

**RELATIONSHIP BETWEEN LEARNING MOTIVATION, LEARNING INDEPENDENCE AND STUDENT LEARNING ENVIRONMENT AT HOME WITH MATHEMATICS LEARNING RESULTS OF CLASS VIII STUDENTS OF SMP NEGERI 1 IMOIRI**

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**ABSTRACT**

In this study low mathematics learning outcome was associated with many factors. Learning motivation learning self-reliance, and learning environment of students at home were some of the factors that might be linked to learning outcomes. This study aimed at identifying the presence or absence of a positive and significant relationship between student's learning motivation, learning Self-Reliance, learning environment at home with mathematics learning outcomes on grade VIII Junior High School I Imogiri in odd semester 2016/2017. The study population was all students in grade VIII of SMP Negeri 1 Imogiri, Bantul, Odd Semester in the academic year 2016/2017 consisting of seven classes with a total of 216 students. Samples were students of class VIII A as a class sample of 32 students using random sampling techniques to the class of techniques of data collection using questionnaires to determine learning motivation, learning self-reliance, and the learning environment of students at home, the test method was used to determine students' mathematics learning outcomes. the data analysis for hypothesis testing used simple linear regression analysis and multiple linear regression. The results showed that there was a positive and significant relationship between 1) learning motivation and the mathematics learning outcomes, with  $r = 0.4051991131$ ; 2) learning self-reliance and mathematics learning outcomes, with  $r = 0.3976856431$ ; 3) learning environment of students at home and mathematics learning outcomes, with  $r = 0.2964336693$ ; 4) learning motivation and learning self-reliance with mathematics learning outcomes, with  $r = 0.4547066454$ ; 5) learning motivation and learning environment of student at home with mathematics learning outcomes, with  $r = 0.4364494415$ ; 6) learning self-reliance and the learning environment of students at home with mathematics learning outcomes, with  $r = 0.5279264426$ ; 7) Student's learning Motivation, learning Self-Reliance, and learning environment of Student at home with mathematics learning outcomes, with  $F_{count} = 3.639515644 > F_{table} = 2.95$ , multiple correlation coefficient  $r = 0.29668461$  with linear regression equation  $Y = -45.92818127 + 0.126289034 X_1 + 0.68816534 X_2 + 0.467791704 X_3$ ,  $SR x_1 = 8.943701276 \%$ ,  $SR x_2 = 57.00738487 \%$  and  $SR x_3 = 34.04891385 \%$  and  $SE x_1 = 2.509143579 \%$ ,  $SE x_2 = 15.99334652 \%$  and  $SE x_3 = 9.552377804 \%$ .

**Keywords:** learning motivation, learning self-reliance, student's learning environment at home, mathematics learning outcomes

**INTRODUCTION**

One of the things that can not be separated in this life are humans and education. Education is one of the determining factors in the success of every human life. Human education can be a better human being in terms of intellectual and emotional so that what is aspired can be achieved. Whether or not the results of the education obtained are determined by each individual, whether the results are lacking, sufficient, good, very good, and so on. Education also has an important role in the development of a nation. With quality education, it will produce quality human resources as well. With these human resources, the nation will benefit from economic, political, defense, and other aspects.

One of the educational processes held in the school environment. Schools have an important role in helping students to get a quality education. One of the compulsory subjects in school is mathematics. By studying mathematics, students are expected to be able to solve various problems that are around them. But in reality, mathematics is still a subject that is not liked even by students feared, especially before the semester exams or national exams. This resulted in the low learning outcomes of mathematics.

The low learning outcomes of mathematics are thought to be influenced by several factors, both internal and external factors. There are so many factors included in it. This study only takes a few variables as internal factors and external factors that may be related to learning outcomes. Motivation and independence of learning as internal factors. The student's learning environment at home is an external factor and all are thought to be related to learning outcomes. These factors need to be known and examined so that efforts can be made to improve learning outcomes.

According to Soemanto, Wasty (2003: 203), motivation to learn is one of the factors in students who determine the success or failure of students in teaching and learning. Indicators of students having good learning motivation are; 1. Desire and desire to succeed in learning, 2. Encouragement and needs in learning, 3. Hope and ideals of the future, 4. Appreciation in learning.

Based on an interview with Mr. Ihwan Santoso, a mathematics teacher in class VIII of SMP Negeri 1 Imogiri, information was obtained that the learning motivation of some students was still relatively low. There are some students who still lack inner motivation for the learning process. Students only come to school just come without any awareness that learning is a necessity for themselves.

Based on the above problems, efforts are needed to increase motivation to learn both internally and externally. If students have good learning motivation, it is suspected that it will have a good impact on learning outcomes. Independence comes from the word Mandiri. According to Rusman (2012: 353) "The word autonomous means not dependent on others, free, and can do it yourself". Indicators of students having good learning independence are a. Able to think critically, creatively and innovatively, b. Solve problems by thinking deeply, c. If you find a problem solved by yourself without asking for help from others, d. Trying to work with full perseverance, e. To be responsible.

Based on interviews with teachers also obtained information that student learning independence is still relatively low. This can be seen when working on a given task, only a small proportion of students are able to think critically and innovatively in completing a given task. In addition, there are also some students who are less able to think deeply in solving any given assignment problems, they are just simply joining in when they are given assignments.

Based on the above problems, it needs an effort to improve overall student learning independence. If students have good learning independence, it is suspected that it will have a good impact on their learning outcomes.

According to Hamalik, Oemar (2008: 195) environment is something that exists in nature around which has a certain meaning and or influence on individuals. Meanwhile, according to Syah, Muhibbin (2011: 91) learning is an activity that processes and is a very fundamental element in the implementation of each type and level of education. The indicators of the learning environment at home are said to be good including a. Place, b. Learning tools, c. Learning atmosphere, d. Time, e. Association.

Based on interviews with several students the students also obtained information that the learning environment of students at home is less supportive. This can be seen when some students do not have a special room for learning, they sometimes use the living room, in front of the television to be a place of learning. The atmosphere of the house which is sometimes crowded during student learning, student learning schedules at home are not yet consistent. Based on the above problems, an effort is needed to design a good student learning environment at home. If students have a good learning environment at home it is thought to have a good impact on their learning outcomes. According to Uno, Hamzah B (2007: 3) student learning outcomes in mathematics are the results of learning mathematics activities in the form of knowledge as a result of students' treatment or learning. Learning outcomes is a term used to indicate the level of success achieved by someone after making a particular effort. In this case, the learning outcomes achieved by students are after following the teaching and learning process. In other words, student learning outcomes in mathematics are what students get from the process of learning mathematics. The low mathematics learning outcomes of Grade VIII students of SMP Negeri 1 Imogiri can be seen from the mathematics test scores of grade VII A-G before remission which is still

below the KKM. This proves that there are still many students who have difficulty in learning mathematics. Indicators of low mathematics learning outcomes of students of Kalas VIII Imogiri SMP Negeri 1 even semester of the 2015/2016 academic year, can be seen from the mathematics grade VII A-G grade before the remedies shown in Table 1.

**Table 1.** Test scores for grade VII A-G before remediation at Imogiri Public Middle School 1 semester even 2016/2017 school year

Class	VII A	VII B	VII C	VII D	VII E	VII F	VII G
The number of students	32,00	32,00	30,00	30,00	30,00	31,00	31,00
Average	40,47	43,44	45,25	41,08	43,00	58,06	47,98
The highest score	60,00	60,00	90,00	65,00	67,50	75,50	75,00
Lowest value	20,00	27,50	17,50	25,00	25,00	35,00	22,50
KKM	75,00	75,00	75,00	75,00	75,00	75,00	75,00
$\geq$ KKM	0	0	2	0	0	5	1
$<$ KKM	32	32	28	30	30	26	30

( Source: SMP Negeri 1 Imogiri Timur Tahun Ajaran 2015/2016)

Based on the description above, the researcher is encouraged to conduct a study with the title about motivation, independence, and learning environment of students at home and its relationship with the mathematics learning outcomes of students of class VIII SMP Negeri 1 Imogiri odd semester 2016/2016 academic year.

Based on the background and constraints of the problem, then the problem can be formulated to be investigated, namely is there a positive and significant relationship between learning motivation, learning independence, and student learning environment at home with mathematics learning outcomes for students of class VIII of SMP Negeri 1 Imogiri in the odd semester 2016 / 2017

The aim of this research is to find out whether or not there is a positive and significant relationship between learning motivation, learning independence, and the learning environment of students at home with mathematics learning outcomes of Grade VIII students of SMP Negeri 1 Imogiri odd semester 2016/2017 academic year.

## METHODS

This research is classified as quantitative research. The place of research was carried out at Imogiri Public Middle School 1. While the research was conducted in the odd semester of the 2016/2017 school year. The population in this study were all eighth-grade students of SMP Negeri 1 Imogiri odd semester 2016/2017 academic year consisting of 7 classes with a total of 217 students.

In this study, the sample was taken randomly using a random sampling technique for the class, and the sample was taken as a class VIII A with 32 students. Research variables include the independent variable (Independent) and the dependent variable (dependent). The independent variable (Independent) consists of learning motivation ( $X_1$ ), learning independence ( $X_2$ ) and student learning environment at home ( $X_3$ ), while the dependent variable (dependent) is mathematics learning outcomes (Y). Data collection techniques used questionnaires and test methods. In this study, the questionnaire method was used to obtain independent variable data. While the test method is used to obtain data about the dependent variable.

The questionnaire instrument trial used content validity test by reviewers and instrument reliability test with alpha formula (Suharsimi Arikunto, 2013: 122), while the test instrument test used instrument validity test with product-moment correlation techniques, different power tests and instrument reliability tests with the KR formula -20 (Suharsimi Arikunto, 2012: 232). After the data is collected, the analysis prerequisite tests that must be met include normality test, independent test and linearity test. Data analysis uses product-moment correlation analysis and multiple linear regression analysis.

## RESULTS AND DISCUSSION

In this section further discussion of the results of research analyzed in correlation. This study found that the seventh hypothesis test result was that there was a positive and significant relationship between learning motivation, learning independence, and student learning environment at home with mathematics learning outcomes. In other words, the better the motivation of students in learning, the better the learning outcomes. Likewise with learning independence, the higher the learning independence of students, the higher the learning outcomes. In addition, students who have a good home learning environment will have a good impact on their learning outcomes.

In this study also uses analysis prerequisite tests which include:

### 1. Test for normality

This normality test is used to test the distribution of data obtained by each variable whether it is normally distributed or not. The summary of the normality test results from the four variables are:

**Table 2.** The summary of normality test results from the four variables

No	Variable	$\chi^2_{count}$	$\chi^2_{table}$	$\nu$	Info
1	Learning motivation ( $X_1$ )	2,984	5,5915	3	Normal
2	Learning independence ( $X_2$ )	1,493	5,5915	3	Normal
3	Student learning environment at home ( $X_3$ )	2,901	7,8147	4	Normal
4	Mathematics Learning Outcomes (Y)	0,194	7,8147	4	Normal

### 2. Independent test

Independence test is used to find out whether or not there is a relationship between independent variables. The summary of the results of the independent tests of the three independent variables is:

**Table 3.** The summary of the results of the independent tests of the three independent variables

No	Variable	$\chi^2_{count}$	$\chi^2_{table}$	Info
1	$X_1$ to $X_2$	31,141	37,652	Independent
2	$X_1$ to $X_3$	25,166	37,652	Independent
3	$X_2$ to $X_3$	34,516	37,652	Independent

### 3. Linearity test

Linearity test is used to find out between independent variables and dependent variables whether they have a linear relationship or not. Summary of the linearity test results of the four variables are:

**Table 4.** Summary of the linearity test results of the four variables

No	Variable	$F_{count}$	$F_{table}$	Info
1	$X_1$ to Y	1,718350	2,498672	Linear
2	$X_2$ to Y	1,377436	2,568428	Linear
3	$X_3$ to Y	1,119184	3,417947	Linear

### 4. Hypothesis testing

Amounted to 0.5297. In this study also obtained a coefficient of determination ( $R^2$ ) of 0.2805 which means that variations in mathematics learning outcomes (Y) can be explained by learning motivation ( $X_1$ ), learning independence ( $X_2$ ), and student learning environment at home ( $X_3$ ) through linear lines  $\hat{Y} = -45,9282 + 0,1263 X_1 + 0,6882 X_2 + 0,4678 X_3$ . This means an increase in one unit ( $X_1$ ) results in a 0.1263 increase in Y, an increase in one unit ( $X_2$ ) causes 0.6882 increase in Y, and wears one unit ( $X_3$ ) results in 0.4678 increase in Y. While for a relative contribution  $X_1 = 8,945\%$ ,  $X_2 = 57.01\%$ ,  $X_3 = 34.05\%$ , with a coefficient of determination of

0.2805 and the effective contribution of  $SE X_1 = 2.51\%$ ,  $SE X_2 = 15.99\%$  and  $SE X_3 = 9.55\%$ . This shows that learning independence provides a more significant relationship to mathematics learning outcomes compared to learning motivation and student learning environment at home.

## CONCLUSION

Based on the results of research and discussion as described above, it can be concluded that there is a positive and significant relationship between learning motivation, learning independence and student learning environment at home with mathematics learning outcomes of students of class VIII SMP Negeri 1 Imogiri odd semester of the school year 2016/2017. This is indicated by the F-test that is  $F_{count} = 3,6395 > F_{table} = 2,95$  with a multiple correlation coefficient (R) of 0.5297 and a coefficient of determination (R<sup>2</sup>) of 0.2805. Linear regression equation  $\hat{Y} = -45,9282 + 0,1263 X_1 + 0,6882 X_2 + 0,4678 X_3$ . Relative contribution  $X_1 = 9,94\%$ ,  $X_2 = 57,01\%$ ,  $X_3 = 34,05\%$ , and effective contribution  $SE X_1 = 2,51\%$ ,  $SE X_2 = 15,99\%$  and  $SE X_3 = 9,55\%$ .

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