiple *t*-tests were conducted for analyses of differences in the GPA in subsequent semesters. *F*-Tests were conducted to determine if there was an interaction of gender, or professor. All results were judged significant if the type 1 error was less than five percent ($p < .05$).

Results

In an examination of the question of whether teaching first semester students about emotional intelligence has an impact on their retention, 367 students were randomly placed into a test group (189) or a control group (178). The test group received instruction in Emotional Intelligence, whereas, the control group did not.

Table 1 shows that retention to the second term, Winter 2009, was better for the control group then the test group (93% vs. 90%) of the students who completed the first semester in full-time programs at Fanshawe College in the Fall of 2008 (This difference was not statistically significant.) This trend continues into the third semester, Fall 2009 and after one year the

retention for the control group was 79% versus 74% for the test group.

Insert Table 1

These numbers do not support the hypothesis that an Emotional Intelligence intervention increases retention. The data suggest that an intervention could lead to reduced retention. However, a chi-square test of the relationship between the teaching of EI and retention produced a $\chi 2\ (1) = 0.75$, $p = ns$. In other words there is no significant difference in the retention of those students who had the EI enhanced material and those who had not.

Another alternative hypothesis was that the EI intervention could increase GPA. The GPA was tracked at the end of Fall 2008, Winter 2009 and Fall 2009. It was predicted that the instruction of EI would lead to higher GPA compared to the control condition. With respect to the relationship between EI intervention and GPA, Figure 2 shows that GPA in subsequent semesters went down and up with no trend. An independent-samples *t*-test was conducted to compare the Fall 2009 GPA of the test group and Fall 2009 GPA of the control group There was not a significant difference in the Fall 2009 GPA of the test group ($M = 2.73$, $SE = .09$) and Fall 2009 GPA of the control group ($M = 2.546$, $SE = .10$); $t(277) = 1.335$, *ns*. The null hypothesis is that the means of the populations are the same (H_0: $\mu_1 = \mu_2$). i.e.there is no difference in the amount of GPA in both conditions. The alternative hypothesis is that there is a significant increase in amount of GPA in the test group. (H_1: $\mu_1 > \mu_2$). These results do not support the alternative hypothesis that an emotional intelligence intervention would have an effect on subsequent GPA.

Insert Figure 2

The GPA in Fall 2009 of the fifty-two males in the emotional intelligence intervention group ($M = 2.45$, $SE = .16$) was larger than the sixty-four males in the control group ($M = 2.29$, $SE = .15$). And the GPA in Fall 2009 of eighty-two females in the emotional intelligence intervention group ($M = 2.91$, $SE = .11$) was larger than the seventy-six females in the control group ($M = 2.76$, $SE = .14$).

A two-way between subjects analysis of variance was conducted to compare the effect of gender on an emotional intelligence intervention on GPA. The analysis of variance revealed that the differences among the means of the samples were not significant: Test or control ($F(1, 275) = 1.13$, *ns*). There was also no support for an interaction effect of gender with an EI intervention on subsequent GPA ($F(1, 275) = .00$, *ns*).

Discussion

The theory is that an increase in EI will lead to an increase in retention and GPA. Either the theory is wrong or the EI intervention was flawed. There are some factors that suggest that the intervention might be flawed. The professors did not have advanced degree credentials in psychology. Maybe more qualified teachers could produce a different result. As well, all experienced teachers, know that mastery and teaching ability of a particular subject increases over the number of semesters that a particular subject is taught. Maybe the professors could become better at teaching the material and it would be worthwhile to do a non-experimental comparative study of the retention rates of subsequent years.

Maybe it is too difficult to change a student's personality or self identity and make them nicer in fourteen sessions of thirty minutes of instruction. Subsequent to starting this research, other people studied an EI intervention in a collage with eight-two participants. In this study the

authors comment "students who completed the emotional intelligence curriculum were not significantly higher in overall emotional intelligence than students who did not take the course." (Bond & Manser, 2009, p. 17) and "There were no differences in GPA between the control and intervention group." (p. 16). Maybe you can lead students to knowledge but you cannot make them think.

Others have concluded that there is no evidence to show us that school-based EI interventions work to improve retention or learning (Zeidner, Roberts, & Matthews, 2009). The present methodology cannot exclude the idea that EI is ineffective. What needs to be done to show that EI is useful? We need to prepare an experimental study; with random assignment to a control and test group, with experienced teachers, with a larger investment of teaching time, and with measurements of the EI at the beginning and the end of the course.

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Appendix

My EQ-i Development Plan

Strategies for Success - Homework Assignment 2

Our Emotional Quotient: our ability to tune in to the world, to read situations and connect with others while taking charge of life; a set of skills that enables us to make our way in a complex world --- the personal, social and survival aspects of overall intelligence, the elusive common sense and sensitivity that are essential to effective daily functioning.

"Street smarts"

By identifying where you are on the EQ scales, you can choose which skills you want to improve on to achieve higher academic, personal and social success.

What does the EQ-i tell you?

- **Point-in-time assessment of personal, social, and emotional competencies**
- **Helpful insights for personal development**
- **Provides a starting point for improvement**

Activity:

Read the complete EQ-i Resource Report. You will not be able to do this assignment unless you have completed the EQ-i online assessment and received your Resource Report.

Part 1 (5 points)

Take a good look at the two graphs that plot your results and read the Interpretation Guide for EQ-i Composite and Content Subscale Scores.

Answer the following questions (minimum 50 words):

1. **Do you believe that this describes you fairly accurately? Why?**

2. **Are there any surprises? If yes, please explain.**

Part 2 (5 points)

Review the Simple Strategies for Development .

Choose two EQ subscales to focus on and create your own EQ Development Plan by filling in the statements. Note: Use your own words.

EQ Goal #1

- My #1 EQ goal is to improve my _____ by _____and _____

- If I achieve the goal, I will realize these two benefits _____

- If I don't achieve it, this could happen _____

- My potential barriers are _____

EQ Goal #2

- My #2 EQ goal is to improve my _____
by _____and
_____

- If I achieve the goal, I will realize these two benefits
_____

- If I don't achieve it, this could happen
_____

- My potential barriers are _____

Marking scheme (out of 15 marks):

Part 1 - 5 points
Part 2 - 5 points
Online assessment in Week 12 – 5 points

Professionalism:
Evaluation subject to 2 point penalty for not complying with these requirements
- **Must have a cover page with all required elements (see example in Content on FanshaweOnline)**
- **Reflections must be word-processed**
- **Must be stapled**

Assignment due at beginning of class in Week 5 – 25% penalty for each day it is late
Submit in class
Do not submit by email or dropbox unless you get permission to do so

Figure 1

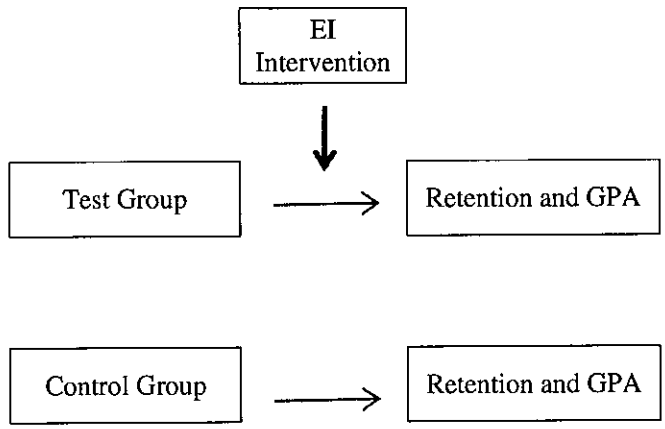
EI
Intervention
Test Group
Retention and GPA
Control Group
Retention and GPA

Figure 2

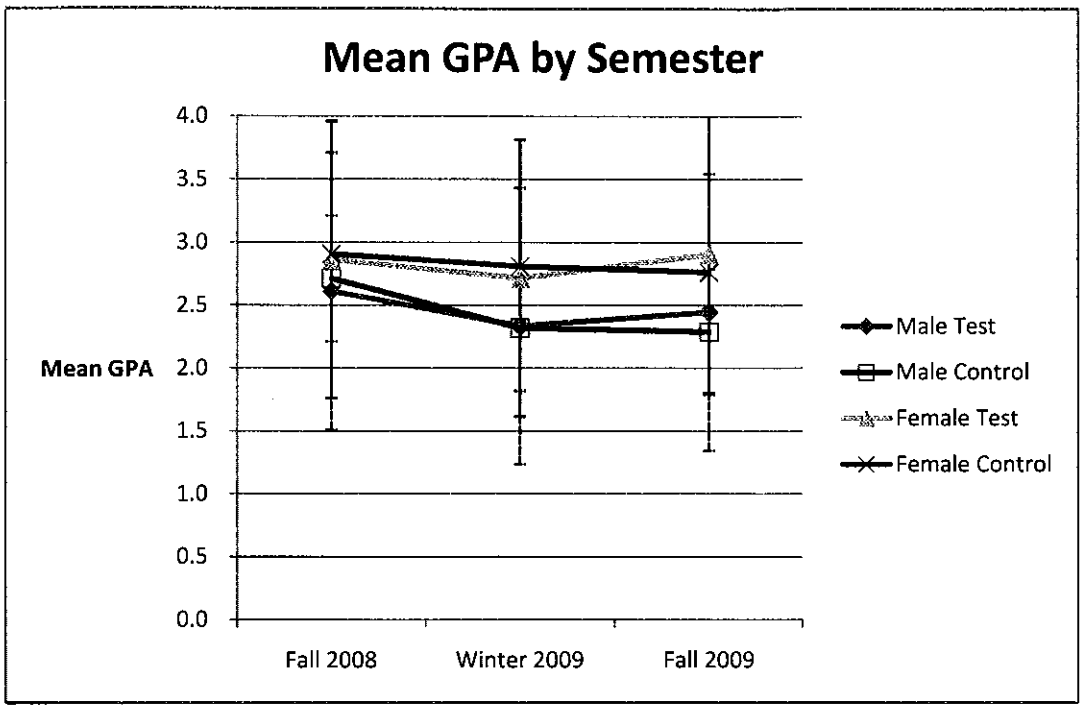
Mean GPA by Semester
Mean GPA
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Fall 2008
Winter 2009
Fall 2009
Male Test
Male Control
Female Test
Female Control

Table 1

Enrolment status after One Term and after One Year

Enrolment status	After 1 Term		After 1 Year	
	n	% of Group	*n*	% of Group
Test Group				
Active students	170	90%	139	74%
Non-Active students	19	10%	50	26%
Total for Group	189	100%	189	100%
Control Group				
Active students	166	93%	140	79%
Non-Active students	12	7%	38	21%
Total for Group	178	100%	178	100%
Total Students	367		367	