THE EFFECT BETWEEN INTEREST LEARNING AND DISCIPLINE LEARNING TOWARD THE RESULT OF LEARNING MATHEMATICS STUDENT

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ABSTRACT

The purpose of the study to determine whether there is an effect between interest learning and discipline learning toward the result of learning mathematics students. The population in this research are students of class VII Muhammadiyah Junior High School 1 Gamping (SMP Muhammadiyah 1 Gamping) school year 2016/2017 as the sample is two classes. The technique of using random sampling. The technique of interpretation of the data is questionnaires and tests. Data analysis technique with 5% significant level obtained: (1) the effect of interest learning toward the result of learning mathematics student with F_A = 36,304 as well as high learning interest more effect toward the result of learning mathematics student with t_A = 4,2317, (2) the effect of discipline learning toward the result of learning mathematics student with F_B = 10,23 and high learning discipline did not affect the result of learning mathematics student with t_B = 1,605, (3) the effect between interest learning and discipline learning toward the result of learning mathematics student with F_C = 28,94 interest High learning combined low discipline of learning equals low learning interest combined with high learning discipline with LSD = 7,363 and high learning interest combined low learning discipline similar to low learning interest combined high discipline learning with LSD = 7,613.

Keywords: interest, discipline, and achievement

INTRODUCTION

Education is a human effort to expand horizons and knowledge to shape attitudes, behavior, and values. Education is one of the human needs throughout life. Every human being needs education until whenever and wherever. Humans will be challenging to develop even backward without education. Mathematics is a field of study that occupies a vital role in education; this can be seen from the provision of mathematics from elementary to high school—teaching from elementary to high school to prepare themselves in daily life and learning science. Many students think mathematics is a difficult subject. These students 'assumptions affect students' interest in learning as well as student learning discipline in learning and also mathematics learning outcomes. Learning outcomes are evidence that has been achieved by someone in learning. Based on observations at SMP Muhammadiyah 1 Gamping, the value of mathematics is still low. This can be seen from the odd semester-end test scores with the Mathematics Minimum completeness Criteria(MCC) 75, amounting to 83.23% of students not meeting the MCC and 16.77% already fulfilling the MCC.

Based on the observations, the low value of mathematics learning outcomes in SMP Muhammadiyah 1 Gamping is influenced by low student interest in learning. This can be seen from the results of observations of students when learning there are still students who do not pay attention to the teacher when teaching, and students tend to be passive even do not have a passion for learning mathematics. In addition to interest in learning, other factors influence mathematics learning outcomes at SMP Muhammadiyah 1 Gamping, namely student learning discipline. It can be seen that there are still students who are late in collecting homework assignments, and some even do not collect homework assignments given by the teacher.

The success of students 'mathematics learning outcomes is determined by students' interest in learning and discipline. This is shown by previous research. Novian Sujatmiko, Suparman (2015) concluded that there was a positive and significant relationship between learning interest, learning discipline, and parents' attention to learning outcomes in mathematics. Syahidah Madyuni, Herina Fitriyani (2015) produced a positive and significant relationship between reading habits, learning facilities, and mathematics interest. As well as research conducted by Suparman (2015), The influence between students' self-confidence in mathematics and interest in learning towards mathematics learning outcomes. To overcome these ongoing problems, it is necessary to research to determine the influence of learning interest and learning discipline on student mathematics learning outcomes.

METHODS

This research is a type of experimental research that is using factorial design. This research was conducted at SMP Muhammadiyah 1 Gamping Sleman District VII class, the time used in the even semester of the 2016/2017 Academic Year. The population in this study was VII grade students of SMP Muhammadiyah 1 Gamping Sleman Regency in the even semester of the 2016/2017 Academic Year consisting of five classes with a total of 161 students with two classes of research samples. There are two variables, the dependent variable, and the independent variable. The dependent variable is the result of learning mathematics, and the independent variable is the interest in learning and learning discipline. Data collection uses the test method to obtain data on mathematics learning outcomes and the questionnaire method to obtain data on student learning interest and student learning discipline. Data analysis techniques using the normality test, homogeneity test, hypothesis testing with 2x2 factorial design, t-test, and LSD test.

RESULTS AND DISCUSSION

The normality test results can be seen as follows:

Table 1. Normality Test

No	Variable	χ^2_{count}	χ^2_{table}	df	Info.
1	Low MB and KB	0,1884	3,841	1	normal
2	MB and KB are high	1,3641	5,991	2	normal
3	Low MB and high KB	0,621	5,991	2	normal
4	High MB and low KB	0,2338	3,841	1	normal

From the table above it can be seen that all four variables are normal. Furthermore, the homogeneity test can be seen in table 2.

Tabel 2. Uji Homogenitas

Treatment	Nilai
B	0,312
b_k	0,877
Significant Level	5%
Status	Homogeneous

In the hypothesis test to determine whether there is an influence of learning interest and learning discipline on student mathematics learning outcomes, ANAVA analysis can be used, which can be seen in table 3.

Table 3. ANAVA Mathematics Learning Outcomes Test Table

Source of Variance	df	JK	RJK	F
Average	1	248003,46	248003,46	
Treatment: A	1	3809,753	3809,753	36,304
B	1	1073,478	1073,478	10,229
AB	1	3037,059	3037,059	28,941
Mistake	61	6401,25	104,94	
Amount	65	262352		

Based on the hypothesis test with ANAVA analysis, obtained:

a. First Hypothesis
   Because $F_{count} > F_{table}$, $36.304 > 3.998$, then $H_{0,1}$ is rejected, and $H_{1,1}$ is accepted. So there is an influence between students' interest in learning to test student mathematics learning outcomes.
b. Second Hypothesis
   Because $F_{count} > F_{table}$, $10.23 > 3.998$, then $H_{0,1}$ is rejected, and $H_{1,1}$ is accepted. So there is the effect of student learning discipline on student mathematics learning achievement tests.
c. Third Hypothesis
   Because $F_{count} > F_{table}$, $28.94 > 3.998$, then $H_{0,1}$ is rejected, and $H_{1,1}$ is accepted. So there is an influence between interest in learning and student learning discipline on student mathematics learning achievement tests.

To find out which is the best between students who have high or low interest in learning and high or low learning discipline towards student mathematics learning outcomes, use the t-test, which can be seen in table 4.

Table 4. Summary of Test Results t

Variable	t_{count}	t_{table}	Significant level	Info.
Interest to learn	4,2317	1,9983	5%	There are differences
Learning discipline	1,605	1,9983	5%	There is no difference

Based on the table above, it can be seen that in the t-test on the variable of interest in learning done to mathematics learning outcomes with a significant level of 5% obtained $t_{count} = 4.2317$ and $t_{table} = 1.998$ means $t_{count} > t_{table}$ then H_0 is rejected and H_1 is accepted. The average in the high row is more significant in the low average line. It can be said that the mathematics learning outcomes of students who have high learning interests influence students' mathematics learning outcomes rather than low learning interest. Whereas the variable of learning discipline that is carried out on mathematics learning outcomes with a significant level of 5% is obtained $t_{count} = 1.605$ and $t_{table} = 1.998$ means $t_{count} > t_{table}$, then H_0 is accepted, and H_1 is rejected. So that the average in the high row is smaller in the low line average, it can be said that the mathematics learning outcomes of students who have high learning discipline have no effect on student mathematics learning outcomes than low learning discipline.

LSD Test was also conducted to determine which one is better influencing mathematics learning outcomes with a combination of learning interest and learning discipline, which can be seen in table 5 and table 6.

Table 5. Summary of LSD Test Calculations

Case	$\lvert\bar{y}_i - \bar{y}_j\rvert$	LSD
MB high, KB high with MB high, KB low	20,8	6,998
High MB, high KB with low MB, high KB	27,8	6,872
High MB, high KB, low MB, low KB	20,3	7,139
High MB, low KB with low MB, high KB	7,0	7,363
High MB, low KB with low MB, low KB	0,5	7,613
Low MB, high KB with low MB low KB	7,5	7,498

Table 6. Summary of LSD Test Results

Case	Results	Info.
MB high, KB high with MB high, KB low	$\mu_1 \neq \mu_2$	Significant Influence
High MB, high KB with low MB, high KB	$\mu_1 \neq \mu_3$	Significant Influence
High MB, high KB with low MB, low KB	$\mu_1 \neq \mu_4$	Significant Influence
High MB, low KB with low MB, high KB	$\mu_2 = \mu_3$	There is no significant effect
High MB, low KB with low MB, low KB	$\mu_2 = \mu_4$	There is no significant effect
Low MB, high KB with low MB low KB	$\mu_3 \neq \mu_4$	Significant Influence

Based on table 5 and table 6 show that high learning interest combined with low learning discipline is the same as low learning interest combined with high discipline, and great learning interest combined with low learning discipline equal to low learning interest combined with low learning discipline does not affect student mathematics learning outcomes.

CONCLUSION

Based on the results of research and discussion as described above, it can be concluded that research interest in learning and disciplined learning affects the learning outcomes of students of class VII even semester of SMP Muhammadiyah 1 Gamping in the 2016/2017 school year. Based on the t-test that has been done, it is found that higher learning interest is better in learning outcomes than low-interest learning category and high learning discipline is not better learning outcomes than low category learning discipline. Furthermore, the LSD test results show that groups of students with high learning interest and great learning discipline are better at learning outcomes than other groups.

REFERENCES

Amri, Sofan. 2013. *Pengembangan Dan Model Pembelajarab Dalam Kurikulum 2013.* Jakarta: PT. Prestasi Pustakaraya.

Arikunto, Suharsimi. 2013. *Dasar – Dasar Evaluasi Pendidikan.* Jakarta: Bumi Aksara.

Slameto. 2013. *Belajar Dan Faktor – Faktor Yang Mempengaruhinya.* Jakarta: Rineka Cipta.

Usman, Uzer Moh. 2005. *Menjadi Guru Profesional.* Bandung: PT Remaja Rosdakarya.

Willis, Sofyan S. 2012. *Psikologi Pendidikan.* Bandung: ALFABETA