

The Effect of Emotional Intelligence and Student Learning Independence on Learning Outcomes

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Abstract

To determine the effect of emotional intelligence and learning independence on mathematics learning outcomes. This study uses a quantitative approach, with a correlational design of ex-post facto research type. Sampling in this study was done by purposive sampling. Data collection techniques in this study were questionnaires and documentation of learning outcomes. The questionnaire used in this study was divided into two, namely the emotional intelligence questionnaire and the learning independence questionnaire. Even semester exam results will be used as data on mathematics learning outcomes. The data analysis technique used the F-test. The results of the research data analysis showed that emotional intelligence had an effect on student learning outcomes by 12.2%. Independent learning of students also affects the learning outcomes of mathematics by 10.5%. This shows that emotional intelligence and learning independence have a low relationship with learning outcomes

Keywords

Emotional intelligence;
independent learning;
learning outcomes



I. Introduction

The problem currently being faced by the Indonesian people is the low quality of education at every level of education. To improve the quality of national education, various efforts have been made, such as curriculum development, teacher competency improvement, procurement of books and other educational facilities and improvement of school management. However, this effort has not yet shown significant results.

Many people argue that in the learning process at school, to achieve high achievement in learning, one must have a high Intelligence Quotient (IQ), because intelligence is a potential provision that will facilitate learning so as to produce optimal learning achievement. According to Butler and Winne quoted in Damayanti (2015) state that learning based on self-regulation is an individual's active effort to achieve the planned goals in learning activities using strategies that involve cognitive, affective and behavioral abilities.

In fact, it is often found that students cannot achieve learning achievements that are equivalent to their intelligence abilities in the teaching and learning process. There are students who have high intelligence abilities but get relatively low learning achievements, but there are students who have relatively low intelligence abilities, can achieve relatively high learning achievements.

Therefore, what determines a person's success is not only the level of intelligence, there are other factors that influence it. According to Hardiyanto (2016) the factors that influence learning outcomes are internal factors and external factors. Internal factors consist of learning ability (intelligence), learning motivation, interest and attention, attitudes and study habits, perseverance, physical and psychological factors, including the motivation contained in a person. is a good combination of social and emotional abilities

that describe how efficiently a person knows and understands oneself, others, and can deal with life's activities.

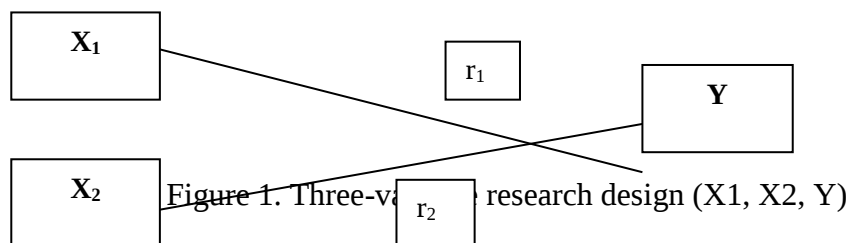
Another factor that is no less important and greatly affects the success of students in learning besides emotional intelligence is learning independence. Independent learning is also an important element in learning mathematics. This is because learning resources are not only teacher-centered. There are learning resources outside the teacher, such as: environment, internet, books, experiences, and others. The subject matter obtained from the teacher tends to be insufficient for students who have high creativity. So they seek information from outside other than that obtained from the teacher.

As a result, the student's knowledge will increase. Therefore, student learning independence is considered important in learning mathematics activities. However, in the school environment, there are still many students who depend on the teacher in terms of learning resources. There are still many students who rely on the material provided by the teacher, even though they have books or worksheets that they can study. Most students also rely more on the results of their friends' work, especially during exams, both daily tests and semester exams.

II. Research Method

This research is an ex-post facto research that uses a quantitative approach, namely research that will work with numbers as a manifestation of the phenomenon under study and in analyzing data using statistical data analysis techniques.

The research method used in this study is survey research, with associative correlation analysis, and the research design used is a quantitative survey design consisting of three variables (X_1 , X_2 , Y) (Sugiyono (2016)).



Description :

X_1 = Emotional Intelligence

X_2 = Independent Learning

Y = Learning Outcomes

r_{X_1Y} = Relationship X_1 and Y

r_{X_2Y} = X_2 and Y relationship

The population in this study were all 119 class XI SMAN 1 Padang Tiji students enrolled in the 2020/2021 academic year. Using a purposive sampling technique, the samples used in this study were students of class XI IIS 1 and XI IIS 2 at SMAN 1 Padang Tiji, which amounted to 43 people.

Data collection techniques in this study used a questionnaire sheet and documentation of learning outcomes. The questionnaire used in this study was divided into two, namely the emotional intelligence questionnaire and the learning independence questionnaire. The learning outcomes used in this study as data on mathematics learning outcomes are the even semester test scores of the students of SMAN 1 Padang Tiji. Data

analysis techniques in this study include descriptive and inferential data analysis. The first data analysis performed was descriptive statistical analysis. The results of the descriptive statistical analysis presented in this study are the mean, variance, standard deviation, the highest score, and the lowest score. In the inferential statistical analysis, the hypothesis testing stage is carried out, before the test stage the assumption test stage is carried out which is divided into: normality test, multicollinearity test, and linearity test.

III. Results and Discussion

The described data consists of three variables, namely variable X1 (Emotional Intelligence), variable X2 (Independent Learning) and variable Y (Mathematics Learning Outcomes). The results of collecting data on emotional intelligence, learning independence and mathematics learning outcomes for students in class XI IIS-1 and XI IIS-2 SMAN 1 Padang Tiji, obtained the following data:

Table 1. Descriptive Statistics of Emotional Intelligence, Learning Independence and Learning Outcomes

Source Variance	KE (X₁)	KB (X₂)	HBM (Y)
Sample	43	43	43
mean	121.93	98.07	67.21
Standard deviation	15.425	8.692	10.729
Variance	237.924	75.543	115.122
Maximum	63	69	50
Minimum	141	112	85

Based on table 1, it is known that the average value of students' emotional intelligence is 121.93, the highest score is 141 and the lowest score is 63. With a standard deviation of 15,425, where the standard deviation shows how far an average value is and the variance of 237,924 is the sum of the squares of the standard deviation. The average value of student learning independence is 98.07. The highest score was 112 and the lowest score was 69 with a standard deviation of 8,692 and a variance of 75,543. While the average value of mathematics learning outcomes is 67.21. The highest score was 85 and the lowest score was 50 with a standard deviation of 10,729 and a variance of 115,122. From the data in table 1 above, a table for categorization of emotional intelligence scores is compiled in the following table:

Table 2. Frequency Distribution of Emotional Intelligence Percentage

Score	Category	Frequency	Percentage (%)
$X \leq 98.79$	Very low	4	9.3
$98.79 < X \leq 114.21$	Low	5	11.6
$114.21 < X \leq 129.64$	Currently	17	39.6
$129.64 < X \leq 145.06$	High	17	39.5
$X > 145.06$	Very high	-	0
	Amount	43	100

Based on table 2 of the frequency distribution, it is known that the number of students who scored in the very low category was 4 people with a percentage of 9.3%. The number of students who scored in the low category was 5 people with a percentage of 11.6%. The number of students who received moderate grades was 17 people with a percentage of 39.6% and the number of students who received high grades was 17 people with a percentage of 39.5%. Based on the results of the descriptive analysis that has been done, it can be concluded that emotional intelligence is in the moderate category. From the data in table 1, the categorization of learning independence scores will also be arranged in the form of the following table:

Table 3. Frequency Distribution of Independent Learning Percentage

Score	Category	Frequency	Percentage (%)
$X \leq 85.03$	Very low	3	7
$85.03 < X \leq 93.72$	Low	6	13.9
$93.72 < X \leq 102.41$	Currently	23	53.5
$102.41 < X \leq 111.10$	High	11	25.6
$X > 111.10$	Very high	-	-
	Amount	43	100

Based on table 3 of the frequency distribution, it is known that the number of students who scored in the very low category was 3 people with a percentage of 7%. The number of students who scored in the low category was 6 people with a percentage of 13.9%. The number of students who received moderate scores was 23 people with a percentage of 53.5%. And the number of students who scored in the high category was 11 people with a percentage of 25.6%. Based on the results of the descriptive analysis that has been carried out, it can be concluded that the students' learning independence is in the moderate category, this is seen based on the average score of student learning independence amounting to 98.07. Based on table 1 above, a table for categorization of scores for learning mathematics results is arranged in the following table form:

Table 4. Frequency Distribution of Learning Outcomes

Score	Category	Frequency	Percentage (%)
91-100	Very Good (A)	-	-
81-90	Good (B)	5	11.7
70-80	Enough (C)	11	25.7
0-69	Less (D)	27	62.8
	Amount	43	100

Based on table 4 of the frequency distribution, it is known that none of the students scored in the very good category. The number of students who scored in the good category was 5 people with a percentage of 11.7%. Students who get enough grades are 11 people with a percentage of 25.7% and students who get grades in the less category are 27 people with a percentage of 62.8%. Based on the results of the descriptive analysis that has been carried out, it can be concluded that the learning outcomes are in the less category, this is seen based on the average score of learning outcomes amounting to 67.21.

For the purposes of statistical analysis on hypothesis testing, normality and linearity tests were carried out on the variables of emotional intelligence, learning independence and

learning outcomes. The research variable is declared to be normally and linearly distributed if the significance value is greater than 5% or 0.05, while if the significance is less than 5% or 0.05, the research variable is not normally distributed and is not linear. The results of data testing can be seen in table 5:

Table 5. Normality and Linearity Test:

Variable	Normality Test	Linearity Test
Emotional Intelligence	Sig.= 0.065 or Sig. > 0.05 then the data is normally distributed	Sig.= 0.741 or Sig. > 0.05 then the variable is linear
Independent Learning	Sig.= 0.732 or Sig. > 0.05 then the data is normally distributed	Sig. = 0.895 or Sig. > 0.05 then the variable is linear
Learning outcomes	Sig. = 0.330 or Sig. > 0.05 then the data is normally distributed	

From table 5, the significant value for the emotional intelligence variable is 0.065. The significant value for the independent learning variable is 0.732. The significant value for the learning outcome variable is 0.330. Because the significant value $(0.065) > (0.05)$, $(0.732) > (0.05)$, $(0.330) > (0.05)$, which means the data is normally distributed. Meanwhile, for the linearity test, the significant value for the emotional intelligence variable was 0.0741. The significant value for the Independent Learning variable is 0.89. This shows that the data is linear.

Furthermore, a multicollinearity test was carried out to see whether there was a correlation between the independent variables with one another. Testing for the existence of multicollinearity is done by looking at the tolerance and variance inflation factor (VIF) values in the regression model. The decision making criteria is if the tolerance value is more than 0.1 and the VIF is less than 10, then there is no multicollinearity. The results of the testing can be seen in table 6:

Table 6. Multicollinearity Test Coefficients

Variable	Tolerance	VIF	Conclusion
Emotional Intelligence	0.922	1.085	Multicollinearity does not occur
Independent Learning			

From table 6 above, it is obtained that all the tolerance values of the three variables are $0.922 > 0.1$ and the VIF is $1.085 < 10$. So it can be concluded that there is no multicollinearity between the independent variables.

3.1 Hypothesis Test

a. X1 Linear Regression Test over Y

Table 7. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.349 ^a	.122	.100	10.177

a. Predictors: (Constant), Emotional Intelligence

Table 8. Coefficients^{a 1}

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	37.612	12.510		3.007	.004
Emotional Intelligence	.243	.102	.349	2.384	.022

a. Dependent Variable: Learning outcomes

3.2 X2 Linear Regression Test over Y

Table 9. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.324 ^a	.105	.083	10.272

a. Predictors: (Constant), Independent Learning

Table 10. Coefficients^{a 2}

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	30.795	16.655		1.849	.072
Independent Learning	.377	.172	.324	2.196	.034

a. Dependent Variable: Learning outcomes

1. Hypothesis Test 1

Based on the Model Summary table values R^2 as big as 0,122 which means that the relationship between emotional intelligence variables and learning outcomes shows a relationship of 12,2%, meaning that mathematics learning outcomes are influenced by emotional intelligence factors of 12,2%. In addition, based on the table **Coefficients 1** obtained a simple regression equation X_1 against Y : $Y = 37,612 + 0,243X_1$. These numbers can be interpreted that the regression coefficient of the emotional intelligence variable (X_1) is 37,612 meaning that if emotional intelligence has increased by 1, then learning outcomes (Y) have increased by 0.243. On the table **Coefficients** value can be seen $\beta_1 = 0,243$ with value $P = 0,022$ at a significant level $\alpha = 0,05$ which means $P < 0,05$. This means that H_0 is rejected and H_1 is accepted, so it can be concluded that the emotional intelligence of class XI students at SMAN 1 Padang Tiji has an effect on students' mathematics learning outcomes.

Hypothesis Test 2

Based on the Model Summary table with R^2 (*R square*) as big as 0.105 which means that the relationship between emotional intelligence variables and learning outcomes shows a relationship of 10.5%, meaning that mathematics learning outcomes are influenced by emotional intelligence factors of 10.5%. In addition, based on the table **Coefficients 2** obtained a simple regression equation X_1 against Y : $Y = 30.795 + 0.377 X_2$. These numbers can be interpreted that the regression coefficient of the learning independence variable (X_2) of 30.795 means that if learning independence has increased by 1, then learning outcomes (Y) have increased by 0.377. On the table **Coefficients** value can be seen $\beta_2 = 0,377$ with value $P = 0,034$ at a significant level $\alpha = 0,05$ means $P < 0,05$. It means H_0 rejected and H_2 accepted, it can be concluded that the learning independence of class XI students of SMAN 1 Padang Tiji has an effect on students' mathematics learning outcomes.

IV. Conclusion

1. Based on the results of descriptive statistical analysis and inferential statistics, it can be concluded as follows: There is a positive influence of the emotional intelligence variable on learning outcomes with a correlation coefficient (r_1) of 0.349 and the coefficient of determination R^2 as big as 0.122. This shows that the influence of emotional intelligence on student learning outcomes is 12.2%.
2. There is a positive influence of the independent learning variable on learning outcomes with the value of (r_2) of 0.324 and the coefficient of determination R^2 as big as 0.105. Where this shows that the influence of learning independence on student learning outcomes is 10.5%.

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