

THE RELATIONSHIP BETWEEN EARLY ABILITY, LEARNING MOTIVATION AND LEARNING HABITS WITH MATHEMATICS LEARNING OUTCOMES IN STUDENTS CLASS X

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ABSTRACT

Low student learning outcomes associated with many factors. The relationship between Early Ability, Learning Motivation, and Learning Habits is allegedly related to learning outcomes. This research aims to determine the presence or absence of positive and significant the relationship between Early Ability, Learning Motivation, and Learning Habits with Mathematics Learning Outcomes in Students Class X MIA in Odd Semester of SMA Muhammadiyah 5 Yogyakarta in Academic Year of 2017/2018. The population in this research was the students of class X MIA in odd semester of SMA Muhammadiyah 5 Yogyakarta in the academic year of 2017/2018, consisted of class X MIA 1, X MIA 2 totaling 60 students. While research samples are one class, i.e., class X MIA 1 was taken by a random sampling technique to the class. Technique data collection using the questionnaire method and test method. The research instrument use validity test, different power, and reliability test. Test requirement analysis includes a test of normality, a test of independence, and a linearity test. The writer uses linear regression analysis and correlation analysis. The results showed that there was a positive and significant relationship between early ability, learning motivation, and learning habits with mathematics learning outcomes in students class X MIA in Odd Semester of SMA Muhammadiyah 5 Yogyakarta in Academic Year of 2017/2018. It is showed by $F_{count} > F_{table}$ is $F_{count} = 4,115$ and $F_{table} = 2,98$ with Coefficient of multiple correlation (R) amount 0,880 and coefficient determination double (R^2) amount 0,332 with the linear regression equation $\hat{Y} = 15,330 + 0,288X_1 + 0,106X_2 + 0,245X_3$. $RC X_1 = 38,048\%$, $RC X_2 = 20,163\%$ and $RC X_3 = 41,790\%$ and $EC X_1 = 12,249\%$, $EC X_2 = 6,491\%$ and $EC X_3 = 13,453\%$.

Keywords: Early Ability, Learning Motivation, Learning Habits, Mathematics Learning Outcomes

INTRODUCTION

In the current era, world technological advances are developing very rapidly. To deal with technological advances needed quality human resources. In creating quality human resources, education occupies the most important role. Because of the quality of good human resources will be seen from the level of education and also the achievements that have been achieved. Education is expected to improve the quality of thinking, social and intellectual, to create quality human beings in social life. To improve the quality of human resources, education is the main element, so it needs the involvement of many parties to improve it. This improvement is carried out not only by the minister of education alone but also by the government, teachers, parents, and students themselves. Improving the quality of education can be started by improving student learning outcomes because learning outcomes are a mirror of the success of the learning process, in the world of education, especially mathematics education which still needs efforts to improve it, because the level of student success in mathematics is still very low compared to other subjects.

Many factors can affect student learning outcomes, both internal and external factors. According to Baharuddin (2009: 74), Internal factors exist in students, including innate and certain psychological potentials that help develop themselves. Whereas external factors are factors that are related to things that come from outside students themselves, both environment, education, and the experience through which they interact in the environment.

One factor that comes from within is the students' initial mathematical abilities. Initial ability is a provision that students have before attending lessons at a higher level. According to Hamalik, Oemar (2003: 38), students' initial ability to function as a prerequisite for new material to be delivered. It is hoped that the new material is not too easy or not too difficult for students to learn. What is better is that the new material is a continuation of the prerequisite that the previous student has. Thus it is expected that optimal learning success can be achieved.

In addition to the initial ability to learn, motivation is also a factor that comes from within students. Motivation is the drive or desire that exists in students to achieve success in learning. According to Sardiman A.M, (2012: 89-91), motivation itself can be divided into two types, namely intrinsic motivation and extrinsic motivation. Intrinsic motivation is motives that become active, or functioning does not need to be stimulated from the outside because, in every individual, there is already an urge to do something. This intrinsic motivation arises from self-awareness with the goal essentially, not just symbolic and ceremonial. Extrinsic motivation is active and functioning motives due to external stimuli. Extrinsic motivation can also be said as a form of motivation in which learning activities begin and continue based on outside encouragement that is not related to learning activities. The presence or absence of student motivation towards mathematics can be seen from how student's attitudes toward mathematics and how high students' curiosity about mathematics.

In addition to internal factors, external factors that are thought to influence learning outcomes are study habits. Learning habits are ways that students use learning to achieve success in learning. Good habits in following the lessons can give good results. Slameto (2010: 82) states that Learning aims to gain life knowledge, attitudes, skills, and skills; the methods used will become habits.

The problems in this study are 1. Is there a positive and significant relationship between initial ability and mathematics learning outcomes of students of class X MIA odd semester of SMA Muhammadiyah 5 Yogyakarta in the 2017/2018 school year. 2. Is there a positive and significant relationship between learning motivation and mathematics learning outcomes of class X MIA odd semester SMA Muhammadiyah 5 Yogyakarta in the academic year 2017/2018. 3. Is there a positive and significant relationship between study habits with mathematics learning outcomes of students of class X MIA odd semester of SMA Muhammadiyah 5 Yogyakarta in the academic year 2017/2018. 4. Is there a positive and significant relationship between initial ability and learning motivation with mathematics learning outcomes of class X MIA odd semester SMA Muhammadiyah 5 Yogyakarta in the academic year 2017/2018. 5. Is there a positive and significant relationship between initial ability and study habits with mathematics learning outcomes of class X MIA odd semester SMA Muhammadiyah 5 Yogyakarta in the academic year 2017/2018. 6. Is there a positive and significant relationship between learning motivation and study habits with mathematics learning outcomes of class X MIA odd semester SMA Muhammadiyah 5 Yogyakarta in the academic year 2017/2018. 7. Is there a positive and significant relationship between initial ability, learning motivation, and study habits with mathematics learning outcomes of students of class X MIA odd semester of SMA Muhammadiyah 5 Yogyakarta in the 2017/2018 school year.

The purpose of this research is to find out: 1) whether or not there is a positive and significant relationship between the initial ability and mathematics learning outcomes of students of class X MIA odd semester of SMA Muhammadiyah 5 Yogyakarta in 2017/2018 school year. 2) whether or not there is a positive and significant relationship between learning motivation and mathematics learning outcomes of class X MIA odd semester SMA Muhammadiyah 5 Yogyakarta in the academic year 2017/2018. 3) whether there is a positive and significant relationship between study habits and mathematics learning outcomes of students of class X MIA odd semester of SMA Muhammadiyah 5 Yogyakarta in the academic year 2017/2018. 4) whether there is a positive and significant relationship between initial ability and learning motivation with mathematics learning outcomes of students of class X MIA odd semester of SMA Muhammadiyah 5 Yogyakarta in the academic year 2017/2018. 5) whether there is a positive and significant relationship between initial abilities and study habits with mathematics learning outcomes of students of class X MIA odd semester of SMA Muhammadiyah 5 Yogyakarta in the academic year

2017/2018. 6) whether or not there is a positive and significant relationship between learning motivation and study habits with mathematics learning outcomes of class X MIA odd semester SMA Muhammadiyah 5 Yogyakarta academic year 2017/2018. 7) whether there is a positive and significant relationship between initial ability, learning motivation, and study habits with mathematics learning outcomes of students of class X MIA odd semester of SMA Muhammadiyah 5 Yogyakarta in the academic year 2017/2018.

METHODS

This research is classified as quantitative research. The study's place and time were carried out at SMA Muhammadiyah 5 Yogyakarta in the odd semester of the academic year 2017/2018 with the subject of class X MIA SMA Muhammadiyah 5 Yogyakarta. The population in this study were students of class X MIA SMA Muhammadiyah 5 Yogyakarta in the academic year 2017/2018, with a total of 60 students divided into two classes. While the sample in this study was determined randomly to the class, namely using a class draw. The class taken as a sample class is X MIA, with a total of 30 students. The variables used in this study include the independent variables and the dependent variable. The independent variable (independent) consists of initial ability (X_1), motivation to learn (X_2), and study habits (X_3), while the dependent variable (dependent) is the result of learning mathematics (Y). In this study, the data collection techniques used were questionnaires and tests. The questionnaire technique is to obtain data on learning motivation and study habits. The test technique is to obtain data about the initial ability test and student mathematics learning outcomes.

The questionnaire test uses the content validity test by the reviewers and the instrument reliability test using the alpha formula. In contrast, the test instrument questions use the content validity test by the reviewers and product-moment correlation techniques, the differentiation test, and the reliability test with the KR-20 formula. Analysis prerequisite test with normality test with Chi-squared formula, independent test with Chi-squared formula, and linearity test with F-test formula. The research hypothesis test uses a simple correlation test, multiple correlation test, and multiple linear regression test with three independent variables. Research hypothesis testing using a simple correlation test is performed to determine the presence or absence of a positive and significant relationship between 1) initial ability with student mathematics learning outcomes, 2) learning motivation with student mathematics learning outcomes, 3) learning habits with student mathematics learning outcomes.

Furthermore, the research hypothesis test using a multiple correlation test was conducted to determine the presence or absence of a positive and significant relationship between 1. Initial ability and learning motivation with student mathematics learning outcomes, 2. Initial ability and learning habits with student mathematics learning outcomes, 3. I was learning motivation and study habits with student mathematics learning outcomes. While the multiple linear regression test with three independent variables was conducted to determine the presence or absence of a positive and significant relationship between initial abilities, learning motivation, and study habits with student mathematics learning outcomes.

RESULTS AND DISCUSSION

The summary of normality test results can be seen in Table 1.

Table 1. Summary of Normality Test Results

Variable	χ^2_{count}	χ^2_{table}	df	Information
X_1	1,078	5,9915	2	Normal
X_2	1,992	7,8147	3	Normal
X_3	1,224	3,8415	1	Normal
Y	0,709	5,9915	2	Normal

Based on the table above shows that the distribution of data obtained on each variable is normally distributed.

The summary of independent test results can be seen in Table 2.

Table 2. Summary of Independent Test Results

Variable	χ^2_{count}	χ^2_{table}	df	Information
X ₁ and X ₂	24,689	37,6525	25	Independent
X ₁ and X ₃	33,571	37,6525	25	Independent
X ₂ and X ₃	27,883	37,6525	25	Independent

Based on the table above shows that the distribution of data obtained on each variable is mutually independent.

The summary of linearity test results can be seen in Table 3.

Table 3. Summary of Linearity Test Results

Variable	F _{count}	F _{table}	Information
X ₁ and Y	2,380	2,55	Linear
X ₂ and Y	2,429	2,69	Linear
X ₃ and Y	0,538	2,80	Linear

Based on the table above shows that there is a linear relationship between the independent variable (X) and the dependent variable (Y).

The summary of the results of the first hypothesis test can be seen in Table 4.

Table 4. Summary of First Hypothesis Test Results

t_{count}	t_{table}	df	Information
2,104	1,7011	28	H ₀ rejected, H ₁ accepted

Based on the table above shows df = 28, and it can be seen that $t_{count} = 2,104$ and $t_{table} = 1,7011$, so $t_{count} > t_{table}$. This means there is a positive and significant relationship between initial ability and mathematics learning outcomes of students of class X MIA odd semester of SMA Muhammadiyah 5 Yogyakarta 2017/2018 academic year.

The summary of the results of the second hypothesis test can be seen in Table 5.

Table 5. Second hypothesis test Result summary

t_{count}	t_{table}	df	Information
2,116	1,7011	28	H ₀ rejected, H ₁ accepted

Based on the table above shows df = 28, and it can be seen that $t_{count} = 2,116$ and $t_{table} = 1,7011$, so $t_{count} > t_{table}$. This means there is a positive and significant relationship between learning motivation and mathematics learning outcomes of students in class X MIA odd semester SMA Muhammadiyah 5 Yogyakarta 2017/2018 school year.

The summary of the results of the third hypothesis test can be seen in Table 6.

Table 6. Summary of Third Hypothesis Test Results

t_{count}	t_{table}	df	Information
2,594	1,7011	28	H ₀ rejected, H ₁ accepted

Based on the table above shows df = 28, and it can be seen that $t_{count} = 2,594$ and $t_{table} = 1,7011$ so $t_{count} > t_{table}$. This means there is a positive and significant relationship between learning habits with mathematics learning outcomes of students of class X MIA odd semester of SMA Muhammadiyah 5 Yogyakarta 2017/2018 school year.

The summary of the results of the fourth hypothesis test can be seen in Table 7.

Table 7. Summary of Fourth Hypothesis Test Results

F _{count}	F _{table}	df (v_1, v_2)	Information
4,772	3,35	(2, 27)	H ₀ rejected, H ₁ accepted

Based on the table above shows $v_1 = 2$ and $v_2 = 27$ so that it can be obtained $F_{count} = 4,772$ and $F_{table} = 3,35$ so $F_{count} \geq F_{table}$ This means there is a positive and significant relationship between initial ability and learning motivation with mathematics learning outcomes of students of class X MIA odd semester of SMA Muhammadiyah 5 Yogyakarta, academic year 2017/2018.

The summary of the results of the fifth hypothesis test can be seen in Table 8.

Table 8. Summary of the Fifth Hypothesis Test Results

F_{count}	F_{table}	df (v_1, v_2)	Information
5,839	3,35	(2, 27)	H_0 rejected, H_1 accepted

Based on the table above shows $v_1 = 2$ and $v_2 = 27$ so that it can be obtained $F_{count} = 5,839$ and $F_{table} = 3,35$ so that $F_{count} \geq F_{table}$ which means there is a positive and significant relationship between initial ability and study habits with mathematics learning outcomes of students of class X MIA odd semester of SMA Muhammadiyah 5 Yogyakarta, academic year 2017/2018.

The summary of the results of the sixth hypothesis test can be seen in Table 9.

Table 9. Summary of the Results of the Sixth Hypothesis Test

F_{count}	F_{table}	df (v_1, v_2)	Information
3,655	3,35	(2, 27)	H_0 rejected, H_1 accepted

Based on the table above shows $v_1 = 2$ and $v_2 = 27$ so that it can be obtained $F_{count} = 3,655$ and $F_{table} = 3,35$ so that $F_{count} \geq F_{table}$ This means there is a positive and significant relationship between learning motivation and learning habits with mathematics learning outcomes of class X MIA odd semester of SMA Muhammadiyah 5 Yogyakarta, academic year 2017/2018.

The summary of the results of the seventh hypothesis test can be seen in Table 10.

Table 10. Summary of Seventh Hypothesis Test Results

F_{count}	F_{table}	df (v_1, v_2)	Information
4,115	2,98	(3, 26)	H_0 rejected, H_1 accepted

Based on the table above shows $v_1 = 2$ and $v_2 = 27$ so that it can be obtained $F_{count} = 4,115$ and $F_{table} = 2,98$ so that $F_{count} \geq F_{table}$ which means there is a positive and significant relationship between initial ability, learning motivation, and study habits with mathematics learning outcomes class X MIA students odd semester of SMA Muhammadiyah 5 Yogyakarta in the academic year 2017/2018.

CONCLUSION

Based on the analysis of research data and its discussion, it can be concluded as follows: Based on the analysis of research data and its discussion, it can be concluded as follows:

1. There is a positive and significant relationship between the initial ability with learning results of mathematics grade X students MIA odd semester SMA Muhammadiyah 5 Yogyakarta school year 2017/2018. This is indicated by the result $t_{count} = 2,104$ and $t_{table} = 1,7011$ at the level 5% looks $t_{count} > t_{table}$. The value of a simple coefficient of correlation between the initial ability and the mathematical learning result of 0.370 with a simple, Y-regression equation of X_1 is $\hat{Y} = 45,784 + 0,321X_1$.
2. There is a positive and significant relationship between learning motivation with learning outcome of math grade X student MIA Odd semester SMA Muhammadiyah 5 Yogyakarta school year 2017/2018. This is indicated by the results $t_{count} = 2,116$ and $t_{table} = 1,7011$ at a 5% level are visible $t_{count} > t_{table}$. The value of a simple coefficient of correlation between learning motivation and math learning result of 0.371 with the simplest Y regression equation of X_2 is $\hat{Y} = 48,895 + 0,224X_2$.
3. A positive and significant there is the relationship between the learning habits and the mathematical outcome of students of X grade MIA odd semester SMA Muhammadiyah 5 Yogyakarta school year 2017/2018. This is indicated by the results $t_{count} = 2,594$ and $t_{table} = 1,7011$ at a 5% level are

- visible $t_{count} > t_{table}$. The simple coefficient correlation value between the learning habits and the mathematical learning outcomes of 0.440 with a simple, Y-regression equation of X_3 is $\hat{Y} = 36,644 + 0,353X_3$.
4. There is a positive and significant relationship between the initial ability and the motivation to learn the math outcome of students of X grade MIA odd semester SMA Muhammadiyah 5 Yogyakarta school year 2017/2018. This is indicated by the results $F_{count} = 4,772$, and $F_{table} = 3,35$ at a 5% level are visible $F_{count} > F_{table}$. The coefficient of double correlation between initial ability and learning motivation with mathematical learning results of 0.511 with the regression equation $\hat{Y} = 27,001 + 0,305X_1 + 0,214 X_2$.
 5. There is a positive and significant relationship between the initial ability and the learning habits with learning results of math grade X students in the odd semester of SMA Muhammadiyah 5 Yogyakarta school year 2017/2018. This is indicated by the results $F_{count} = 5,839$, and $F_{table} = 3,35$ at a 5% level are visible $F_{count} > F_{table}$. The second correlation coefficient between initial ability and learning habits with mathematical learning results of 0.549 with a regression equation $\hat{Y} = 17,499 + 0,287X_1 + 0,328X_3$.
 6. There is a positive and significant relationship between learning motivation and learning habits with learning results of the mathematics of student grade MIA odd semester SMA Muhammadiyah 5 Yogyakarta school year 2017/2018. This is indicated by the results $F_{count} = 3,655$, and $F_{table} = 3,35$ at a 5% level are visible $F_{count} > F_{table}$. The second correlation coefficient between learning motivation and learning habits with math learning is 0.462 with equation regression $\hat{Y} = 34,563 + 0,104X_2 + 0,272X_3$.
 7. There is a positive and significant relationship between the initial ability, learning motivation, and learning habits with learning outcomes of math grade X students in odd semester SMA Muhammadiyah 5 Yogyakarta school year 2017/2018. This is indicated by the results $F_{count} = 4,115$, and $F_{table} = 2,98$ at a 5% level are visible $F_{count} > F_{table}$. The coefficient of double correlation between initial ability, learning motivation, and learning habits with mathematical learning results of 0.880 and coefficient of determination of 0.332 with the regression equation $\hat{Y} = 15,330 + 0,288X_1 + 0,106X_2 + 0,245X_3$. The relative contribution of X_1 is 38.048%, X_2 amounted to 20.163%, and X_3 41.790% and an effective Contribution of X_1 amounting to 12,249%, X_2 of 6.491% and X_3 of 13.453%.

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