

Spring 5-12-2023

## The Effects of Social-Emotional Learning, Classroom Relationships, and Collaborative Learning on Students' Emotional Intelligence and Academic Achievement

Slade Simpson  
gz1093mp@go.mnstate.edu

Follow this and additional works at: <https://red.mnstate.edu/thesis>



Part of the [Curriculum and Instruction Commons](#)

Researchers wishing to request an accessible version of this PDF may [complete this form](#).

---

### Recommended Citation

Simpson, Slade, "The Effects of Social-Emotional Learning, Classroom Relationships, and Collaborative Learning on Students' Emotional Intelligence and Academic Achievement" (2023). *Dissertations, Theses, and Projects*. 829.

<https://red.mnstate.edu/thesis/829>

This Project (696 or 796 registration) is brought to you for free and open access by the Graduate Studies at RED: a Repository of Digital Collections. It has been accepted for inclusion in Dissertations, Theses, and Projects by an authorized administrator of RED: a Repository of Digital Collections. For more information, please contact [RED@mnstate.edu](mailto:RED@mnstate.edu).

The Effects of Social-Emotional Learning, Classroom Relationships, and Collaborative Learning  
on Students' Emotional Intelligence and Academic Achievement

A Quantitative Research Methods Proposal

A Project Presented to the Graduate Faculty of

Minnesota State University Moorhead

By

Slade M. Simpson

ED 696

Methods of Research

In partial fulfillment of the Requirements for the Degree of

Master of Science in Curriculum and Instruction (M.S.)

May 2023

**Abstract**

Within educational settings, people are quick to blame intellectual development, or a lack thereof, for students' shortcomings. However, in recent years, there has been a significant increase in issues related to students' mental health and emotional well-being that have been detrimental to their academic progress. This quasi-experimental study investigated whether or not development of emotional intelligence through the use of social-emotional learning, relationship development, and collaborative learning has a positive impact on a students' academic achievement. The results of this study were used to help determine if an educational focus on emotional intelligence can provide a viable option to combat emotional struggles and improve academic outcomes for students.

**Contents**

ABSTRACT.....	2
CHAPTER 1 INTRODUCTION	
Introduction.....	7
Brief Literature Review.....	7
Statement of the Problem.....	8
Purpose of the Study.....	8
Research Question.....	9
Definition of Variables.....	9
Significance of the Study.....	10
Research Ethics.....	10
Limitations.....	11
Conclusions.....	11
CHAPTER 2 LITERATURE REVIEW	
Introduction.....	13
Body of the Review.....	14
Social-Emotional Learning.....	14
Relationship Development.....	15

Collaborative Learning.....	17
Theoretical Framework.....	18
Research Question.....	18
Conclusions.....	18
CHAPTER 3 METHODS	
Introduction.....	20
Research Question.....	20
Research Design.....	20
Setting.....	21
Participants.....	21
Sampling.....	22
Instrumentation.....	22
Data Collection.....	22
Data Analysis.....	22
Research Question and System Alignment.....	23
Procedures.....	24
Ethical Considerations.....	24
Conclusions.....	25

## CHAPTER 4 RESULTS

Introduction.....	26
Data Collection.....	26
Results.....	27
Figure 4.1.....	28
Figure 4.2.....	29
Table 4.1.....	30
Figure 4.3.....	31
Figure 4.4.....	32
Data Analysis.....	32
Conclusions.....	34
CHAPTER 5 IMPLICATIONS FOR PRACTICE	
Action Plan.....	35
Plan for Sharing.....	35
References.....	37
Appendix.....	41
Appendix A.....	41
Appendix B.....	42

Appendix C.....43

Appendix D.....45

## CHAPTER 1

### INTRODUCTION

#### **Introduction**

In recent years, the educational landscape has changed drastically. One of the most concerning issues that has come to the forefront is the state of students' mental health (Riekie et al., 2017; Weisbrot & Ryst, 2020). Nationwide, areas such as self-confidence, resilience, emotional regulation, and social well-being have continued to be a struggle for students. This mental health crisis has had a significant effect on a multitude of levels, but one of the most glaring has been academic success in schools. The answer is much more complicated than refocusing efforts on bolstering test scores (Jackson et al., 2021). This research was aimed at gathering data that allowed for analysis of the development of emotional intelligence and the effect it has on academic achievement.

#### **Brief Literature Review**

Research has shown that emotional intelligence can be of equal, or greater, importance to student academic success when compared to academic intelligence (Muhtadi et al., 2022; Parker et al., 2004). Teachers can support the development of emotional intelligence by incorporating social-emotional learning, relationship development, and collaborative learning into their classrooms. Effective social-emotional learning curriculum will provide students opportunities to improve their self-awareness, stress management, confidence, and ability to self-regulate their emotions (Denham & Brown, 2010; Durlak et al., 2011; Yeager & Dweck, 2012). This gives students the tools to work collaboratively with their classmates to elevate their learning capabilities while also contributing to a strong sense of classroom community and healthy



relationships that promote participation, enthusiasm, and motivation for learning (Capone et al., 2018; Rafique et al., 2021; Rucinski et al., 2018).

### **Statement of the Problem**

Educational institutions have long been focused on developing the intellect of the students who attend them. Students have been pushed to place an extremely high value on their intelligence quotient (IQ) when it comes to their educational experience. This has caused students' thoughts about how smart they perceive themselves to be to become a major predictor of their own academic achievement. Furthermore, many students also believe that their intelligence is something that is stagnant and cannot be changed (MacCann et al., 2020). This along with a recent emergence of mental health struggles in students has highlighted the need to support students beyond intellectual development. This study was focused on discovering the impact that emotional intelligence development through social-emotional learning, relationship development, and collaborative learning has on students' academic success.

### **Purpose of the Study**

The goal of this study was to investigate whether or not development of emotional intelligence has a positive impact on a students' academic achievement. Within educational settings, people are quick to blame intellectual development, or a lack thereof, for students' shortcomings. However, in recent years, there has been a significant increase in issues related to students' mental health and emotional well-being that have been detrimental to their academic progress. The results of this study helped to determine if an educational focus on emotional intelligence can provide a viable option to combat emotional struggles and improve academic outcomes for students.

**Research Question**

The goal of this action research is to investigate the following:

How can growth in the areas of social-emotional learning, relationship development, and collaborative learning lead to higher emotional intelligence for students and improve their academic success?

**Definition of Variables**

The following are the variables of study:

**Variable A (Independent Variable):** In order to develop student skills, elements of social-emotional learning curriculum were present. Social-emotional learning encompasses a student's ability to understand themselves and others, regulate their emotions, attention, and behavior, make good decisions, and engage appropriately in social situations (Denham & Brown, 2010).

**Variable B (Independent Variable):** Development of relationship skills through community building activities. These activities worked to enhance the relationships of students with all components of their classroom when it relates to their sense of belonging, perceived influence, emotional connectedness, and satisfaction of needs (Capone et al., 2018).

**Variable C (Independent Variable):** Collaborative learning strategies such as active listening, respectful communication, leadership, self-efficacy and understanding multiple perspectives were included regularly throughout the study (Rimm-Kaufman & Merritt, 2019).

**Variable D (Dependent Variable):** Emotional intelligence growth as measured by the emotional intelligence self-assessment pre- and post-test adapted from a model developed by Paul Mohapel.

**Variable E (Dependent Variable):** Student academic success as measured by the summative pre- and post-assessments developed by the College Preparatory Mathematics (CPM) curriculum.

### **Significance of the Study**

The participants of this study have received extensive opportunities to improve their emotional intelligence through targeted social-emotional learning, relationship development, and collaborative learning curriculum. The outcome of this study has provided a deeper understanding between the relationship of students' emotional intelligence and its effect on their academic success. The results could change the focus of education for educational professionals and their students.

### **Research Ethics**

**Permission and IRB Approval.** In order to conduct this study, the researcher will seek MSUM's Institutional Review Board (IRB) approval to ensure the ethical conduct of research involving human subjects (Mills & Gay, 2019). Likewise, authorization to conduct this study will be sought from the school district where the research project will take place (See Appendix A).

**Informed Consent.** Protection of human subjects participating in research will be assured. Participant minors will be informed of the purpose of the study via the Method of Assent (See Appendix B) that the researcher will read to participants before the beginning of the study. Participants will be aware that this study is conducted as part of the researcher's Master

Degree Program and that it will benefit his teaching practice. Informed consent means that the parents of participants have been fully informed of the purpose and procedures of the study for which consent is sought and that parents understand and agree, in writing, to their child participating in the study (Rothstein & Johnson, 2014). Confidentiality will be protected through the use of pseudonyms (e.g., Student 1) without the utilization of any identifying information. The choice to participate or withdraw at any time will be outlined both, verbally and in writing.

### **Limitations**

While there are countless reasons why a student may or may not experience academic success, this study focused solely on emotional intelligence development and its effects on students' academic success. The researcher did not have access to information about students' possible academic interventions, classwork patterns, or classroom participation beyond what was seen within their own classroom. This study was conducted in a highly populated, suburban school district in Minnesota. This study was limited in the time allotted to conduct the research and participants' willingness to engage in the study. Additionally, other instructional methods and changes in the classroom may have impacted the results of the study. Student attendance may have also been a limiting factor.

### **Conclusions**

Research has shown that emotional intelligence development has important implications in the classroom. These implications could play a huge role in how educators teach their students and what they teach them. The next chapter will explore current research on how social-emotional learning, developing relationships, and collaborative learning support the

development of emotional intelligence while also having positive effects on academic achievement.

## CHAPTER 2

### LITERATURE REVIEW

#### Introduction

The concept of emotional intelligence (EI) and its effects on students' academic achievement is a relatively new educational topic that was introduced in the early 1990's. The idea began gaining momentum in the eyes of educators and researchers in 1995 when science journalist Daniel Goleman released his book titled *Emotional Intelligence: Why It Can Matter More Than IQ* (MacCann et al., 2020). Emotional intelligence incorporates many different facets of a person's being including, but not limited to, self-confidence, ability to express emotions constructively, their skills in forming successful relationships, ability to stand up for oneself, setting and achieving goals, and handling the stress of everyday life (Stein et al., 2013).

Researchers have since performed a myriad of studies that indicate when students have a higher level of emotional intelligence, they are more likely to perform better on academic tasks and, thus, have higher academic achievement (Parker et al., 2004; Muhtadi et al., 2022). Based on the outcomes of these various studies, educators must take the initiative to support the development of students' emotional intelligence, in addition to their intelligence quotient (IQ), if they want students to reach their highest academic potential. To support this development, this research aims to understand the effect of incorporating components of social-emotional learning, relationship development, and collaborative learning in the classroom in an effort to increase emotional intelligence and, ultimately, academic achievement.

## **Body of the Review**

### ***Context***

The articles used in this research outline three important components of emotional intelligence development: social-emotional learning, relationship development, and collaborative learning.

### **Social-Emotional Learning.**

The concept of social-emotional learning involves a wide array of skills that people must work to develop in order to reach their highest potential of achievement in all areas of their lives. Specifically in education, social-emotional learning encompasses a student's ability to understand themselves and others, regulate their emotions, attention, and behavior, make good decisions, and engage appropriately in social situations. Each of these components work together to create a positive school experience (Denham & Brown, 2010). Effective social-emotional learning within classrooms allows students to explore and build these skills which are a necessity for developing emotional intelligence. Students do not need the empty praise that is so often used by teachers as a confidence builder, but rather they need a teacher to help them create mindsets that represent challenging tasks as things they can accomplish with enough time, effort, creative strategies, problem solving skills, collaboration with others, and persistence (Yeager & Dweck, 2012).

Schools that are committed to doing what is best for their students should be incorporating a social-emotional program or social-emotional learning lessons within their curriculums. Research has shown significant positive correlation between targeted social-emotional abilities and attitudes about self, others, and school in educational settings that

have a designated program towards these topics. Not only have these programs been successful in creating more positive attitudes toward different areas in life, but they have also enhanced productive student behaviors in the areas of prosocial behaviors, motivation, and reduced internalization of problems (Durlak et al., 2011; Jones et al., 2009).

Beyond progress in social skills and positive mindsets, there is also an impact when it comes to academic achievement. Schools that emphasize the social-emotional development of their students have a larger impact on student success than schools who emphasize high test scores. Students at these schools also have a higher graduation rate and are more likely to enroll in a four-year college (Jackson et al., 2021).

While schools that implement these programs are on the right path towards higher academic success for their students, there are other key components that are required. Students must be able to take inventory of their needs, gauge their understanding, and believe in the effectiveness of social-emotional learning components. It is vital that students learn how to reflect upon their learning and self-report their social and emotional shortcomings (Tan et al., 2018). When students are able to reflect, whether it be through individual reflections, discussions, or surveys, they are able to help themselves and the educators focus on areas of need within the social-emotional learning curricula for a more intentional and targeted education.

### **Relationship Development.**

In a study about classroom relationships and sense of community, Capone et al. (2018) describes classroom community as, "...the quality of the relationships between students and their classroom in terms of belonging, perceived influence, emotional connectedness, and satisfaction of needs" (p. 379). Relationships between students as well as relationships between students and



their teacher make up a large part of the classroom community. Each has implications on transmission of rules, values, construction of social identity, and academic progress (Capone et al., 2018). Teachers have the ability to make a large impact solely based on the way they interact with their students. In fact, teachers that provide a friendly, helpful, and caring approach with students have a positive effect on their students' attitudes toward their academic and social-emotional development. This also contributes to a positive emotional classroom climate overall (McLure et al., 2022; Rucinski et al., 2018).

In addition to positively affecting students' attitudes, creating a strong classroom community through relationship building enhances students' enthusiasm for learning (Mercer & Dornyei, 2020). When teachers are able to form meaningful connections with their students, and help facilitate student connections with one another, they foster an environment where strong academic engagement happens. This leads to sustained learning success, improved self-confidence, increased emotional intelligence, and higher levels of academic achievement. (Amerstorfer & Freiin Von Munster-Kistner, 2021; Mercer & Dornyei, 2020; Capone et al., 2018).

In relation to academic achievement, another important category that classroom community and positive relationships have a major effect on is a students' physical and mental health. A recent study conducted by Jinho (2021) showed that positive teacher-student relationships were correlated with better physical and mental health in addition to lower levels of substance abuse in school-aged kids. The same study also concluded that student-student relationships can have an impact on depression (p. 14). Overall, when students are healthier, both physically and mentally, they are less likely to partake in negative behaviors such as dropping out of school (Contreras et al. 2022).

### **Collaborative Learning.**

Recent research conducted by Rafique et al. (2021) analyzed the effectiveness of collaborative learning on student success. They concluded that it can be beneficial to the learning ability of students (p. 167812). Furthermore, their study also confirmed that classroom-based collaborative learning methods are more effective than traditional learning methods (Rafique et al., 2021).

A reason that collaborative learning enhances student success and produces better learning outcomes is due to the cohesion of the groups that are formed within the classroom with a student's peers. Under careful guidance, these groups form solidarity through trust and engagement (Arguedas et al., 2016). Arguedas et al. (2016) also states, "Having the potential of emotional awareness of themselves and their peers during the whole activity provides students with an important tool to develop emotional competence for the group and thus build an emotionally intelligent team" (p. 100). Ultimately, emotional intelligence is a key component for collaborative learning to have a positive effect on academic achievement.

Even though there are copious studies that point to the benefits of collaborative learning, and most students enjoy opportunities to engage with others inside the classroom, far too often teachers find that their students lack the appropriate social and emotional skills for collaborative learning to be successful (Rimm-Kaufman & Merritt, 2019). Thus, it is critical that teachers employ targeted lessons on topics such as active listening, respectful communication, leadership, self-efficacy and understanding multiple perspectives to create a solid foundation of emotional intelligence for students to work efficiently in a collaborative environment (Rimm-Kaufman & Merritt, 2019; Isohätälä et al., 2020; Dunbar et. al., 2018). Only then will students reap the benefits of the collaborative learning process.

## **Theoretical Framework**

Bear et al. (1996, as cited in Kunnanatt, 2008) describes that researchers in brain theory have a belief that there exists a competitive relationship between the rational and emotional sides of the brain (p. 619). In this relationship, the emotional part of the brain tends to dominate the rational part of the brain and will, at times, suppress rational thoughts and actions (Thompson, 1998, as cited in Kunnanatt, 2008). Often people can overcome this imbalance with time and careful thought processes. However, when high pressure situations arise and the rational mind needs to react intelligently and carefully, the amygdala, which plays a major role in the emotional side of the brain, can take over and deprive a person of their reasoning skills (Davidson et al., 2000 as cited in Kunnanatt, 2008). This is where emotional intelligence comes in. When people are taught to be emotionally intelligent by developing the necessary skills and techniques to deal with the competitive relationship between the emotional and rational sides of the brain, they can overcome the attempted suppression of rational thoughts and actions that lead to making emotionally-driven decisions.

## **Research Question**

The goal of this action research is to investigate the following question: How can growth in the areas of social-emotional learning, relationship development, and collaborative learning lead to a higher emotional intelligence for students and improve their learning success?

## **Conclusions**

Within this chapter I have presented and synthesized research explaining the importance of emotional intelligence as it relates to the learning success of students in educational settings. I have investigated the relationships between several key components of emotional intelligence

which are social-emotional learning, relationship development, and collaborative learning as well as how each of these components are critical to the evolution of a students' emotional intelligence. In the coming chapters, this study aims to understand how growth in the components mentioned can lead to a higher emotional intelligence for students and, ultimately, greater academic achievement.

## CHAPTER 3

### METHODS

#### **Introduction**

This study sought to analyze the effects of students' emotional intelligence development, through social-emotional learning, relationship development, and collaborative learning, on their academic achievement in school. Multi-Health Systems Inc. (2011, as cited in Stein et al., 2013) defines emotional intelligence as "A set of emotional and social skills that influence the way we perceive and express ourselves, develop and maintain social relationships, cope with challenges, and use emotional information in an effective and meaningful way" (p. 4). Students require a strong presence of these skills such as resiliency, self-awareness, emotional regulation, and communication to be able to complete challenging intellectual tasks that allow for a higher level of learning (Yeager & Dweck, 2012). The findings of this research could help to determine if an educational focus on emotional intelligence can improve academic outcomes for students.

#### **Research Question**

The goal of this action research was to investigate the following:

How can growth in the areas of social-emotional learning, relationship development, and collaborative learning lead to higher emotional intelligence for students and improve their academic success?

#### **Research Design**

This study used a quasi-experimental design using descriptive, quantitative data. Emotional intelligence data was collected through the use of a self-assessment (See Appendix C)

as a baseline at the start and to measure growth in emotional awareness, emotional management, social-emotional awareness, and relationship management at the end of the study. To measure growth in academic achievement, the researcher recorded results from select test questions given throughout the study and retested students on the same questions at the end of the study (See Appendix D). The academic growth results were then compared to the emotional intelligence growth results for each student to see if any correlation was present.

### **Setting**

This study took place at a suburban high school in Minnesota. The ethnicity breakdown of the students who attend the high school is as follows: Asian (19%), Hispanic or Latino (4%), African American or Black (7%), White (65%), and two or more races (5%). Additionally, 8% of the students qualify for free and/or reduced lunch.

### **Participants**

The study consisted of 24 participants ranging in age from fourteen to sixteen who were enrolled in a freshman level intermediate algebra course. Of the 24 participants, 12 were female (50%) and 12 were male (50%). Their ethnicity breakdown is as follows: 4 Asian (16.67%), 0 Hispanic or Latino (0%), 1 African American or Black (4.17%), 16 White (66.67%), and 3 two or more races (12.5%). Additionally, 0 have an individual education plan, 7 have a 504 plan (29.17%), and 1 is an English Language Learner (4.17%).

### ***Sampling***

This study consisted of a purposive sample of 24 students as they were enrolled in the researcher's freshman level intermediate algebra courses. Furthermore, the students were randomly assigned to the researcher's courses by administration.

### **Instrumentation**

Instruments used in this study include an emotional intelligence self-assessment, given as both a pre-test and a post-test, that was adapted from a model created by Paul Mohapel. It has 40 statements in which participants ranked themselves on a scale from zero to four where zero indicates never, one indicates rarely, two indicates sometimes, three indicates often, and four indicates always. The self-assessment is designed to evaluate a students' emotional awareness, emotional management, social-emotional awareness, and relationship management. Unit tests, developed by the College Preparatory Mathematics (CPM) curriculum, were also used to collect academic achievement data on skills essential to a students' success in an intermediate algebra course. These data were then compared to a post-assessment, also developed by CPM, which assessed the same skills and was given at the end of the study.

### **Data Collection.**

The emotional intelligence self-assessment score data was collected via a traditional paper assessment. Academic data was collected utilizing paper summative assessments. Both were completed inside the classroom in a testing environment.

### **Data Analysis.**

After gathering participant's data utilizing the methods previously stated, the researcher compared the growth scores of the emotional intelligence self-assessment with the growth scores of the summative assessment questions for each student. The growth scores of the emotional intelligence self-assessment were calculated by using an average of each of the four categories and then finding the difference of the averages from the pre- and post- test. The growth scores of the summative assessment skills were calculated by using an average score from each of the skill categories and then finding the difference of the averages from the unit tests to the post-assessment.

### Research Question and System Alignment.

The table below (i.e., Table 3.1.) provides a description of the alignment between the study Research Question and the methods used in this study to ensure that all variables of study have been accounted for adequately.

Table 3.1.

#### Research Question Alignment

Research Question	Variables	Design	Instrument	Validity & Reliability	Technique (e.g., interview)	Source
RQ1 How can growth in the areas of social-emotional learning, relationship development, and collaborative learning lead to higher	DV D: Emotional intelligence competency  DV E: Student academic success  IV A: Social-emotio	Quasi-Experimental	Emotional Intelligence self-assessment adapted from Paul Mohapel Intermediate Algebra Summative	All self-assessments and summative assessments were developed and/or utilized by trained classroom teachers.	Paper Emotional Intelligence self-assessment  Paper CPM summative assessments.	Intermediate algebra students  Sample size: ___ students



---

emotional intelligence for students and improve their academic success?	nal learning curriculum  IV B: Development of relationship skills  IV C: Collaborative learning strategies	Assessments by CPM	Validity and Reliability are achieved by administering similar pre-tests and post-tests for the EI self-assessments and the summative assessments.
---	--	--------------------	--

### **Procedures**

This study took place over an eight-week period during the 2022-2023 school year. During the first week the researcher had participants complete an emotional intelligence self-assessment that scored each person on four different categories: emotional awareness, emotional management, social-emotional awareness, and relationship management. Each week thereafter, students participated in various social-emotional learning, relationship development, and collaborative learning activities at least three times per week. Participants also completed three unit summative assessments with pre-identified questions/skills that were recorded for academic data purposes. During week eight, to conclude the study, students were administered the same emotional intelligence self-assessment and a post-assessment on the identified skills from each unit. The data was analyzed and interpreted by the researcher.

### **Ethical Considerations**

To protect the individuals who participated in this action research study, the researcher obtained signed informed consent forms from the participants' parents or legal guardians. In

addition to the consent form, all names and identifying pieces of information were removed to maintain participant anonymity throughout the study. All activities conducted in relation to the study were a part of normal classroom curriculum and instruction. The activities presented no risk and posed no harm to participants. The results of this research were only used for the purpose of the study. Participants and their parents or legal guardians had the option to opt out of the study at any time without negative consequences.

### **Conclusions**

This chapter provided details about who participated in the study and how the researcher conducted their study surrounding the growth of social-emotional learning, relationship development, and collaborative learning and the impact that growth had on a students' emotional intelligence and academic achievement. The next chapter will provide an analysis of the results of the study.

## CHAPTER 4

### RESULTS

#### **Introduction**

Schools across the nation have been experiencing an increase in the mental health needs of students within their buildings (Riekie et al., 2017; Weisbrot & Ryst, 2020). While many areas that make up a student's emotional intelligence need to be addressed, emotional awareness, emotional management, social-emotional awareness, and relationship management were central to the focus of this study. To support the development of these areas of emotional intelligence, social-emotional learning, relationship development, and collaborative learning activities were incorporated into the researcher's classroom. The purpose of the study was to investigate whether or not development of emotional intelligence has a positive impact on a student's academic achievement. This chapter will present the data that was collected, an analysis of that data, and a summary of the conclusions by the researcher.

#### **Data Collection**

This research required two different types of data: One that was representative of a student's emotional intelligence growth and another that would provide insight on a student's academic achievement.

First, for emotional intelligence data, participants were asked to complete an emotional intelligence self-assessment pre-test (See Appendix C) in February 2023 as a set of baseline data. The self-assessment allowed participants to rank themselves on ten statements from each of the four different categories of emotional intelligence which were: emotional awareness, emotional management, social-emotional awareness, and relationship management. The rankings were

according to a five point scale with zero being the student never relates to the statement, one being the student rarely relates to the statement, two being the student sometimes relates to the statement, three being the student often relates to the statement, and four being the student always relates to the statement. After an eight week period of social-emotional learning, relationship development, and collaborative learning activities, participants were asked to complete the exact same emotional intelligence self-assessment as a post-test. The pre- and post-self-assessment scores were then compared to calculate growth scores on individual categories as well as an overall emotional intelligence growth score.

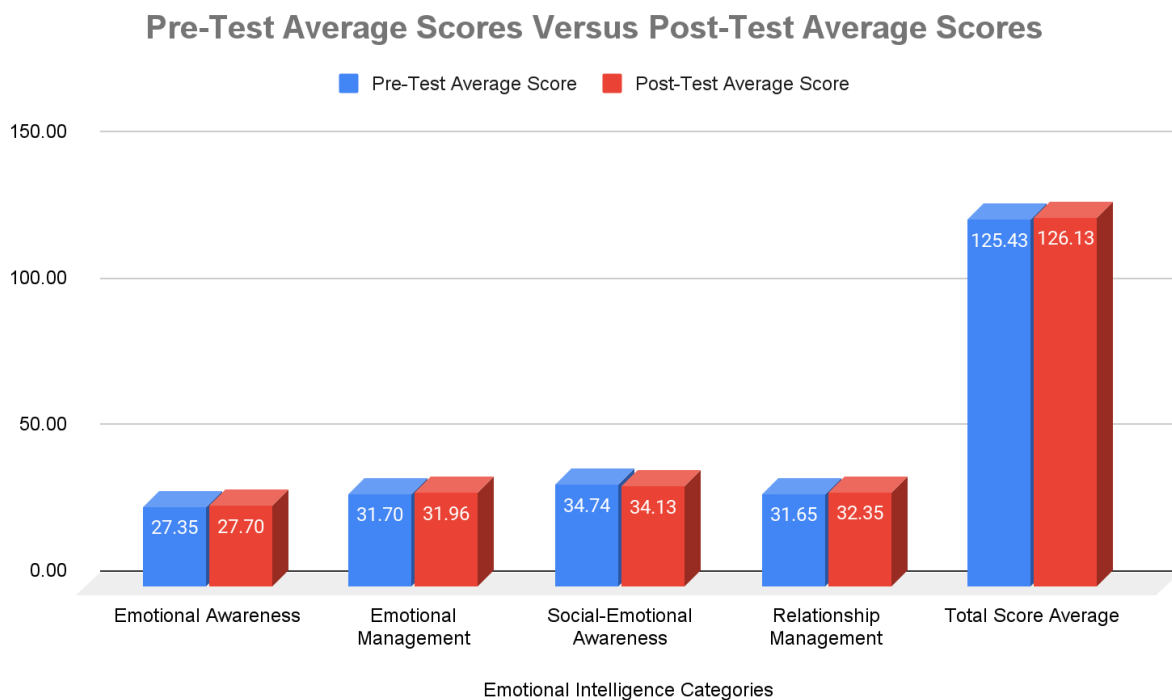
For data on academic achievement, the researcher utilized pre-identified test questions and scores from student end of chapter assessments as a baseline. The same pre-identified test questions from the end of chapter tests were then organized into a single end of term final assessment. Question directions and skills were duplicated exactly, but numbers were changed so students could not memorize the answers from their previous exposure. The total scores from the set of questions from the chapter tests and the end of term final assessment were then compared to calculate an overall academic growth score.

Finally, the emotional intelligence growth scores and the academic growth scores were compared. The results were as follows.

## **Results**

***Research Question: How can growth in the areas of social-emotional learning, relationship development, and collaborative learning lead to higher emotional intelligence for students and improve their academic success?***

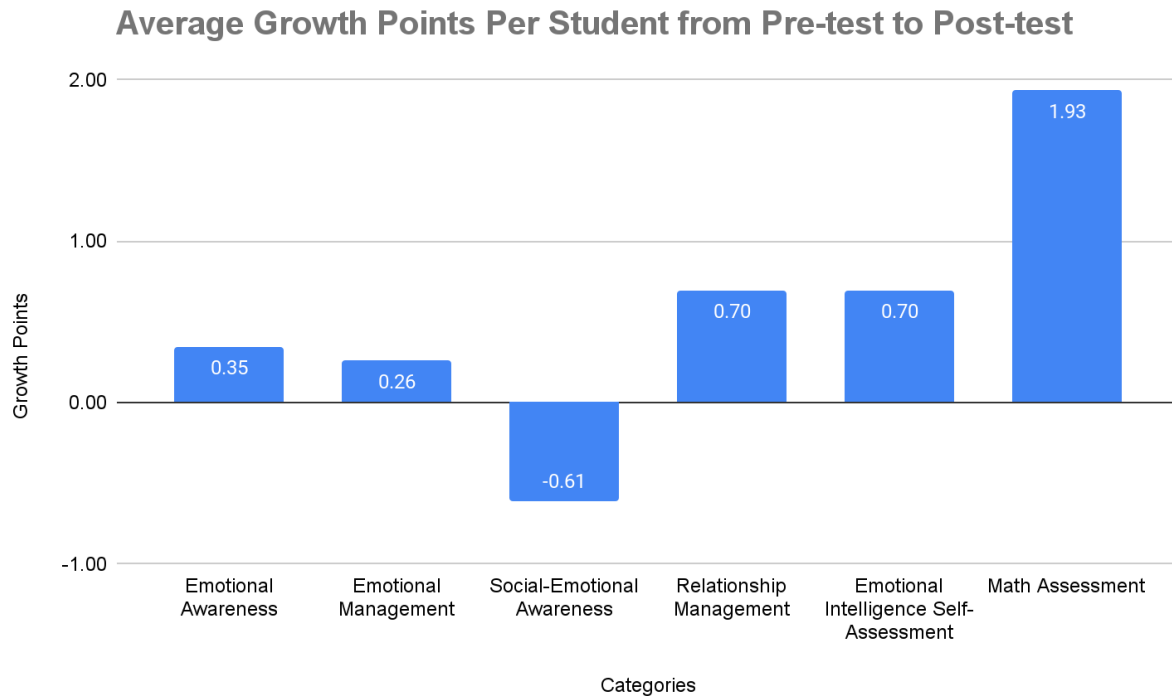
Figure 4.1 compares the participants' pre- and post- average scores for each of the individual emotional intelligence categories as well as their overall average score. Three out of the four emotional intelligence categories increased from the beginning of the action research period to the end. This resulted in an overall total score increase for participants. One participant's score was removed from the average calculations due to their scores being a heavy outlier which skewed data causing inaccurate analysis.



*Figure 4.1.* Pre-test average scores versus post-test average scores.

Figure 4.2 displays the average growth for each of the four emotional intelligence categories, the total average growth on the entirety of the emotional intelligence self-assessment, and the average growth per student on their math assessment score. The category of social emotional awareness was the only category that did not see a positive average growth and the

math assessment scores saw the most growth by an average of 1.93 points. One participant's score was removed from the average growth calculations due to their scores being a heavy outlier which skewed data causing inaccurate analysis.



*Figure 4.2.* Average growth points per student from pre-test to post-test.

Table 4.1 shows the number of students whose emotional intelligence score improved or remained unchanged from the pre-test to the post-test, how they performed on the final math assessment, and what the average growth score was of those participants who showed growth in both emotional intelligence and academic achievement. The table also shows the same data for those students who did not improve on their emotional intelligence self-assessment and how they performed in terms of their academic growth. Those students who improved in both areas had a

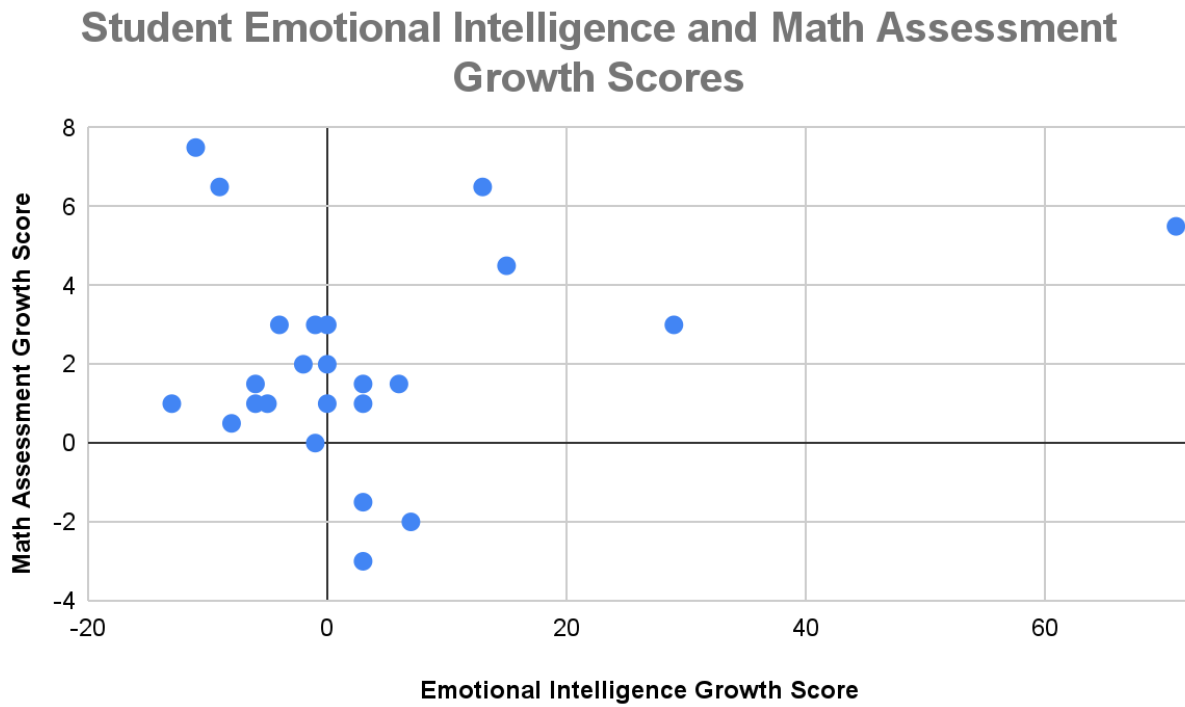
slightly higher average increase of their math assessment score than those who did not improve their emotional intelligence score.

Table 4.1

*Student Emotional Intelligence and Math Assessment Improvement vs. Deterioration Data*

Total number of students who stayed the same or improved their Emotional Intelligence score	Total number of students who stayed the same or improved their Emotional Intelligence score <u>and</u> improved their math assessment score	Average math assessment score increase of students who stayed the same or improved both their Emotional Intelligence score <u>and</u> their math assessment score.
13 out of 24	10 out of 24	2.95
Total number of students who did <u>NOT</u> improve their Emotional Intelligence score	Total number of students who did <u>NOT</u> improve their Emotional Intelligence score, but still improved their math assessment score	Average math assessment score increase of students who did <u>NOT</u> improve their Emotional Intelligence score, but still improved their math assessment score.
11 out of 24	10 out of 24	2.7

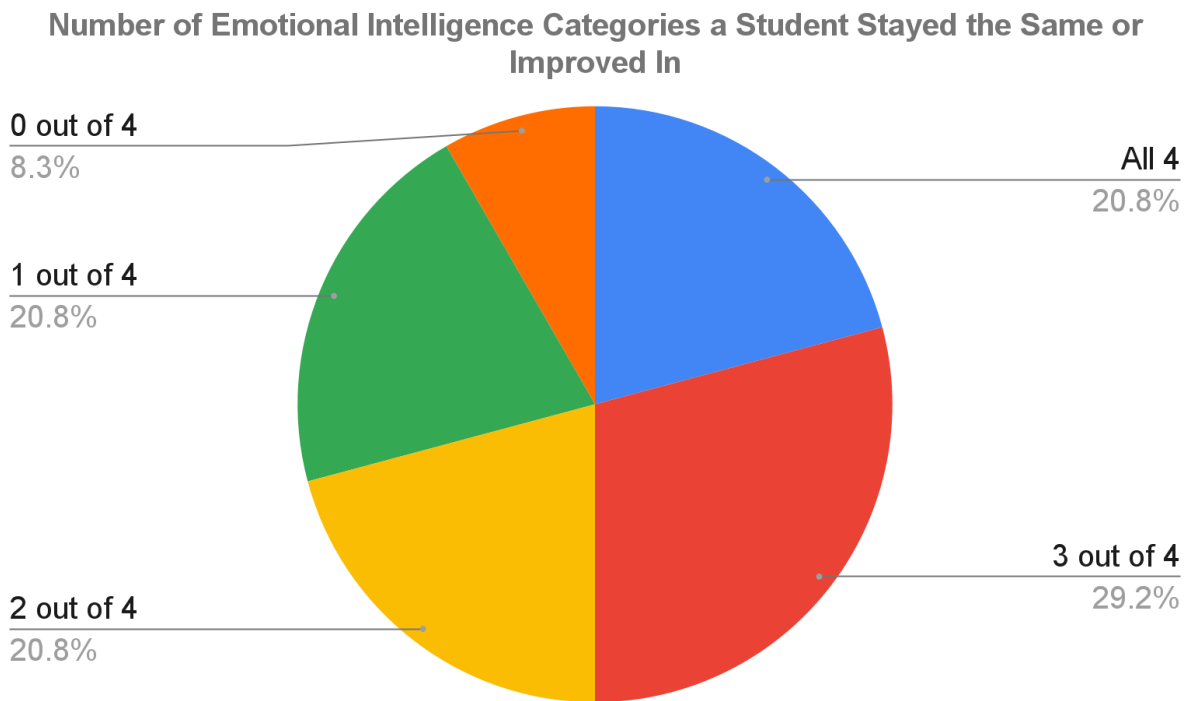
Figure 4.3 provides a visual comparison for each students' emotional intelligence and math assessment growth score. Seven participants increased both their emotional intelligence and math assessments scores. Three participants' emotional intelligence score stayed consistent, while still showing math assessment growth. Ten participants' emotional intelligence score decreased, but showed math assessment growth. One participant showed a minimal decrease in their emotional intelligence score while their math assessment score remained unchanged. Lastly, three participants showed growth in their emotional intelligence score, but their math assessment scores decreased.



*Figure 4.3.* Student emotional intelligence and math assessment growth scores.

Figure 4.4 outlines the number of emotional intelligence categories that participants stayed the same or improved in. 50% of students stayed the same or improved in at least three out of four emotional intelligence categories. Most participants grew in at least one category.





*Figure 4.4.* Number of emotional intelligence categories participants stayed the same or improved in.

### **Data Analysis**

The results from the data collected throughout this study, highlighted by the figures and table above, show that, in the area of emotional intelligence, participants benefited from the social-emotional learning, relationship development, and collaborative learning activities. On average, participants improved in three out of the four categories on the emotional intelligence self-assessment. In addition, 92.67% of students scored the same or improved in at least one of the four emotional intelligence categories.

The data also shows that all but four participants improved their math assessment score on pre-identified test questions tracked throughout the course of the action research period. In

addition, students averaged an overall increase of 1.93 points on the math assessment. Students who stayed the same or improved their emotional intelligence score and improved their math assessment score averaged .25 more growth points than those who did not improve their emotional intelligence score, but still improved their math assessment score.

### **Social-Emotional Learning**

The social-emotional awareness category from the emotional intelligence self-assessment was the only category to see a decline in average score from the pre-test to the post-test. While not anticipated, a possible reason for the decline in score for this category could be attributed to individual participants' mood as it is normal for a person's social-emotional state to fluctuate depending on various outside influences. The post-test was given during the last week of the term in which students are often stressed about final tests or grades. It is also possible that, through the social-emotional learning activities completed in the classroom, participants learned that they were not as confident in their social-emotional status as they originally thought they were during the pre-test.

### **Relationship Development**

Throughout the eight weeks of activities related to emotional intelligence, the most growth was made in the relationship management category. The researcher noted through observation that participants became more comfortable with both their classmates as well as the researcher themselves. Communication and interaction levels between students increased and participants were more willing to share their thoughts during relationship development activities.

### **Collaborative Learning**

Similar to relationship development, the researcher observed participants being more willing and open to work with others on learning tasks within the classroom over the course of the eight week study. Students utilized the connections they built with others to share academic ideas that helped their classmates problem solve during learning activities.

### **Conclusions**

Overall, the results of the action research indicated that growth in emotional intelligence through social-emotional learning, relationship development, and collaborative learning activities may increase academic achievement for students, however, additional research is needed to fully substantiate that claim. While there were many observed benefits from the emotional learning activities and slightly higher increases in average math assessment growth by participants who also improved their emotional intelligence scores, the data did not show a significant or definitive difference between the math assessment score of students who showed growth in their emotional intelligence self-assessment and those who did not.

## CHAPTER 5

### IMPLICATIONS FOR PRACTICE

#### **Action Plan**

After analysis of the data, it has been concluded that more research is needed to draw a definitive cause and effect relationship between emotional intelligence and academic achievement. The researcher will continue to identify and utilize research-based curriculum that has been proven to help increase students' emotional intelligence as the data did indicate increases for three out of four categories for emotional intelligence. For future practice, research, and analysis the researcher will investigate other methods to connect emotional intelligence to a students' academic success. If more research can be used to discover a stronger result that shows emotional intelligence significantly and positively impacts a students ability to achieve greater academic success, then it would change the methods that teachers use to build their lessons through the incorporation of social-emotional learning, relationship development, and collaborative learning.

#### **Plan for Sharing**

The researcher will share the results with colleagues within his Professional Learning Community (PLC) during a formal meeting as well as the principal and the teaching and learning department for the school district where the research was conducted. Through the presentation of the findings, the researcher will recommend the use of the emotional intelligence components of the action research to colleagues to help increase students' self-assessment in the four categories outlined through this research. All resources utilized during the action research process will be made available to those who would like to explore their uses.

Additionally, the researcher will welcome any collaborators with feedback or suggestions for improvement upon the implementation of the action research to continue to explore the relationship between emotional intelligence and academic achievement for students.

## REFERENCES

- Amerstorfer, C. M., & Freiin von Münster-Kistner, C. (2021). Student Perceptions of Academic Engagement and Student-Teacher Relationships in Problem-Based Learning. *Frontiers in Psychology, 12*. <https://doi.org/10.3389/fpsyg.2021.713057>
- Arguedas, Daradoumis, T., & Xhafa, F. (2016). Analyzing How Emotion Awareness Influences Students' Motivation, Engagement, Self-Regulation and Learning Outcome. *Educational Technology & Society, 19*(2), 87–103.
- Capone, V., Donizzetti, A. R., & Petrillo, G. (2017). Classroom relationships, sense of community, perceptions of justice, and collective efficacy for students' social well-being. *Journal of Community Psychology, 46*(3), 374–382. <https://doi.org/10.1002/jcop.21943>
- Contreras, D., González, L., Láscar, S., & López, V. (2022). Negative teacher–student and student–student relationships are associated with school dropout: Evidence from a large-scale longitudinal study in Chile. *International Journal of Educational Development, 91*, 102576. <https://doi.org/10.1016/j.ijedudev.2022.102576>
- Denham, S. A., & Brown, C. (2010). “Plays Nice With Others”: Social–Emotional Learning and Academic Success. *Early Education & Development, 21*(5), 652–680. <https://doi.org/10.1080/10409289.2010.497450>
- Dunbar, R. L., Dingel, M. J., Dame, L. F., Winchip, J., & Petzold, A. M. (2016). Student social self-efficacy, leadership status, and academic performance in collaborative learning environments. *Studies in Higher Education, 43*(9), 1507–1523. <https://doi.org/10.1080/03075079.2016.1265496>
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of

- school-based universal interventions. *Child Development*, 82(1), 405–432.  
<https://doi.org/10.1111/j.1467-8624.2010.01564.x>
- Isohätälä, J., Näykki, P., & Järvelä, S. (2019). Cognitive and Socio-Emotional Interaction in Collaborative Learning: Exploring Fluctuations in Students' Participation. *Scandinavian Journal of Educational Research*, 64(6), 831–851.  
<https://doi.org/10.1080/00313831.2019.1623310>
- Jackson, C. K., Porter, S. C., Easton, J. Q., Blanchard, A., & Kiguel, S. (2021, Winter). Linking Social-Emotional Learning to Long-Term Success Student survey responses show effects in high school and beyond. *Education Next*, 21(1), 64-71. EBSCOhost.
- Jones, Jones, K. A., & Vermette, P. J. (2009). Using Social and Emotional Learning to Foster Academic Achievement in Secondary Mathematics. *American Secondary Education*, 37(3), 4–9.
- Kim, J. (2020). The quality of social relationships in schools and adult health: Differential effects of student–student versus student–teacher relationships. *School Psychology*, 36(1).  
<https://doi.org/10.1037/spq0000373>
- Kunnanatt, J. T. (2008). Emotional intelligence: theory and description. *Career Development International*, 13(7), 614–629. <https://doi.org/10.1108/13620430810911083>
- MacCann, C., Jiang, Y., Brown, L. E. R., Double, K. S., Bucich, M., & Minbashian, A. (2020). Emotional intelligence predicts academic performance: A meta-analysis. *Psychological Bulletin*, 146(2), 150–186. <https://doi.org/10.1037/bul0000219>
- McLure, F. I., Fraser, B. J., & Koul, R. B. (2022). Structural relationships between classroom emotional climate, teacher–student interpersonal relationships and students' attitudes to STEM. *Social Psychology of Education*. <https://doi.org/10.1007/s11218-022-09694-7>

- Mercer, S., Zoltán Dörnyei, & Cambridge University Press. (2020). *Engaging language learners in contemporary classrooms*. Cambridge University Press.
- Muhtadi, A. Pujiriyanto., Syafruddin, K., Hukom, J., & Samal, D.(2022). A meta-analysis: Emotional intelligence and its effect on mathematics achievement. *International Journal of Instruction*, 15(4), 745-762.
- Parker, J. D. A., Creque, R. E., Barnhart, D. L., Harris, J. I., Majeski, S. A., Wood, L. M., Bond, B. J., & Hogan, M. J. (2004). Academic achievement in high school: does emotional intelligence matter? *Personality and Individual Differences*, 37(7), 1321–1330.  
<https://doi.org/10.1016/j.paid.2004.01.002>
- Rafique, A., Khan, M. S., Jamal, M. H., Tasadduq, M., Rustam, F., Lee, E., Washington, P. B., & Ashraf, I. (2021). Integrating Learning Analytics and Collaborative Learning for Improving Student’s Academic Performance. *IEEE Access*, 9, 167812–167826.  
<https://doi.org/10.1109/access.2021.3135309>
- Riekie, Aldridge, J. M., & Afari, E. (2017). The role of the school climate in high school students’ mental health and identity formation : A South Australian study. *British Educational Research Journal*, 43(1), 95–123. <https://doi.org/10.1002/berj.3254>
- Rucinski, C. L., Brown, J. L., & Downer, J. T. (2018). Teacher–child relationships, classroom climate, and children’s social-emotional and academic development. *Journal of Educational Psychology*, 110(7), 992–1004. <https://doi.org/10.1037/edu0000240>
- Sara Rimm-Kaufman, & Eileen Merritt. (2019). Let’s Power Our Future: Integrating science and social and emotional learning improves collaborative discourse and science understanding. *Science and Children*, 57(1), 52–60.



Stein, Book, H. E., & Kanoy, K. (2013). *The student EQ edge emotional intelligence and your academic and personal success* (1st ed.). Jossey-Bass.

Tan, K., Sinha, G., Shin, O. J., & Wang, Y. (2018). Patterns of social-emotional learning needs among high school freshmen students. *Children and Youth Services Review, 86*, 217–225. <https://doi.org/10.1016/j.chidyouth.2018.01.033>

Weisbrot, & Ryst, E. (2020). Debate: Student mental health matters – the heightened need for school-based mental health in the era of COVID-19. *Child and Adolescent Mental Health, 25*(4), 258–259. <https://doi.org/10.1111/camh.12427>

Yeager, D. S., & Dweck, C. S. (2012). Mindsets That Promote Resilience: When Students Believe That Personal Characteristics Can Be Developed. *Educational Psychologist, 47*(4), 302–314. <https://doi.org/10.1080/00461520.2012.722805>

**Appendix A**

**(Appendix A has been redacted to preserve confidentiality of the school district and the participants in this study,)**

**Appendix B****STATEMENT OF ASSENT**

Before I begin the study, I will announce to students that, “You and your parents have indicated, via the consent form, that it is ok for you to participate in a study that I am conducting about emotional intelligence and the effects it has on academic success. Your participation is completely voluntary and you have the choice, at any time and for any reason, to remove yourself from participating in the study. If you choose to remove yourself, there will be no effect on your grade, your opportunities to learn during this course, or our relationship. Here is what the study will include: You will take an emotional intelligence self-assessment at the beginning of the term. You will participate in social-emotional learning, relationship development, and collaborative learning activities throughout the semester. Lastly, you will retake the same emotional intelligence self-assessment at the end of the term. Do you have any questions about the study?”

## Appendix C

**The Quick Emotional Intelligence Self-Assessment\***

Emotional intelligence (*referred to as EQ*) is your ability to **be aware of, understand and manage your emotions**. *Why is EQ important?* While intelligence (*referred to as IQ*) is important, success in life depends more on EQ. Take the assessment below to learn your EQ strengths!

Rank each statement as follows: **0 (Never)** **1 (Rarely)** **2 (Sometimes)** **3 (Often)** **4 (Always)**

**Emotional Awareness – Total:** \_\_\_\_\_

0 1 2 3 4	My feelings are clear to me at any given moment
0 1 2 3 4	Emotions play an important part in my life
0 1 2 3 4	My moods impact the people around me
0 1 2 3 4	I find it easy to put words to my feelings
0 1 2 3 4	My moods are easily affected by external events
0 1 2 3 4	I can easily sense when I'm going to be angry
0 1 2 3 4	I readily tell others my true feelings
0 1 2 3 4	I find it easy to describe my feelings
0 1 2 3 4	Even when I'm upset, I'm aware of what's happening to me
0 1 2 3 4	I am able to stand apart from my thoughts and feelings and examine them

**Emotional Management – Total:** \_\_\_\_\_

0 1 2 3 4	I accept responsibility for my reactions
0 1 2 3 4	I find it easy to make goals and stick with them
0 1 2 3 4	I am an emotionally balanced person
0 1 2 3 4	I am a very patient person
0 1 2 3 4	I can accept critical comments from others without becoming angry
0 1 2 3 4	I maintain my composure, even during stressful times
0 1 2 3 4	If an issue does not affect me directly, I don't let it bother me
0 1 2 3 4	I can restrain myself when I feel anger towards someone
0 1 2 3 4	I control urges to overindulge in things that could damage my well being
0 1 2 3 4	I direct my energy into creative work or hobbies

**Social Emotional Awareness – Total:** \_\_\_\_\_

0 1 2 3 4	I consider the impact of my decisions on other people
0 1 2 3 4	I can easily tell if the people around me are becoming annoyed
0 1 2 3 4	I sense it when a person's mood changes
0 1 2 3 4	I am able to be supportive when giving bad news to others
0 1 2 3 4	I am generally able to understand the way other people feel
0 1 2 3 4	My friends can tell me intimate things about themselves
0 1 2 3 4	It genuinely bothers me to see other people suffer
0 1 2 3 4	I usually know when to speak and when to be silent
0 1 2 3 4	I care what happens to other people
0 1 2 3 4	I understand when people's plans change

**Relationship Management – Total:** \_\_\_\_\_

0 1 2 3 4	I am able to show affection
0 1 2 3 4	My relationships are safe places for me
0 1 2 3 4	I find it easy to share my deep feelings with others
0 1 2 3 4	I am good at motivating others
0 1 2 3 4	I am a fairly cheerful person
0 1 2 3 4	It is easy for me to make friends
0 1 2 3 4	People tell me I am sociable and fun
0 1 2 3 4	I like helping people
0 1 2 3 4	Others can depend on me
0 1 2 3 4	I am able to talk someone down if they are very upset



**My EQ strengths!** Mark your EQ total scores to assess your strengths and areas for improvement.

Domain	Score
Emotional Awareness	0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40
Emotional Management	0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40
Social Emotional Awareness	0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40
Relationship Management	0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40

Measure your effectiveness in each domain using the following key:

- 0 – 24** Area for Enrichment: **Requires** attention and development
- 25 – 34** Effective Functioning: Consider **strengthening**
- 35 – 40** Enhanced Skills: Use as **leverage** to develop weaker areas

(Adapted from a model by Paul Mohapel).

**Appendix D**

CCA Essential Skills Assessment

Name: \_\_\_\_\_ Block: \_\_\_\_\_

ESK 1	ESK 2	ESK 3	ESK 4	ESK 5	TOTAL
/ 5	/6	/8	/4	/8	/31

**Be sure to show ALL your work to RECEIVE FULL CREDIT!****ESK 1: a - 3 points / b - 2 points**

- a) Solve the following equation for x. Show all work. **Check your solution.**

$$5x - 22 = 8x - 4$$

- b) Solve the following problem for y.

$$8x + 2y = 10$$

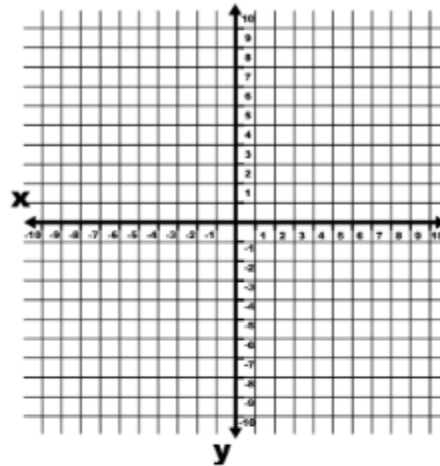
**ESK 2: 3 points each**

Write the **equation** of the line that corresponds to the following table.

x					5			8	9
y					5			-7	-11

Graph the following equation.

$$y = \frac{2}{3}x - 2$$

**ESK 3: 2 points each**

Simplify each of the following. Final answer should contain no negative or zero exponents. Show all work.

$$(2b^3)^{-3}$$

$$\frac{(x^2y^3)^0}{x^2y}$$

$$\frac{2x^{-5}y^2}{4y^5}$$

$$(4x^7y^5)^2(2x^5y^6)$$

**ESK 4: 4 points**

Solve the following problem for x. Show all algebraic steps. Check your solution.

$$|2x - 6| = 12$$

**ESK 5: 4 points each**

Solve the following system of equations using the algebraic method of your choice. *Check your solution.*

$$\begin{aligned}y &= 6x - 11 \\ -2x - 3y &= -7\end{aligned}$$

Solve the following system of equations using the algebraic method of your choice. *Check your solution.*

$$\begin{aligned}-2x - 9y &= -25 \\ 4x + 9y &= 23\end{aligned}$$