## The Influence of Emotional Intelligence on Academic Achievement in Junior Secondary Students in Batticaloa West zone, Sri Lanka.

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#### Abstract

The emotional intelligence (EI) of the students and their academic achievement (AA) are important in determining effective and valid performance of their achievements in schools. The Objective of this study is to find out the relationship of students' EI to their AA in secondary school students in urban and rural area in the Batticaloa west zonein Sri Lanka. In this study was a design quasi experimental was used and directed at the population of junior secondary students in the Batticaloa west zone, Batticaloa of Eastern Province in Sri Lanka. Quasi-experimental design was used because it is difficult to randomly assign participants to treatment conditions in a natural setting due to the fact that it is not possible to control the influence of extraneous variables. Sixteen schools of 1C and Type 2 School were selected from this research area. These schools were stratified into urban (5), semi urban (6) and rural (5) schools and 640 students who studied in grade 6 to 9 (junior secondary) were selected at randomly and40 samples were selected from each school. The average age of the students is 13.8 (early adolescent). The schools were randomly assigned to the two treatment conditions (emotional intelligence training techniques) and control

group. Questionnaire and achievement test were employed to generate data for the study. The research instruments used to obtain relevant data for this study were; Exploring and Developing Emotional Intelligence Skills Questionnaire and Achievement test (Mathematics, Science and Tamil Language). Reliability was checked by test - retest after two weeks for the EI. The very high correlations obtained reveal the reliability of the instruments of measurement. Two null hypotheses were postulated from objectives and tested at 0.05 level of significant to determine how the influence EI correlates on students' AA in three main subjects. The data was collected through questionnaire related to the variable. In addition the marks obtained by the students' of the final examination, from record maintained at school level. Qualitative and quantitative method (mixed method) was used and Statistical Package of Social Science (SPSS) to used analysis. Finally, as a result of this, the null hypothesis was rejected while the alternative hypothesis which states that there is a significant relationship between academic achievement and emotional intelligence skills was accepted. The result revealed that, the variable EI, that decide AA is directly related to the students. Therefore, the variable EI is that decides the AA of the students

in secondary education, and it is clearly evident from the study that students' EI is affects student's AA of the performance of the students.

**Keywords:** Emotional intelligence (EI), Academic achievement (AA), 1 C and type 2 school, Urban and rural, Interpersonal and intrapersonal skills, and self-management skills.

#### **1. Introduction**

It has long been a concern of many parties on factors contributing to academic performance among students in learning institutions, starting from as low as pre-school to as high as tertiary level. Results and findings of numerous researches conducted in this area of study over a long period of time reveal a variety of factors; students' IQ, socio economic motivation, status, peerrelationship, teacher-student relationship, parental involvement and personality. Among all these factors, IQ had been commonly used as a determinant and associated with academic success. However, many recent and emerging studies are revealing that IQ alone is not are liable predictor of students' academic achievement (Craggs, 2005). One of the most popular and most cited sources is Daniel Goleman's infamous book Emotional Intelligence: Why It Can Matter More Than IQ. In his book Goleman (1995) claims that only 20% of a

person's success can be attributed to IQ. This claim prompts many researchers and academicians to explore and identify other factors that contribute another 80% to a person's success.

Many researchers are intrigued to know how emotional intelligence or EQ of a student can help him or her to learn better and perform academically. Low and Nelson (2006) claim that EQ is crucial to a student's personal health and college success. They claimed that students with emotional intelligence skills are better able to cope with demanding and complex college experience. When individuals are able to lead their life successfully in the academe, they can focus on their learning and perform academically.

Mayer and Salovey (1997) state that the Emotional Intelligence theory originates in the eighteenth century when scientists used to divide the mind into the following three parts: knowledge, emotion and motivation. Emotional Intelligence is connected, in one way or another, to knowledge and emotion. They are integrated despite the fact that not all aspects of knowledge and emotion are considered elements of Emotional Intelligence (Othman and Rizg, 2001). The Emotional Intelligence concept is being used in the psychological literature from the end of the 1980s. Greenspan first introduced it in 1989 when he was trying to provide a unified model for Emotional Intelligence in light of Piaget theory, psychoanalysis theory, and reactive learning. Greenspan's model states that acquiring Emotional Intelligence needs three levels of learning: physical learning, learning by results and representative synthesis learning (Othman and Rizg, 2001).

Based on this discussion, it is apparent that having high emotional intelligence gives an added advantage to individuals, may it be in educational pursue or career development. This is because it has been soundly established that emotional intelligence is one of the important determinants of academic achievement among students and it is also what makes them versatile employees once they embark into the working world. This is especially true and more prevalent in professions that require the employees to be highly emotionally intelligent such as in the teaching profession. The next part of this paper will therefore describe an area of investigation that is central to the purpose of the present study in relation to what have been thoroughly discussed earlier.

#### 2. Review of Literature

& Salovey define emotional Mayer intelligence "the subset of social as intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (1990). They later redefine the term as "the ability to perceive accurately, appraise, and express emotion; the ability to access and / or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth" (Mayer and Salovey, 1997). They propose a model of EQ that consists of four domains of abilities which are the perception, use, understanding and regulation of emotion. Emotional intelligence is claimed to affect various aspects of human performance, namely in physical and psychological health, social interaction and performance at school and in the work place (Bar-On, 1997). Unlike Intelligent Quotient (IQ), Emotional intelligence Quotient (EQ) is associated with career and personal life success, including success in the academe (Mayer and Salovey, 1997; Goleman, 1995). There has been a lot of research carried out in order to establish the relationship between emotional

intelligence and academic achievement. Jaeger's (2003) study (as cited in Romanelli, Cain and Smith, 2006) reveals that levels of emotional intelligence among 150 students of a general management graduate-level course were associated with academic performance. these 150 students, Among greater correlation between emotional intelligence and academic performance was found among students who were offered emotional intelligence curriculum as compared to their counterparts who did not undergo the curriculum. Based on the findings of this research. researchers concluded that emotional intelligence is both teachable and learnable by teachers and students.

All the research findings discussed indicate the role that emotional intelligence plays in determining academicachievement among students. Given its importance, there has been recognition to develop emotional intelligenceskills among students in order to assist them in performing in their studies. Low, Lomax, Jackson and Nelson (2004) assert that "emotional knowledge, skills, and intelligence hold a major key to improving education andhelping students, teachers, faculty, and student development professionals attain higher degrees of achievement, career success, leadership, and personal well-being".

#### **3.** The Emotional Intelligence Concept

We can find many definitions of Emotional Intelligence in the educational literature. Goleman's definition (1998) points out to the ability of the individual to observe his/her reactions and other people's reactions and differentiate them, and use them as a guide for behavior and thinking. Bar-On (2000) defines it as a group of personal and emotive abilities that affect the individual's overall abilities so that he/she can adopt with the pressures of life. Petrides & Furnham (2001) define it as "a constellation of emotional selfperceptions located at the lower levels of personality."

#### 4. Emotional Intelligence Models

There are many models that explain Emotional Intelligence, but three models have gained the interest of many researchers. These are Mayer and Salovey's Model, Bar-On's Model and Goleman's Model. All of these models look at Emotional Intelligence from two perspectives;

Firstly - They consider Emotional Intelligence as one of the different mental abilities. In this regard, Emotional Intelligence is thought of as a form of intelligence. The only example of this perspective is Mayer and Salovey's model. Secondly - They consider Emotional Intelligence as a mixture of mental abilities and personality traits. Examples of this perspective are Bar-On's Model and Goleman's Model. Emotional Intelligence can be exemplified in the following skills;

- Interpersonal Competence, which includes social responsibility and interpersonal relations.
- Intrapersonal Competence, which includes self-esteem, self-realization, independency and self-awareness.
- Adaptability, which includes realization of reality, flexibility and problem solving.
- Stress Management, which includes controlling a person's levels of stress.
- 5. General Mood, which includes happiness and optimism.
- Positive Impression, which includes the individual's ability to make effort to create high positive self impression.

#### 5. Statement of the Problems

Low academic achievement among junior secondary school students limits their potentials for advancement in career and their

ability to compete effectively in an ever increasingly competitive global village. Though the curricula at the secondary school level are designed to address this inherent gap but the importance of students' emotional standard of performance may have been seen to be missing, misunderstood or neglected. It is therefore necessary to interrupt the ugly trend of poor academic achievement among secondary students by developing and enhancing their emotional intelligence skills which have been observed to be major determinants of academic achievement because a student may recover from physical pain or injury, but may never recover from the terror and degradation of his or her emotional state.

#### 6. Research Objectives

The study is guided by the following objectives;

- 1. Investigating the relationship between the junior secondary students' emotional intelligence and their academic achievement.
- 2. Identifying the level of emotional intelligence among the participants in the experimental groups and their academic achievement.

#### 7. Hypothesis

- There is no significant relationship in post-test scores on academic achievement of students in the experimental groups.
- There is no significant relationship between emotional intelligence skills and academic achievement among students in the experimental groups.

#### 8. Methodology

The causal-comparative model was used by investigator this expost facto design research investigation. Using this model, the investigator hypothesizes the independent variable and then compares two groups, an experimental group (E) which has been exposed to the presumed independent variable X (Emotional Intelligence) and a control group (C) which has not. (The dashed line in the model shows that the comparison groups E and C are not equated by random assignments).

In this study was a design quasi experimental was used and directed at the population of junior secondary students in the Batticaloa west zone, Batticaloa of Eastern Province in Sri Lanka. Quasi-experimental design was used because it is difficult to randomly assign participants to treatment conditions in a

natural setting due to the fact that it is not possible to control the influence of extraneous variables. Sixteen schools of 1C and Type 2 School were selected from this research area, using stratified random sampling procedure. These schools were stratified into urban (5), semi urban (6) and rural (5) schools and 640 students who studied in grade 6 to 9 (junior secondary) were selected at randomly and 40 samples (boys and girls) were selected from each school. Those who had below 50% on the developing Exploring and emotional skills intelligence questionnaire were selected to form the experimental groups within 640 students. These 640 students consist of 200students in urban area schoolsand240students in semi urban area school and 200 students in rural area school. Schools were randomly assigned to treatment conditions and control group. The research instruments used to obtain relevant data for this study were; Exploring and Developing Emotional Intelligence Skills Questionnaire and Achievement test (Mathematics, Science and Tamil Language).

The average age of the students is 13.8 (early adolescent). The schools were randomly assigned to the two treatment conditions (emotional intelligence training techniques) and control group. Questionnaire and achievement test were employed to generate data for the study. The research instruments used to obtain relevant data for this study were; Exploring and Developing Emotional Questionnaire and Intelligence Skills Achievement test (Mathematics, Science and Tamil Language). Reliability was checked by test - retest after two weeks for the EI. The very high correlations obtained reveal the reliability of the instruments of measurement. Two null hypotheses were postulated from objectives and tested at 0.05 level of significant to determine how the influence EI correlates on students' AA in three main subjects. The data was collected through questionnaire related to the variable. In addition the marks obtained by the students' of the final examination, from record maintained at school level. Qualitative and quantitative method (mixed method) was used and Statistical Package of Social Science (SPSS) to used analysis.

#### 9. Research Procedures

(i) Emotional Intelligence Skills Questionnaire

The Exploring and Developing Emotional Intelligence Skills Questionnaire was an adapted version of the original version of the Exploring and Developing Emotional Intelligence Skills Questionnaire (EDEISQ) developed by Nelson and Low 1998 (Stottlemyer, 2002). EDEISQ was adapted for the study to make it more suitable for use in our secondary school setting. The adapted instrument had two parts.

Part 1 - This section obtained from the respondents their personal background data such as, class, gender, school, and identification number.

Part 2 - This section was a 130-item scale that measured the respondent's emotional intelligence skills in four major dimensions;
1. Interpersonal skill 2. Leadership skill 3. Self-management skill and 4. Intrapersonal skill. The questionnaire was scored on a3-point Likert scale.

(ii) Academic Achievement Test

This is a 75 multiple choice questions tests constructed by the subject specialist from education office zonal to measure mathematics, science and Tamil language. It is divided into three sub-sections of 25 questions each on the subject areas. A pilot study using 20 students was carried out to determine the test retest reliability index of the instruments .The interval between the first and the second administration was two weeks. The correlation between the two set of scores was determined using Pearson's

Product Moment Correlation method. The reliability coefficient was 0.84 and 0.74 respectively, which were deemed high enough given the complexity inhuman behavior measurement. The instrument was seen as stable over time and appropriate for use in this study.

#### **10. TREATMENT**

### Programme 1: Emotional Learning System

The emotional learning system helps individuals to balance their feelings and thoughts to produce intentional behaviors that are called emotional intelligence skills. This system also uses person centered assessment, reflection, constructive thinking, and skill development lessons to guide student learning. The aim of this treatment is to use its step-by-step process to help participants become more emotionally reflective and constructive in their thinking. Once an individual becomes emotionally reflective and constructive, the choice of behavior is positive. The five-step learning processes are: Step A (Self-Assessment: Explore) which requires that one develops an intentional self-assessment habit. Step B (Self-Awareness: Identify) which involves the process of identifying one's experience and labeling the emotion. Step C (Self-Knowledge: Understand) which involves insight and understanding of an emotion that allows one to make a choice about behaviors. Step D (Self-Development: Learn) which involves learning various ways to improve one's behavior and experience positive outcomes. Step E (Self-Improvement: Apply and Model) which requires that one practice emotional intelligent behavior to achieve personal success.

#### **Programme 2: Peer Mentoring**

The objective of Peer mentoring programme is to help both mentors and mentees, develop and advance their interpersonal, leadership, self-management and intrapersonal skills. Peer mentoring is also aimed at increasing participants' self-esteem and self- efficacy. Peer mentoring relationships involve a level of reciprocity and collaborative benefits for the both the mentor and mentee that may be different than in traditional mentoring relationships (Kram, 1985b; Kram& Isabella, 1985; Zachary, 2006). Peer mentoring relationships have the power to be more impactful on students because of the students' proximity in age with one another (Astin, 1999).

Research suggests that peers have a great level of influence over other peers (Newcomb, 1962; Astin, 1999).

#### **11. DATA ANALYSIS AND RESULTS**

The two hypotheses were tested using descriptive statistical method, Pearson product moment correlation coefficient statistics and analysis of covariance (ANCOVA). The level of significance was determined at 0.05 levels. Hypothesis in the null form states that there is no significant difference in post test scores on academic achievement of participants in the experimental group. The data was analyzed using Analysis of Covariance statistics and the result of the analysis is as reported in Tables 1, 2 and 3 respectively.

		Pre-Test		Post-Test		
Group	Ν	Х	SD	Х	SD	MD
Emotional Learning System	200	124.69	23.72	138.31	25.67	18.53
Peer Mentoring	240	120.91	24.45	139.64	27.56	13.17
Control	200	123.32	26.34	123.28	26.28	12.49

 Table 1: Descriptive data on influence of experimental conditions on academic achievement

Table 1 shows that, adolescents exposed to emotional learning system had the highest post test score mean X) = 138.31 and SD = 25.67; followed by those exposed to peer mentoring ( X = 139.64 and SD = 27.56) while the control group had the least mean score of X = 123.28 and SD = 26.28. To determine whether significant difference in academic achievement exist among the groups, analysis of covariance (ANCOVA) statistics was done. The result of the analysis is as presented in table 2.

Sources of Variation	Sum of Squares	Degree of Freedom	Mean of Squares	F– ratio
Model	7167.69	3	2365.61	83.52
Covariate	878.972	1	4763.32	28.05
Exp. Condition	2357.14	2	944.15	36.63*
Within Group	4485.68	642	36.21	
Total	9187.16	640		

Table 2: Analysis of Covariance on influence of experimental conditions on academic achievement.

\*P < 0.05; df = 2 &642; Critical F = 6.14

Table 2 shows that, it could be observed that a calculated F value of 36.63 resulted as the difference in academic achievement due to experimental conditions. Thus, calculated F-value is significant since it is greater than the critical value F-value of 6.14 given 2 and 642 degrees of freedom at 0.05 level of significance. This leads to the rejection of the null hypothesis. Further analysis was done using Fisher's protected t test to determine which group differs from the other on academic achievement and the trend of the difference. The pair-wise comparison of the group means is as presented in Table 3.

Group	Emotional Learning n = 55Mentori n = 51		Control n = 50
Emotional Learning System	36.51a	13.12c	14.25c
Peer Mentoring	6.47b	30.04a	6.34c
Control	10.29b	3.82b	14.25a

Table 3: Fisher's protected t – test on difference in AA across groups.

a. Group means are in diagonal,

b. difference in group means are below diagonal,

c. Protected t - values are above the diagonal.

P<0.05

Table 3 shows that participants exposed to emotional learning system significantly have higher academic achievement than those exposed to peer mentoring system (t = 13.12; df = 214; critical t = 1.98; P <0.05). Participants exposed to emotional learning system significantly have higher academic achievement than the control group (t = 14.25; df =228; critical t = 1.98; P < 0.05). Again participants exposed to peer mentoring system significantly have higher academic achievement than the control group (t = 14.25; df =228; critical t = 1.98; P < 0.05). Again participants exposed to peer mentoring system significantly have higher academic achievement than the Control group (t = 14.25; df =129; critical t = 1.98; P < 0.05).

The two null form states that there is no significant relationship between emotional intelligence skills and academic achievement among secondary school students. The hypothesis was tested using Pearson Product Moment Correlation Coefficient statistics. The result of the analysis is as presented in Table 4.

Variables	X	SD	Df	Pro.	r- cal	r-critical
Emotional			15	0.00	0.71	
Int. Skills	421.45	28.19	6	9	9	0.23
Academic Achievement	81.42	9.19				

Table 4: Relationship between emotional intelligence skills and AA, n = 640

P < 0.05; df = 638 ; r - cal = 0.71 ; r - crit = 0.23

From the table presented above, the calculated 'r' obtained was 0.71 which is significantly greater than the critical 'r' (r-crit. = 0.23) given 638 degree of freedom at 0.05 level of significance. As a result of this, the null hypothesis was rejected while the alternative hypothesis which states that there is a significant relationship between academic achievement and emotional intelligence skills was accepted.

#### **12. DISCUSSION**

This study explored the relationship between emotional intelligence and academic performance. Results show that the relationship was quite weak. The level of emotional intelligence should increase with advancement in academic progression which appeared to be occurring as there was a significant difference between the ability of EI to explain AA in the junior secondary students.

Generally it could be seen from the results of several studies that the correlation coefficient between EI and academic achievement of students are less 0.5. This is a pointer to the fact that emotional intelligence is just one of the several factors determining the academic achievement of the students. Thus, while efforts are being made to develop the emotional intelligence of students, we still have to focus attention to other factors affecting the academic performance of students. The result of the analysis shows that the emotional learning system group had the highest post-test scores followed by the peer mentoring group, while the control group had the lowest scores. Hence, the null hypothesis was rejected.

Further analysis was carried out using Fisher's protected t-test to determine which group differ from the other on academic achievement and the trend of the difference. The pair-wise comparison of the group mean was done and the results showed that participants in emotional learning system group significantly had higher scores in academic achievement than those in peer mentoring and control groups. Again the reason for this outcome is not far-fetched; emotional learning system is a very comprehensive programme of intervention that inculcates emotional intelligence skills that positively impact on the academic performance of participants. This result is in agreement with that of other researchers which revealed that emotional intelligence skills had a positive influence on retention and students' academic achievement(Abisamra, 2000; Stottlemyer, 2002; Williams, 2004;Aremu, Tella and Tella, 2005; Smith, 2004; Edun andAkanji, 2008; Adeoye and Emeke, 2010).

Report by Aremu, Tella&Tella (2005) on the relationship among emotional intelligence, involvement and academic parental achievement of secondary school students in Ibadan, Nigeria, supports this finding revealing that both emotional intelligence and parental involvement could predict academic achievement. There was also a significant positive relationship between emotional intelligence and academic achievement. The finding also agree with Parker et al (2005) in their study on academic achievement and emotional intelligence: predicting the successful transition from high school to university. The study was on 1,426first-year students attending four different universities. Results revealed that academically successful students had significantly higher levels of several different emotional and social competences. These findings suggest that emotional intelligence plays an important role in the academic achievement of students and the successful transition from high school to university.

The result also showed that relationship between emotional intelligence and academic achievement was significant. This led to the rejection of the null hypothesis. The foregoing outcome is not unexpected as it is a trite knowledge that the level of a person's emotional intelligence influences academic ability.

This result supports the findings of other researchers who agree that a significant relationship exists between emotional intelligence and academic achievement (Abisamra, 2000; Stottlemyer, 2002; Aremu, Tella and Tella, 2005; Edun and Akanji, 2008; Adeoye and Emeke, 2010).

The result aligns with the findings of Edun&Akanji (2008) in a study on the perceived self-efficacy, academic selfregulation and emotional intelligence as predictor of academic performance in junior secondary school and posited that when emotional intelligence was entered into the regression model due to the strength of its relationship with academic performance of students, there was a significant prediction of students' performance. This showed that emotional intelligence alone accounted for63.7% of the variance in academic performance of students. Adeoye and Emeke (2010) also corroborated the findings in their work on emotional intelligence and self-efficacy as determinants of academic achievement in English language among students in Oyo state senior secondary schools in which they posited that students exposed to emotional

Intelligence training performed better in English language achievement test than those in self-efficacy training and control group. Emotional intelligence training had a more significant impact on students' academic achievement.

# 13.CONCLUSIONANDRECOMMENDATION

Each and every individual acquires some sort of education, even if he has never spent a day in a school, because all his acquired characteristics are the products of experiences and activities which are educational in nature. Education, thus, includes all influences in life. Emotional intelligence and academic achievement plays a significant role for cognitive affective and psycho motor development of children.

On the basis of the findings of this study it is concluded that there is a positive relationship between emotional intelligence skills and academic achievement such that developing emotional intelligence skills of a student will lead to the enhancement of his/her academic achievement. Therefore, it is hereby recommended that:

- The present study may be replicated with a large sample in order to increase the scope of generalization.
- Curriculum experts should develop an affective instructional curriculum that incorporates emotional intelligence skills with the objective of enhancing personal and career success of students.
- Correlation should be found out between Emotional Intelligence, Career Preferences and academic achievement.
- The present study should be explored widely as there is a dearth of research work, especially in Sri Lanka.
- Inclusion of this education based model – Emotional Intelligence Skills in teacher education at all levels should be explored.
- There is a need to conduct similar type of research on cross cultural dimensions of the target population.
- Emotional intelligence should be studied with other variables such as learning styles, study habits,

scientific temper, socio-economic status, intelligence, personality etc.

- Guidance and counseling strategies should be evolved on the basis of follow up studies to inculcate emotional intelligence in the students.
- There is need to conduct similar type of research with rural urban dichotomy.

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