THE RELATIONSHIP BETWEEN SELF-CONCEPT AND LEARNING DISCIPLINE WITH MATHEMATICS LEARNING OF STUDENT CLASS VII

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ABSTRACT

Low student mathematics learning outcomes are associated with several factors. The relationship between self-concept and discipline of learning are some factors that may be related to learning outcomes. This research aims to know about the positive relationships and the significant between self-concept and discipline of learning with mathematics outcomes of students class VII even semester Islamic State Junior High School (MTs Negeri) 4 Bantul period 2017/2018. The Population in this research is the student of Class VII, even semester Mts Negeri Bantul, period 2017/2018, consisting of 8 classes, which totaling 228 students. The samples are taken randomly from class VII D as class sample research using a random sampling technique. Data collection technique using questioner method to get the self-concept and discipline of learning data and a test method to get mathematics outcomes data. The Instrument research test is a validity test, difference test, and reliability test. Prerequisite analysis tests are the normality test, linearity test, and Independency test. Data analysis using product moment analysis and multiple linear regression analysis. The research finding shows positive relation and significance between self-concept and discipline of learning with mathematics learning outcomes student's class VII even semester MTs Negeri 4 Bantul period 2017/2018. This is showing by $f_{count}>f_{table}$, $3{,}4676 > 3{,}3852$ that is $\hat{Y} = -9{,}2155 + 0{,}3834X_1 + 0{,}3999X_2$. With RC X_1=54,7706% , RC X_2= 45,2294 %. While EC X_1= 15,9803 % and EC X_2= 9,8224%.

Keywords: Self-concept, Discipline learning, mathematics learning outcomes

INTRODUCTION

Education is the most important part of aspects of one's life. The purpose of education is to create quality personalities and characters to have a broad vision going forward to achieve their desired goals. In the implementation of the education process, almost all skills, knowledge, habits, and attitudes develop due to learning. Mathematics is one branch of science that is very useful in developing various fields of study. This has become one of the causes of students' difficulties in learning mathematics. So that mathematics becomes a lesson that is still considered difficult by some students.

Table 1. Final Mathematics Test scores of MTs Negeri 4 Bantul Even Semester 2017/2108 Academic Year

Information	Class							
	VII A	VII B	VII C	VII D	VII E	VII F	VII G	VII H
Total Student	30	30	28	28	28	27	29	28
MCC	71	71	71	71	71	71	71	71
>MCC	4	7	9	10	4	11	7	11
<MCC	26	23	19	18	24	16	22	17

From the table above, it can be seen that the average grade of the seventh-semester mathematics exams for the even semester of the academic year 2017/2018, there are still many students who have not reached the minimum completeness criteria of 71, this shows that the results of student mathematics learning are still low and must be corrected immediately to match what is expected. This is due to many factors that affect student success in learning.

Based on the results of researchers' interviews with Ms. Dra. Warih Handayani as a grade VII mathematics teacher at MTs Negeri 4 Bantul on November 9, 2017, said some students who did not have a positive self-concept in mathematics. For example, before mathematics takes place, some students find mathematics difficult. Students cannot solve math problems or problems during lessons, even though they have not tried to work on them. According to Slameto (2003: 182), the concept of self is the overall perception of a person. Everyone must have a view of themselves. However, the views of each person are different. Self-concept will influence learning outcomes, such as the research conducted by Bonita Oktikasari (2016) and Budi Nugroho (2013).

Based on the results of researchers' interviews with Ms. Dra. Warih Handayani as a grade VII mathematics teacher at MTs Negeri 4 Bantul on November 9, 2017, said that some students who were undisciplined in mathematics or whose level of discipline was still low. For example, when entering mathematics, students are still outside the class, not paying attention when the teacher explains, engaging with his friend. According to Singgih, Tego, Saputro (2012:81), Learning discipline is students' self-control over written and verbal forms of rules that have been applied by students concerned as well as from outside as well as forms of awareness of their tasks and responsibilities as students, both discipline at home, at school by not doing something that can harm the purpose of the learning process. Learning discipline will influence learning outcomes, such as the research results conducted by Wardoyo Day (2012).

In this study, the following problems were formulated: (1) Is there a positive and significant relationship between self-concept and mathematics learning outcomes of Grade VII students of MTs Negeri 4 Bantul even semester of 2017/2018? (2) Is there a positive and significant relationship between learning discipline with mathematics learning outcomes of students of class VII MTs Negeri 4 Bantul, even semester 2017/2018 school year? (3) Is there a positive and significant relationship between self-concept and learning discipline with the mathematics learning outcomes of Grade VII students of MTs Negeri 4 Bantul, even semester 2017/2018 school year?

From the main problems that have been formulated above, the purpose of this study is to find out whether or not there is a positive and significant relationship between self-concept and learning discipline with mathematics learning outcomes of Grade VII students of MTs Negeri 4 Bantul even semester 2017/2018 school year.

METHODS

This research was conducted in class VII MTs Negeri 4 Bantul even semester of the academic year 2017/2018 on May 7 to May 19, 2018, with the test class is class VII B and the sample class is VII D where class VII B and class VII D respectively each consisting of 30 students and 28 students. In this study, three variables are consisting of two independent variables, namely self-concept (X_1), learning discipline (X_2), and one dependent variable, namely mathematics learning outcomes (Y). Based on the research variables above, the scheme of the relationship between the independent variable and the dependent variable can be arranged as follows:

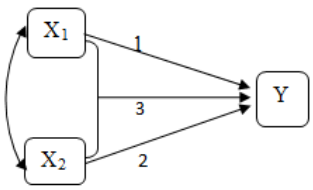

Figure I. Schema of the Relationship between Independent Variables and Bound Variables

Information:

X_I: Self-concept

X_2: Learning discipline

Y: Mathematical Learning Outcomes

Data collection techniques using a questionnaire method to obtain self-concept data and learning discipline and a test method to obtain data on mathematics learning outcomes. The research instrument tests conducted were validity, different power tests, and reliability tests. Analysis prerequisite tests include normality test, linearity test, and independent test. Data analysis uses product moment analysis and multiple linear regression analysis.

RESULTS AND DISCUSSION

The self-concept data was obtained from the instrument scores given to 28 students totaling 20 items. Then obtained the highest score of 98 and the lowest score of 68, obtained an average value of 82.7143, and a standard deviation of 9.7272. From these criteria, the grouping of self-concept scores is obtained as follows:

Table 2. Distribution of Number of Students Based on Self-Concept Score Categories

Category	Score	*F*	%
High	$X > 92,4415$	5	17,8571
Medium	$72,9871 \leq X \leq 92,4415$	16	57,1429
Low	$X < 72,9871$	7	25
Amount		28	100

From the results of the categorization in the table above, it can be seen that the majority of class VII D MTs Negeri 4 Bantul in the Academic Year 2017/2018 is included in the medium category because the highest frequency lies in the interval $72.99871 \leq X \leq 92.4415$, namely as many as 16 students or 57.1429%.

Learning discipline data obtained from the instrument score given to 28 students totaling 25 items. Then obtained the highest score of 123 and the lowest score of 90, obtained an average value of 106, and a standard deviation of 8.7369. From these criteria, the grouping of discipline scores is obtained as follows:

Table 3. Distribution of Number of Students by Category Learning discipline scores

Category	Score	*F*	%
High	$X > 114,7369$	6	21,4286
Medium	$97,2631 \leq X \leq 114,7369$	20	71,4286
Low	$X < 97,2631$	2	7,1429
Amount		28	100

From the results of the categorization, as shown in Table 15, it can be seen that the discipline of class VII D learning even semester MTs Negeri 4 Bantul in the academic year 2017/2018 is included in the medium category because the most significant frequency lies in the interval $97.2631 \leq X \leq 114.7369$ namely as many as 20 students or 71.4286%.

Value Mathematics learning outcome data obtained from the instrument scores given to 28 students totaling 13 items. Then obtained the highest score of 84.62 and the lowest score of 38.46. From these criteria, the grouping of mathematics learning outcomes is obtained as follows:

Table 4. Distribution of Number of Students by Students Mathematical Learning Outcomes Categories

Category	Score	*F*	%
High	$X > 74,5414$	6	21,4286
Medium	$48,6543 \leq X \leq 74,5414$	20	71,4286
Low	$X < 48,6543$	2	7,1429
Amount		28	100

From the categorizing results as seen in table 4, it can be known that the results of math grade VII D Even Semester MTs State 4 Bantul year 2017/2018 is included in the medium category because

the most significant frequency is located at intervals of $48.6543 \leq x \leq 74.5414$, which is as much as 16 students or 57.1429%. The prerequisite testing analysis is conducted to give an overview of how prerequisite analysis assumptions can be fulfilled according to the technical analysis of the data that has been planned. Test prerequisite analysis is a test of normality, linearity test, and independence test.

The normality test is used to test the spread of data obtained on each standard distribution variable. Test the normality in this study using the Chi-quadratic formula (χ^2). The decision-making criteria is the spread of data obtained in each standard distribution variable when $\chi^2_{count} \leq \chi^2_{table}$ with a significant 5% status and a degree of freedom of K-1. Where k is the number of interval classes. Test results of normality are presented in the following table:

Table 5. Research variable normality test summary

No.	Variable	χ^2_{count}	χ^2_{table}	dk	Info.
1	Self Confidence (X_1)	7,1341	7,8147	4	Normal
2	Emotional Intelligence (X_2)	1,2271	5,9915	3	Normal
3	Mathematics (Y) Learning Results	2,4327	5,9915	3	Normal

After the test, the normality is done test Linieritas. The linearity test is used to determine if between the free variables and the bound variables have linear relationships or not by using the linear regression formula (test F). The decision-making criteria are the relationship between variables and linear when $F_{count} \leq F_{table}$ with a significant 5% level and a degree of freedom of the $(v_1) = k - 2$ and freedom of denominator $(v_2) = n - k$. In this study to X_1 against Y with $v_1 = 15$ and $v_2 = 11$, and to X_2 against Y with $v_1 = 14$ and $v_2 = 12$. A summary of the test results of free variable interference linearity and bound variables can be seen in the following:

Table 6. Summary of linearity test results

No.	Variable	F_{count}	F_{table}	Info.
1	X_1 with Y	0,9323	2,7186	Linear
2	X_2 with Y	0,6234	2,6371	Linear

Independent tests are used to determine the presence or absence of a link between a variable-free self-concept variable (X_1) with a learning discipline variable (X_2) using a chi-squared formula. The decision-making criterion is the X_1 variable, and the X_2 variable is independent when $\chi^2_{count} \leq \chi^2_{table}$, at a = 5%, and the Freedom degree dk = (B – 1) (K – 1). Where B is the number of rows, and K is the number of columns. Independent test results are presented in the following table:

Table 7. Summary of independent test results

No.	Variable	χ^2_{count}	χ^2_{table}	Info.
1	X_1 with X_2	7,1341	7,8147	Independent

The purpose of the discussion is to know the relationship of self-concept (X_1) and learning Discipline (X_2) with the result of learning Mathematics (Y) Students of Class VII MTs Negeri 4 Bantul school year 2017/2018. In this section, further discussion of the research results is analyzed in correlation.

In the first hypothesis test acquired a simple correlation coefficient (r) of 0.4602. Thus acquired coefficient of determination (r^2) of 0.2117 can be explained that 21.17% of learning outcomes are influenced by self-concept while other factors influence the rest. There are variations in the mathematical (Y) learning results described by the self-concept (X_1) through the linear line $\hat{Y} = 21{,}5115 + 0{,}4963\, X_1$, with a regression coefficient of 0.4963. The first hypothetical test result is a positive and significant relationship between self and mathematical learning concepts. In other words, the higher the concept of students, the better the students ' learning outcomes.

In the second hypothesis test, a correlation coefficient (r) of 0.4010 is obtained and thus acquired coefficient of determination (R^2) of 0.1608 that can explain 16.08% of learning outcomes influenced by learning discipline. In contrast, the rest is influenced by other factors. There are variations in the mathematical (Y) learning outcomes described by the Learning Discipline (X_2) through the linear line $\hat{Y} = 11{,}6803 + 0{,}4781\, X_2$ with a regression coefficient of 0.4781. The second hypothesis test result is that there is a positive relationship between discipline learning with mathematics learning.

From the double correlation analysis is obtained a double correlation coefficient value (R) of 0.4660. This research also obtained a coefficient of determination (R^2) of 0.2171 means 21.71% of learning results are influenced by the concept of self and discipline of learning. At the same time, the rest is affected by other factors. There are variances of mathematics (Y) learning, which can be explained by self-concept (X_1) and learning Discipline (X_2) through linear line is $\hat{Y} = -9{,}2155 + 0{,}3834X_1 + 3{,}999X_2$. As for the relative donation of X_1 63.2126% and X_2 of 36.7874%. Disciplined variables learn to make the most significant contribution to the outcome of learning from the variables of self-concept. At the same time, the contribution is effective X_1 15.9803% and X_2 of 9.2999%. With a value (R^2) of 0.4660, it can be concluded that 46.60% of the results of mathematical learning are influenced jointly by the concept of self and discipline of learning. In comparison, the remaining 0.2171 or 21.71% are influenced by other factors that are not researched in this study. The third hypothesis test results are accepted that there is a positive and significant relationship between self-concept and discipline learning with learning mathematics.

CONCLUSION

Based on the research and discussion results outlined above, it can be concluded that:

1. There is a positive and significant relationship between the concept of learning and the students' mathematical outcome in class VII MTs Negeri 4 Bantul, even semester 2017/2018. It is indicated by test-t i.e. $t_{count} > t_{table}$ or $2.6431 > 2.0555$. The simple correlation coefficient (r) between the concept of self with mathematical learning results of 0.4602 with linear regression equation $\hat{Y} = 21{,}5115 + 0{,}4953\, X_1$.
2. There is a positive and significant relationship between the discipline of learning with the results of the mathematics of student VII MTs Negeri 4 Bantul, even semester 2017/2018. This is demonstrated by test-t i.e. $t_{count} > t_{table}$ or $2{,}2324 > 2{,}0555$. The simple correlation coefficient (r) between learning discipline with math learning result of 0.4010 with linear regression equation $\hat{Y} = 11{,}6803 + 0{,}4781\, X_2$.
3. There is a positive and significant relationship between the concept of self and discipline learning with the results of mathematics learning student VII MTs Negeri 4 Bantul, even semester 2017/2018. The F-test indicates this, i.e., $F_{count} > F_{table}$ or $3.4676 > 3.3852$. The double correlation coefficient (R) between the concept of self and discipline studied with the results of mathematics learning of 0.4660 and (R^2) amounting to 0.2171 with double Y linear regression equation $\hat{Y} = -9{,}2155 + 0{,}3834 + 0{,}3999$. The relative donation of X_1 is 63.2126%, and the relative donation X_2 amounted to 36.7874% and the effective donation X_1 15.9803% and an effective donation of X_2 of 9.2999%.

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