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The Relation between Emotional Intelligence and Achievement in Mathematics of the Secondary School Students

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ABSTRACT

This study was undertaken to investigate whether there is any relationship between the emotional intelligence and achievement in mathematics of the secondary school students of Malda district. For this purpose a sample of 343 students of class VIII was taken from two randomly selected urban schools (one boys' and one girls' school) and two randomly selected rural schools (both being co-educational schools) comprising of 161 male and 182 female students. Moreover 165 out of the total students are from rural schools and 178 are from urban schools. The emotional intelligence of the students are measured by the Emotional intelligence Scale as developed by A. K. Singh and Shruti Narain (2014). The reliability coefficient of this scale was found to be 0.86. The achievement in mathematics is measured by the Achievement Test formed and standardized by the researcher whose reliability coefficient is 0.82 which contains 51 items. To test the correlation of emotional intelligence and achievement in mathematics correlation coefficient between emotional intelligence score and the achievement test scores in mathematics is found out and t-test is used to test the significance of the correlation coefficient. The result shows that there is a significant medium positive correlation between emotional intelligence and the achievement in mathematics. The correlation coefficient between the emotional intelligence and the achievement in mathematics of rural students, urban students, rural male students, rural female students, urban male students and urban female students are also calculated and it is seen that there is also medium positive correlation between emotional intelligence and the achievement in mathematics of rural, urban, rural male, rural female students, urban male and urban female students.

INTRODUCTION

One of the main objective of the educational institution, teachers and parents is to produce successful individuals for the family as well as for the nation. So the parents and the institutions always expect students with high I.Q. But only I.Q. is not sufficient to make a person successful. The presence of emotional intelligence in a person is of ardent need for success in life. Recently emotional intelligence has become a matter of great interest to the researcher. Present study shows that the intelligence quotient is not the measure of success in life (Goleman, 1995). Emotional intelligence plays a great role for success. But what the emotional intelligence actually is. Emotional intelligence is the capability of individuals to recognize their own and other people's emotion and to handle interpersonal relationships judiciously and empathetically. Emotional intelligence use emotional information to guide thinking and behavior and manage and adjust emotions to adapt to environments and to achieve one's goal. Emotional intelligence is not less important than intelligence quotient for the cognitive development of the students. On the other hand, among all the other academic subjects, mathematics plays a very important role in achieving general objectives of education. So mathematics is a subject of great concern to the students as well as to the guardians and teachers. Most of the students show poor performance in mathematics. Many of them have mathematics phobia and all of these may be governed by emotional intelligence. A person having less emotional intelligence will not bother about what is happening to his achievement in a particular subject but a person with high emotional intelligence may think differently. Emotional intelligence may affect every part of a person's life and as a consequence his academic life also. So, emotional intelligence may have effect on the achievement in mathematics as I.Q has. This type of thinking motivated the investigator to test whether there is any relationship between emotional intelligence and achievement in mathematics.

HYPOTHESES

The following null hypotheses are made

H01: There is no significant relationship between emotional intelligence and achievement in mathematics of the secondary school students

H02: There is no significant relationship between emotional intelligence and achievement in mathematics of the secondary rural school students.

H03: There is no significant relationship between emotional intelligence and achievement in mathematics of the secondary urban school students.

H04: There is no significant relationship between emotional intelligence and achievement in mathematics of the secondary rural male school students.

H05: There is no significant relationship between emotional intelligence and achievement in mathematics of the secondary rural female school students.

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H06: There is no significant relationship between emotional intelligence and achievement in mathematics of the secondary urban male school students.
H07: There is no significant relationship between emotional intelligence and achievement in mathematics of the secondary urban female school students.

METHODOLOGY

The methodology as followed by the researcher is correlational survey study. In this paper the emotional intelligence of the students are measured by Emotional Intelligence Scale and achievement in mathematics is measured by Achievement Test and the correlation coefficients are determined to test the hypotheses as stated above. The significance of the correlations are also tested by t-test.

Population: All the students of Malda district comprise the population of the study.

Sample: To study the emotional intelligence of the students of Malda district a sample of 343 students is taken from one randomly selected urban boys' school, one randomly selected urban girls' school and two randomly selected rural co-educational schools. The location-wise (i.e, rural or urban) and gender- wise distribution of the sample is shown in the following table :

	Rural	Urban	Total
Male	70	91	161
Female	95	87	182
Total	165	178	343

Tools: The emotional intelligence of the students are measured by the Emotional Intelligence Scale as developed and standardized by A.K. Singh and Shruti Narain (2014), the reliability coefficient being 0.86. This test contains 31 items on four dimensions. These dimensions are understanding emotions, understanding motivations, empathy and handling relations. There are four items on understanding emotions, eight items on understanding motivations, ten items on empathy and nine items on handling relations. The correct answer will be rewarded by score +1 and wrong answers are given 0 score. The maximum time for answering of these 31 items is 15 minutes. On the other hand the achievement in mathematics is measured by the Achievement test developed and standardized by the researcher, the coefficient of reliability being 0.82.

Data Analysis: The emotional intelligence score of the students are found out by Emotional Intelligence Scale as developed by Singh and Narain (2014) and the achievement test scores of the students in mathematics are found out by the Achievement Test developed by the researcher. The mean and S.D. of the scores are shown in table-1

Table 1: Showing mean and S.D. of Achievement Test scores and Emotional Intelligence Scores:

	Mean of A.T. score	S.D of A.T. score	Mean of E.I. score	S.D of E.I. score
All students	22.76385	8.150247	16.70845	5.123289
Rural students only	22.33939	8.076235	16.47273	5.282927
Urban students only	23.1573	8.221371	16.92697	4.975676
Rural male students only	24.55714	7.501953	17.68571	5.301197
Rural female students only	20.70526	8.131726	15.57895	5.114807
Urban male students only	25.06593	7.673623	17.38462	5.159176
Urban female students only	21.16092	8.342764	16.44828	4.758734

(A.T.=Achievement Test, E.I.= Emotional Intelligence

The correlation coefficient between the achievement test scores in mathematics and emotional intelligence scores of all the students is calculated and it is 0.680182. Which show that the correlation is positive and medium? The significance of the correlation coefficient is tested by t-test. The t value of the correlation coefficient is 17.1345 and the degree of freedom is 341. The critical value of t at 341 degree of freedom and 0.01 level of significance is 2.590324. Since t = 17.1345 > 2.590324 (Critical value). So, H_{01} is rejected at 0.01 level of significance. That is, there is a significant positive correlation between the achievement in mathematics and emotional intelligence of all the students (rural and urban together) at 0.01 level. To test the hypothesis H_{02} the correlation coefficient between the achievement test scores in mathematics and emotional intelligence scores of all the rural students is calculated and it is 0.698064 and degree of freedom is 163. Since t = 12.44657 > 2.606328 (Critical value at 0.01 level of significance and 163 degree of freedom). So, H_{02} is rejected at 0.01 level of significance. That is, there is a significant positive correlation between the achievement in mathematics and emotional intelligence of all rural school students at 0.01 level. To test the hypothesis H_{03} the correlation coefficient between the achievement test scores in mathematics and emotional intelligence scores of all the urban students is calculated and it is 0.662528 and the degree of freedom is 176. Since t = 11.73436 > 2.604052 (Critical value at 0.01 level of significance and 176 degree of freedom). So, H_{03} is rejected at 0.01 level of significance. That is, there is a significant positive correlation between the achievement in mathematics and emotional intelligence of all urban school students at 0.01 level.To test the hypothesis H_{04} the correlation coefficient between the achievement test scores in mathematics and emotional intelligence scores of all the rural male students is calculated and it is 0.761003 and the degree of freedom is 68. Since t = 9.672984 > 2.650081 (Critical value at 0.01 level of significance and 68 degree of freedom). So, H_{04} is rejected at 0.01 level of significance. That is, there is a significant positive correlation between the achievement in mathematics and emotional intelligence of all rural male school students at 0.01 level.The correlation coefficient between the achievement test scores in mathematics and emotional intelligence scores of all the rural female students is calculated and it is 0.631565 and the degree of freedom is 93. Since t = 7.855452 > 2.629732 (Critical value at 0.01 level of significance and 93 degree of freedom). So, H_{05} is also rejected at 0.01 level of significance. That is, there is a significant positive correlation at 0.01 level between the achievement in mathematics and emotional intelligence of all rural female school students.The correlation coefficient between the achievement test scores in mathematics and emotional intelligence scores of all the urban male students is calculated and it is 0.670124 and the degree of freedom is 89. Since t = 8.517179 > 2.632204 (Critical value at 0.01 level of significance and 89 degree of freedom). So, H_{06} is also rejected at 0.01 level of significance. That is, there is a

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significant positive correlation at 0.01 level between the achievement in mathematics and emotional intelligence of all urban male school students.

Lastly the correlation coefficient between the achievement test scores in mathematics and emotional intelligence scores of all the urban female students is calculated and it is 0.658036 and the degree of freedom is 85. Since t = 8.056844 > 2.634914 (Critical value at 0.01 level of significance and 85 degree of freedom). So, H_{07} is also rejected at 0.01 level of significance. That is, there is a significant positive correlation at 0.01 level between the achievement in mathematics and emotional intelligence of all urban female school students.

CONCLUSION

The study shows that the emotional intelligence is positively correlated with the achievement in mathematics for all students together, for rural school students, for urban school students, for rural male students, for rural female students and urban male as well as urban female students and the correlations are medium positive in all the cases. The correlations are also significant at 0.01 level of significance. Thus it is seen that the achievement in mathematics is influenced by the existence of emotional intelligence in them. So, besides the other activities in school curriculum the training for emotional intelligence development of the students should be included in the curriculum.

REFERENCES

[1] Goleman, D. (1995). Emotional intelligence: Why it can matter more than I.Q, New York: Bantam Books.

[2] Mayer, J.D; Caruso, D.R. & Salovey, P. (2000). Emotional Intelligence meets traditional standards for an intelligence. Intelligence, 27(4), 267-298.

[3] Nada, A. (2000). The Relationship between Emotional Intelligence and Academic Achievement of Eleventh Graders.(Online).Available: http:inadabs.tripod.com/onlinematerials.htm.(June 28, 2008).

[4] Fazura, A.A & Ghazali.I (2003). "The influence (E Q) through questions and responses in the E S L classroom– A case study ". Journal penyelidikan Perdidikan. Kementarian Pendidka Malaysia: Bahagian Perancangandan Penyelidikan Dasan Pendi dikan.

[5] Rahil, M., Maria, C.A., Samsilah, R., Habibah, E. & Tajularipin, S. (2007). " The Relationship betwen emotional quotient and the acquisition of basic skill among primary school children". The International Journal of Learning, 14(7). (Online) Available: http//www.learning-journal.com.(July 24, 2008).

[6] Kurumeh, M. S. and Imoko, B. 1.(2008). Universal Basic Education. A way forward for Development of mathematics Education. The Abacus 33(1).

[7] Funderstanding. (2008). Emotional Intelligence. (online). Available: http://. www. Funderstand. Com /eg.cfm on 28th June, 2008.

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