

## **Emotional Intelligence and Positive Thinking in Mathematics Learning Achievement**

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### **Abstract**

The purpose of this study was to determine: 1) the effect of emotional intelligence and positive thinking on mathematics learning achievement together, 2) the influence of emotional intelligence on mathematics learning achievement, and 3) the effect of positive thinking on mathematics learning achievement. This research is a quantitative research with correlational method. The statistical test in this study is multiple regression. The sample in this study were 72 students with a sampling technique that is simple random sampling. The results of this study are 1) there is an influence of emotional intelligence and positive thinking on mathematics learning achievement together by 22.6%, 2) there is an influence of emotional intelligence on mathematics learning achievement by 21.9%, and 3) there is an influence of thinking positive on mathematics learning achievement by 20.1%.

*Keywords:* Emotional Intelligence, Positive Thinking, Mathematics Learning Achievement

### **1. Introduction**

Education is a universal aspect that must always exist in human life. Without education, it will never develop and be cultured. Besides that, his life will also be static without any progress, even the bias will experience a setback and extinction. Therefore, it becomes an undeniable fact that education is something that is inevitable in his life. As time goes by and with the rapid level of intellect and quality of life, the educational dimension becomes increasingly complex, and of course it requires an educational design that is also appropriate and in accordance with its conditions.

Formal school is a means in order to achieve these educational goals. Through schools participants learn a variety of things. In formal education, learning is an attempt to obtain positive change. The results of the learning process can be reflected in his learning

achievements. To get a good learning achievement learning process is needed.

The learning process that occurs in individuals is something that is important, because through learning individuals know everything around them and can adjust themselves. Learning is a process activity and is a very important element in producing students who have positive behavior. To find out how far the changes that occur, it needs an assessment. Students who attend an education are always held an assessment of their learning outcomes. Evaluation of students' learning outcomes to find out how far they have achieved this learning goal is called learning achievement.

Learning achievement is the result achieved by a student in his learning effort as stated in his report card. In the process of learning many factors affect the achievement of learning. One of these factors is Intellectual Intelligence (IQ), because intellectual is a

potential potential that will facilitate learning and will produce optimal learning achievement.

In fact, in the learning process at school students are often found to have high intellectual intelligence but get low learning achievement. Whereas students who have low intellectual intelligence get relatively high learning achievement. That is why intellectual intelligence is not the only factor influencing learning achievement. Intellectual intelligence (IQ) only contributes 20% to success, while 80% is contributed by other regulatory factors, including Emotional Intelligence or Emotional Quotient (EQ), namely the ability to motivate yourself, overcome frustration, control the urges of the heart, regulate mood (mood), empathize and the ability to work together [1].

It has been widely proven that emotional intelligence has a far more significant role than intellectual intelligence [2]. Brain intelligence (IQ) is only limited to the minimum requirements for success, real emotional intelligence (almost entirely proven) leads someone to the peak of achievement. Proven many people who have high intellectual intelligence, collapsed in the midst of competition.

From the learning process of students, both intelligence is very necessary. IQ cannot function properly without the participation of emotional appreciation of the lessons delivered at school. But usually the two intelligences complement each other. The term emotional intelligence in education still lacks attention, whereas emotional intelligence has a role that is no less important than intellectual intelligence.

Emotional intelligence plays a large role in achieving success [3]. Someone who has good academic skills but he has difficulty controlling and spurring himself to achieve maximum achievement will be difficult to achieve success. This shows that the emotional dimension is an important factor to be developed.

Especially for people who purely have only high academic intelligence, they tend to have an unwarranted anxiety, are too critical, fussy, tend to withdraw, seem cold and tend to be difficult to express their frustration and anger appropriately [3]. When supported by the low level of emotional intelligence, then people like this often become a source of problems. Because of the properties above, if someone has a high IQ but the level of emotional intelligence is low then it tends to be seen as a stubborn person, not sensitive to environmental conditions and tend to despair when experiencing stress. The opposite condition is experienced by people who

have an average IQ level but have high emotional intelligence.

One other factor that influences learning achievement is the influence of psychology due to differences in students' views of the lesson. Lessons that are often considered difficult by students are mathematics. In mathematics, there are those who have good views, some who have poor views. This can be seen with the emergence of the wrong paradigms in students in assessing mathematics. Most students already have negative views before starting the lesson. So that the enthusiasm of students to learn mathematics seriously is still low.

One of the things that can cause negative views in mathematics is the difficulty in solving problems. The difficulty will be felt easily if students are able to solve a problem by being able to think positively. The source of problem solving starts from us when faced with a situation that shows there is difficulty in achieving expectations. Basically, all situations that we encounter in everyday life have problem solving. Although sometimes someone is successful and not in solving a problem at hand. As stated Tentama, positive thinking is a way of looking at all problems that arise from a positive perspective, because with positive thinking individuals have the view that every problem must have a solution, and an appropriate solution is obtained through an intellectual process healthy [4].

The outcome of a student's success is a pleasant gift. Students are happier if given praise or appreciation rather than punishment, because students are more motivated by things that can cause pleasure rather than pain. The existence of appreciation makes students feel that they are valuable. Self-worth feeling can affect mental health and can strengthen one's condition. Because the condition is based on other health components. Unworthy feelings of self result in not having peace and hope in life, many are overwhelmed with feelings of anxiety and other forms of uncertainty.

By feeling valuable, a person will be able to look at life positively. So that all actions, thoughts, and words are always based on positive thoughts and always optimistic in running life. Positive thinking is an important element in one's psychological development, because only by positive thinking can one be able to successfully face the future.

Positive thinking is part of emotional intelligence. Because someone will not be able to think positively, without the emotional impulse in him. As stated by Daniel, a happy mood, when it is taking place, can

strengthen the ability to think flexibly and more complexly, making it easier to find solutions to problems, both intellectual and interpersonal problems [1]. This implies that one way to help someone stay able to think clearly when confronted with a problem is to make jokes at them. Laughter, like happiness, seems to help people think more broadly. Conversely, if the mood is sad, people tend to think in a negative direction. But with the high emotional intelligence the feeling of sadness that is being experienced, will be slightly reduced, although not all at once can be overcome easily.

Thus someone who has high emotional intelligence and is encouraged by always thinking positively, makes someone feel confident and foster confidence in himself. A positive thinking person will form a positive character. Students who are able to think positively and are always optimistic in dealing with any problems, will perform better than people who are always thinking negatively and are always pessimistic in facing problems both in their lives and in subjects at school. This is in accordance with what was stated by Kertajaya someone who is able to think positively, can emit a wave of optimism, tremendous enthusiasm into the world around. So that it can activate a positive attitude and ultimately produce positive results [5].

**2. Method**

His research is a quantitative study using a survey method, with correlational regression techniques. In conducting a survey researchers do not make changes to certain variables so that researchers examine in accordance with actual conditions. In this case the researchers obtained data on emotional intelligence and positive thinking using a questionnaire. Whereas mathematics learning achievement uses the final grades of school exams in mathematics.

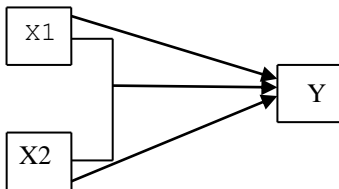


Figure 1. Riset Desain

Sampling is done randomly using simple random sampling technique. Simple random sampling is a way

of taking samples from members of the population using random without regard to strata / levels in members of the population [6]. To provide a clear picture, then the constellation of the research problem can be described as figure 1.

**3. Result and Discussion**

Based on the calculation it can be seen that the average mathematics learning achievement is 76.75 with a standard deviation of 12.230. The maximum score on mathematics learning achievement is 100 with a minimum score of 57. This means that the mathematics learning achievement score is categorized as good. For an average emotional intelligence of 109.74 with a standard deviation of 11.604. The maximum score on emotional intelligence is 130 with a minimum score of 82. This means that the emotional intelligence score is categorized as good. For an average positive thinking of 90.63 with a standard deviation of 12.273. The maximum score on emotional intelligence is 113 with a minimum score of 61. This means that the score of positive thinking is in the good category.

Table 1. Men, Standard Deviation and Kolmogorov-Smirnov test

Variabel	Mean	Stand Dev	Kolmogrov-Smirnov Z	Sig.
Learning Achievement	76,75	12,23	0,991	0,280
Emotional Intelligence	109,74	11,60	0,800	0,545
Positive Thinking	90,62	12,27	0,868	0,439

In addition, from table 1 it is obtained that the significant value on each variable is greater than the error rate of 0.05. This means that all three variables are normally distributed.

Table 2. Result of Linearity  $X_1 - Y$

Model	JK	Df	RJK	F	Sig.
Regression	2326,678	1	2326,678	19,640	0,000
Residual	8292,822	70	118,469		
Total	10619,500	71			

Based on the table 2, the emotional intelligence ANOVA test on the mathematics learning achievement above, it can estimate the Fcount value of 19,640 with a sig value. 0,000. This means that the data is linear data.

Table 3. Result of Linearity X<sub>2</sub> Y

Model	JK	Df	RJK	F	Sig.
Regression	2128,573	1	2128,573	17,548	0,000
Residual	8490,927	70	121,299		
Total	10619,500	71			

Based on the table 3, the ANOVA test positive thinking on mathematics learning achievement above can be seen that the value of Fcount is 17.548 with sig. 0,000. This means that the data is linear data.

Table 4. Result of Multicollinearity

Tolerance	VIF
0,666	1,501

Multicollinearity test (see table 4) results showed a tolerance value of 0.666 with a VIF of 1.501. VIF value 1,501 <10. This means that there is no multicollinearity between emotional intelligence and critical thinking.

Table 5. Result of Multiple Regression

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	16,364	12,354		1,325	0,190
Emotional Intelegence	0,331	0,133	0,314	2,488	0,015
Positive Thinking	0,265	0,126	0,266	2,106	0,039

Based on the table 5, the influence of emotional intelligence and positive thinking on mathematics learning achievement is 22.6%. This means that 77.4% is influenced by other factors. The regression form in this research is  $\hat{Y} = 16,364 + 0,331X_1 + 0,265X_2$ .

Explains that learning achievement is the ability, skills and attitudes in solving problems [7]. In this case learning achievement is obtained from the existing learning process. In the process, it is not only influenced by the model or method of learning but also the increase in psychological factors themselves also influence it. This is in line with argumentation of that learning achievement is a real ability which is the result of interaction between various factors that affect both inside and outside the individual in learning [8]. Factors from outside the individual can be a model of learning in the classroom. In addition, factors from within an individual can be emotional intelligence or positive thinking.

Emotional intelligence is the ability such as the ability to motivate yourself and survive the frustration,

control impulses and not exaggerate pleasure, regulate moods and keep the burden of stress does not paralyze the ability to think, empathize and pray [9]. Students who have high emotional intelligence will be able to control emotions such as worry and frustration in dealing with problems. With this control, educated participants are still able to think and empathize so that they always think positively in dealing with problems.

Positive thinking is a form of positive emotions. This is in accordance with who say that positive thinking is positive emotions can be optimized by getting used to positive thinking [10]. Positive thinking is a product of the habit of positive perception, or looking at things tends to be on the bright side. High positive thinking will always get rid of negative thoughts and always be sure that he is able to follow the learning especially mathematics learning. With positive thinking can also make students believe to achieve maximum achievement in learning mathematics.

Partially, emotional intelligence affects mathematics learning achievement by 21.9%. This means that mathematics learning achievement is influenced by other factors by 78.1%. This influence is supported by the results of the study of which concluded that emotional intelligence is quite influential on students' mathematics learning achievement with a correlation coefficient of 0.62 and a coefficient of determination of 38.44% [11].

The results of other studies that are also in line with the results of this study are the results of research by Meisyuri, Muncaro and Astuti which show that there is a significant relationship of emotional intelligence with mathematics learning achievement of students by 17.38% [12]. In his research, around 30% or 16 of 69 respondents had moderate emotional intelligence, whose learning achievement was low even under the KKM. According to him, this is due to emotional intelligence can affect the behavior of students, including learning behavior.

Emotional intelligence into five parts, namely components in the form of emotional competence, including self-introduction, self-control and motivation, and two components in the form of social competence, namely empathy and social skills [13]. In learning, emotional competence is very influential. Students who have high emotional competence can recognize themselves, understand what potential there is in themselves to be developed. In addition, he can understand the shortcomings he has in order to be corrected.

In addition to self-recognition, students with high emotional competence can control themselves, reduce excessive fear and anxiety in learning, especially on subjects that are considered difficult such as mathematics. With the calm he has in learning makes him more focused in learning. Even students with high emotional competence can motivate themselves, so that when their enthusiasm for learning is down, they can increase their enthusiasm for learning again.

In addition to emotional intelligence, there is an effect of positive thinking on mathematics learning achievement partially by 20.1%. This means that this means that mathematics learning achievement is influenced by other factors by 79.9%. The results of this study are in line with the results of [14] research which states that positive thinking has an effect of 31.36% on mathematics learning achievement and the rest is influenced by other factors. According to him, positive thinking is an individual thought that focuses on positive aspects that bring a person's steps to the success of his life. Because everything that thinks positively will produce positive things too. Positive thinking in mathematics is a thought that makes it easier for students to understand, digest, and be able to overcome all problems encountered in learning mathematics.

Positive thinking is one of the powerful forces in activating the added value factor in a person [5]. Positive thoughts emit waves of optimism, and tremendous enthusiasm in the world around. So that it can activate a positive attitude and ultimately produce positive results. Likewise, in learning, with positive thinking students will be optimistic and enthusiastic and believe they will get the best results. So that they remain enthusiastic and always try to be better at learning.

Positive thinking is a unit consisting of three components, namely the charge of the mind, use of the mind, and supervision of the mind [5]. The purpose of a positive charge for the mind is various forms of thinking that have criteria, namely: 1) true (not violating the values of truth), 2) good (for yourself, others and the environment) and 3) useful (produce something useful) .

The use of the mind is to enter a positive charge in the mind space is a positive action but the action is at a low level if the positive charge is not manifested in real action. Therefore, the contents of the positive content need to be actualized into action so that there are impacts. In addition to positive content and use of thoughts, the third dimension of positive thinking is mind control. This activity includes an attempt to find out what content is put into the mind space and how the

mind works. If there are known negative things by replacing them with positive ones. Likewise, if it is identified that the mind is working improperly, an attempt is made to correct the weakness or error.

#### 4. Conclusion

The conclusions of this study include 1) there is an influence of emotional intelligence and positive thinking on mathematics learning achievement together by 22.6%, 2) there is an influence of emotional intelligence on mathematics learning achievement by 21.9%, 3) there is an influence positive thinking on mathematics learning achievement by 20.1%.

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