



The Effect of Emotional Intelligence on Mathematics Learning Outcomes of Grade V Students of SD N Pundenarum 3, Demak Regency

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Correspondence: graceliayulinda@gmail.com Article History: Received: 12/09/2024 Accepted: 23/11/2024 Published: 20/12/2024 Keywords: Emotional Intelligence, Learning Outcomes, Mathematics	Education is an effort to shape students from their nature into a better person and humanize humans. Intelligence Quotient (IQ) and Emotional Intelligence (EI) must be balanced. Learning outcomes are a result of the learning process using measurement tools in the form of tests that are prepared in a planned manner such as written tests, oral tests, and action tests. The learning outcomes of each learner can be different for each individual. Based on the results of observations and interviews with fifth grade teachers of SD N Pundenarum 3 Demak Regency, it is known that the learning outcomes of students are still lacking, especially in Mathematics subjects. There are still many students who pay less attention to the lesson. This study aims to analyze how emotional intelligence affects the learning outcomes of 5th grade students in mathematics subjects at SD N Pundenarum 3 Demak. The method used is quantitative. Data collection techniques using questionnaires and documentation. Data analysis techniques used are normality test, linearity test and hypothesis testing using SPSS. The results obtained are that there is a significant influence of emotional intelligence on the mathematics learning outcomes of fifth grade students of SDN Pundenarum 3 Demak.

Introduction

Education is an effort to help the soul of students both physically and mentally, from their nature towards a better human civilization to humanize humans, Sujana (2019). Meanwhile, according to Law Number 20 of 2003,

education is a conscious and planned effort to create an atmosphere of learning and learning, so that students actively develop their potential, in order to have spiritual strength, religion, self-control, personality, intelligence, noble character, and skills needed, both for themselves, society and nation and state.

The intellectual and inner abilities of students need to be considered by every school in order to realize educational goals, which means that Intelligence Quotient (IQ) and Emotional Intelligence (EI) must be balanced. According to Sudjana (in Sutrisno, 2021: 22) states that learning outcomes are a result of the learning process using measurement tools in the form of tests that are prepared in a planned manner such as written tests, oral tests, and action tests. Meanwhile, according to Benjamin S. Bloom (in Mahmudi, Athoillah, Wicaksono, Kusuma, 2022) states that learning outcomes include a person's cognitive, affective, and psychomotor abilities.

The learning outcomes of each learner can be different for each individual. This is because students experience several problems in learning, one of which is students having difficulty learning mathematics. They consider math a scary and uninteresting thing to learn. This is one of the factors that cause learning outcomes to not be optimal. Many other factors can affect learning outcomes, but these factors are divided into two outlines, namely internal and external factors. Therefore, we as educators need to pay attention to the factors that influence our students both internal and external factors in achieving learning outcomes.

Based on the results of observations and interviews with fifth grade teachers of SD N Pundenarum 3 Demak Regency, it is known that the learning outcomes of students are still lacking, especially in Mathematics subjects. There are still many students who pay less attention to the lesson. But there are also students who do pay close attention. This is in line with what the class teacher said, that half of all students still do not have emotional skills so there are still students who pay less attention to the lesson. Therefore, it is necessary to conduct research to find out whether there is a significant influence between emotional intelligence and Mathematics learning outcomes. From the background of the above problems, the researcher is interested in conducting research with the title: "The Effect of Emotional Intelligence on Mathematics Learning Outcomes of Fifth Grade Students of SD N Pundenarum 3 Demak Regency".

Literature Review

Daniel Goleman (2023) Emotional intelligence is a person's ability to recognize, understand and regulate the emotions of oneself and others. Meanwhile, according to Salovey and Mayer (in the art of social emotional intelligence 2023) emotional intelligence is the ability to feel emotions, integrate emotions to think, understand, and regulate emotions to increase personal growth. From the above understanding, it can be concluded that Emotional Intelligence is a person's ability to feel emotions which then recognize and understand these emotions so that they can regulate emotions for themselves and others. According to Salovey (Daniel Goleman, 2023: 55 - 57) there are 5 components of emotional intelligence; Recognize self-emotion, manage emotions, motivate yourself, recognize other people's emotions, build relationships. According to Daniel Goleman (in the art of social emotional intelligence 2023) there are 4 main components of emotional intelligence, namely self-awareness, self-control, social awareness and relationship management. .

According to Sudjana (in Sutrisno, 2021: 22) states that learning outcomes are a result of the learning process using measurement tools in the form of tests that are prepared in a planned manner such as written tests, oral tests, and action tests. Meanwhile, according to Susanto (2019: 5) states that learning outcomes are the results of learning activities in the form of changes that occur in students which include cognitive, affective, and psychomotor aspects. According to Benjamin S. Bloom (in Mahmudi, Athoillah, Wicaksono, Kusuma, 2022) Learning outcomes include a person's cognitive, affective, and psychomotor abilities. Cognitive consists of knowledge, understanding, application, decomposition or determination of relationships, organization, and assessment. While affective, includes attitudes of acceptance, giving responses, giving values, organization, and characterization. Meanwhile, psychomotor abilities include production, technical, physical, social, managerial, and intellectual skills.

According to Parnawai (2019; 6-10) there are two main factors that influence learning outcomes, namely, internal and external factors. Internal factors include biological and psychological factors. While external factors include work environment factors, family environment, school environment, community environment and time.

Methods

This study uses a non-experimental quantitative method with an ex post facto approach. Quantitative research is a research method based on the philosophy of positivism, used to research on certain populations or samples, data collection using research instruments, data analysis is quantitative or statistical, with the aim of testing the hypothesis set (Sugiyono, 2017). The reason this study uses this method is that the author wants to know about the effect of emotional intelligence on the math learning outcomes of 5th grade students of SD N Pundenarum 3 and the author does not provide any treatment to all the variables studied. The population in this study were fifth grade students at SD N Pundenarum 3 and the sampling technique used in sampling was probability sampling with the type of proportionate stratified random sampling. This selection aims to make each member of the population have the same opportunity to become a member of the sample and facilitate sampling evenly.

The data collection technique used is the distribution of closed-question questionnaires with a Ritcher scale and documentation of school data, student name data, and data on the mathematics learning outcomes of fifth grade students of SD N Pundenarum 3. The analysis begins with a data normality test using the Lilliefors test to show the data is able to represent the population. Data is declared normally distributed if the sig value is ≥ 0.05 , if the sig value is < 0.05 , it means that the data is not normally distributed. Meanwhile, to test that the two variables have a linear relationship, a linearity test is carried out. Two variables are said to be linear if the significant value is less than 0.05 ($\text{Sig} < 0.05$). If the significant value is more than 0.05 then the two variables are said to be non-linear.

There are three hypothesis tests in this study, namely the simple correlation test, simple regression test and the coefficient of determination test. The simple correlation test is a test to determine whether there is a relationship between two variables. The simple regression test is used to test the effect of one independent variable on the dependent variable. The coefficient of determination test is used to determine the percentage of influence of the independent variable ($X_1, X_2, \dots, X_n$) on the dependent variable (Y).

Result and Discussion

Result

Test Of Normality

Table 1 Test of Normality Result

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Learning Outcomes	.088	30	.200*	.967	30	.470
Emotional Intelligence	.115	30	.200*	.970	30	.533

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on table 1 in the Shapiro-Wilk column in the Sig (significance) column, it is known that the significance value of the learning outcomes variable is 0.470 and the emotional intelligence variable is 0.533. Based on the decision-making criteria in the normality test, the data is declared normally distributed if the sig value> 0.05 if the sig value <0.05 means that the data is not normally distributed. Therefore, both variable data are declared normally distributed.

Linearity Test

Table 2 Linearity Test Results of Emotional Intelligence with Mathematics Learning Outcomes

			Sum of Squares	df	Mean Square	F	Sig.
Learning outcome * Emotional Intelligence	Between Groups	(Combined)	2341.117	14	167.223	1.766	.143
		Linearity	1475.794	1	1475.794	15.587	.001
		Deviation from Linearity	865.323	13	66.563	.703	.735
	Within Groups		1420.250	15	94.683		
	Total		3761.367	29			

Based on the test results in table 2, in the significant value section of the linearity row, it is known that the significance value of the emotional intelligence

variable with math learning outcomes is 0.001. The significance value is less than 0.05 ($0.001 < 0.005$), so it can be stated that the data on the emotional intelligence variable with math learning outcomes has a linear relationship.

Hypothesis Test

Table 3 Simple Correlation Test Results

		Emotional Intelligence	Learning Outcome
Emotional Intelligence	Pearson Correlation	1	.626**
	Sig. (2-tailed)		.000
	N	30	30
Learning Outcome	Pearson Correlation	.626**	1
	Sig. (2-tailed)	.000	
	N	30	30

** . Correlation is significant at the 0.01 level (2-tailed).

Based on the calculation results in table 3, it is known that the rcount value on the emotional intelligence variable on learning outcomes is 0.626. The simple correlation test results show that the rcount > rtable value ($0.626 > 0.3610$), so H_0 is rejected. Based on the interpretation guidelines for the correlation coefficient, the rcount value of 0.626 is in the range of values 0.60 - 0.799, so that the effect of emotional intelligence on math learning outcomes is in the strong category. From the test results, it can be concluded that there is a significant influence between emotional intelligence on the mathematics learning outcomes of fifth grade students of SDN Pundenarum 3 Demak and the influence of emotional intelligence on mathematics learning outcomes is in the strong category.

Table 4 Simple Regression Test Results

Model	B	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Std. Error	Beta			
1	(Constant)	1.372	7.101		.193	.848
	Emotional Intelligence	1.050	.109	.877	9.674	.000

a. Dependent Variable: hasil belajar

The results of hypothesis testing in the simple correlation test show that there is a significant effect of emotional intelligence on the mathematics learning outcomes of fifth grade students of SDN Pundenarum 3 Demak, so the authors can continue the next test, namely the simple regression test. The simple regression test is used to test and analyze the effect of the independent variable on the dependent variable.

After carrying out a simple regression test using the help of the IBM SPSS Statistics program, the authors analyzed the simple regression equation. The values of the simple regression test results using the IBM SPSS Statistics program are entered into the equation. The value is taken from the Coefficient table in the Unstandardized Coefficients B constants section and emotional intelligence.

Based on the results of the regression equation, it can be described that the constant value of 1.372 means that if the emotional intelligence value is 0, the math learning outcomes will be 1.372. The next description is the regression coefficient value of the emotional intelligence variable of 1.050, meaning that if emotional intelligence increases by 1, students' math learning outcomes will increase by 1.050. The coefficient is positive, meaning that there is a positive effect of emotional intelligence on math learning outcomes.

From the test results, it can be concluded that there is a significant influence of emotional intelligence on the mathematics learning outcomes of fifth grade students of SDN Pundenarum 3 and the influence has a positive direction. A positive influence between variables means that if emotional intelligence increases, math learning outcomes will also increase. The results of hypothesis testing in the correlation and simple regression tests show that there is a significant effect of emotional intelligence on the mathematics learning outcomes of fifth grade students of SDN Pundenarum 3 and the effect has a positive direction.

Tabel 5 Hasil Uji Koefisien Determinan

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.626 ^a	.392	.371	9.03480	1.092

a. Predictors: (Constant), kecerdasan emosional

b. Dependent Variable: hasil belajar

Based on the results of simple correlation and regression testing, the author can carry out the next stage of testing, namely the coefficient of determination test. The coefficient of determination test is used to determine the percentage of the influence of emotional intelligence on math learning outcomes. The coefficient of determination test consists of the coefficient of determination formula, test results, and conclusions. Based on the results of the determination test calculation in table 6, the square value of the correlation coefficient in the R Square column is 0,392. The amount of the coefficient of determination is $0.392 \times 100\% = 39.2\%$.

Discussion

Emotional intelligence is a person's ability to feel emotions and then recognize and understand these emotions so that they can regulate emotions for themselves and others. Antonio Damasio in Goleman (2023) states that feelings are needed for rational decisions; feelings show us the right direction, so that logic can be used properly. Which means that intellect cannot work at its best without emotional intelligence. One of the specific objectives of this study is to analyze and describe whether or not there is a significant effect of emotional intelligence on the mathematics learning outcomes of fifth grade students of SDN Pundenarum 3 Demak. Learning outcomes themselves are influenced by many things. Efforts to analyze and describe whether or not there is a significant effect of emotional intelligence on the mathematics learning outcomes of fifth grade students at SDN Pundenarum 3 Demak are carried out by carrying out hypothesis testing, then the author analyzes and describes the test results. Hypothesis testing in this discussion is a simple correlation test, simple regression, and the coefficient of determination.

Simple correlation and regression tests of emotional intelligence variables on learning outcomes show that $r_{count} > r_{table}$ ($0.626 > 0.3610$), and $t_{count} > t_{table}$ ($9.674 > 2.042$), so H_0 is rejected. Based on the two test results, it can be concluded that there is a significant influence of emotional intelligence on the mathematics learning outcomes of fifth grade students of SDN Pundenarum 3. Emotional intelligence that affects learning outcomes is in accordance with the opinion of Antonio Damasio in Goleman (2023) which states that intellectuality cannot work at its best without emotional intelligence. After knowing that there is an influence of emotional intelligence on learning outcomes, the

author then predicts the value of the emotional intelligence variable if learning outcomes increase or decrease and determines the direction of the influence of the emotional intelligence variable on learning outcomes, whether positive or negative. This can be known by analyzing the simple regression equation.

The results of the simple regression test using the help of the IBM SPSS Statistics program are not only used to determine whether there is an influence of the independent variable on the dependent variable, the test result values are also used to analyze the simple regression equation. The values of the simple regression equation analysis in the Coefficient table in the Unstandardized Coefficients B constants section, and emotional intelligence are entered into the predetermined equation formula. Based on the values that have been entered into the formula, the description of the results of the regression equation analysis is that the constant means that if the emotional intelligence value is 0, the learning outcome is 1,372. The next description is, the regression coefficient of the emotional intelligence variable is 1050, meaning that if emotional intelligence increases by 1, student learning outcomes will increase by 1050. The coefficient is positive, meaning that there is a positive effect of emotional intelligence on math learning outcomes. The positive influence between variables means that if emotional intelligence increases, math learning outcomes will also increase..

Based on the results of testing and analysis which explains that there is an influence of emotional intelligence on the mathematics learning outcomes of grade V students of SDN Pundenarum 3 Demak and the influence has a positive direction, the author needs to analyze the level of influence of emotional intelligence on mathematics learning outcomes. The level of influence of emotional intelligence on learning outcomes, mathematics can be determined based on the R value (correlation coefficient) in the simple correlation test. Based on the results of a simple correlation test using the help of the IBM SPSS Statistics program, it is known that the R value obtained is 0.626. The R value is based on the interpretation guidelines for the correlation coefficient in Sugiyono (2018; 274), which is in the range of values 0.60 - 0.799, meaning that the effect of emotional intelligence on learning outcomes is in the strong category.

The strong category on the effect of emotional intelligence on mathematics learning outcomes needs to be analyzed and described. Therefore, the coefficient of determination test was carried out. Based on the results of the coefficient of determination test with the help of the IBM SPSS Statistics program, it is known

that the R Square value is 0.392. The amount of the coefficient of determination is $0.392 \times 100\% = 39.2\%$. The conclusion from this calculation is that the percentage of the influence of emotional intelligence on the mathematics learning outcomes of fifth grade students of SDN Pundenarum 3 Demak is 39.2% and 60.8% is influenced by other factors not included in the study.

Based on this discussion, it can be concluded that there is a significant influence of emotional intelligence on the mathematics learning outcomes of fifth grade students of SDN Pundenarum 3 Demak. The effect of emotional intelligence on learning outcomes is in the strong category and has a positive direction of influence, meaning that if emotional intelligence increases, math learning outcomes will also increase. The percentage of influence is 39.2% and 60.8% is influenced by other factors that are not included in this research model. The results of this study strengthen the results of Fauziah's research (2021) in the Influence of Emotional Intelligence on Mathematics Learning Outcomes of Grade V Students at SDN Kubang Sepat 1 Cilegon City. The results showed that there was an effect of emotional intelligence on student learning outcomes of 34.7%. With the results of research proving that there is an influence of emotional intelligence on the mathematics learning outcomes of 5th grade students, the recommended learning methods are collaborative and jigsaw methods. Because these methods can integrate aspects of students' emotional intelligence in the learning process.

Conclusion

The results of the research and discussion show that there is a significant influence of emotional intelligence on the mathematics learning outcomes of fifth grade students of SDN Pundenarum 3 Demak. The correlation test shows a strong relationship with a value of $r = 0.626$, while the coefficient of determination of 39.2% shows that emotional intelligence affects learning outcomes by 39.2%, while the remaining 60.8% is influenced by other factors.

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