

THE RELATIONSHIP BETWEEN LEARNING MOTIVATION AND LEARNING ENVIRONMENT AT HOME ON MATHEMATICS LEARNING OUTCOMES IN STUDENTS CLASS VIII IN SMP MUHAMMADIYAH 1 DEPOK SLEMAN

Yeni Widdihastuti^a, Uus Kusdinar^b

Program Studi Pendidikan Matematika Universitas Ahmad Dahlan
Jalan Ring Road Selatan, Tamanan, Banguntapan, Bantul Yogyakarta
yeniwiddihastuti@gmail.com, uus.kusdinar@pmat.uad.ac.id

ABSTRACT

Student learning outcomes are determined by many factors. Motivation to learn and the learning environment at home are some of the factors that relate to student learning outcomes. This research aims to know about is there any positive correlation and significance or not between motivation to learn and learning environment at home on mathematics learning outcomes in students class VIII of SMP Muhammadiyah 1 Depok Sleman in even semester in the academic year of 2016/2017. The population in this research was the students of VIII grade in SMP Muhammadiyah 1 Depok Sleman in the academic year of 2016/2017, consisted of class VIIIA, VIIIB, VIIC, VIID totaling 149 students. Samples were taken from VIIC as the research sample class and with the purposive sampling technique. The writer uses a questionnaire method to collect the data of motivation to learn and the learning environment at home and test method the resulting learning of math. The research instrument: validity test and reliability test. Test requirement analysis includes a test of normality, test of linearity, and the test of independence. The writer uses product-moment correlation analysis and multiple linear regression analysis to analyze the data. The results showed that there was a positive and significant relationship between motivation to learn and learning environment at home outcomes in students class VIII in even Semester of SMP Muhammadiyah 1 Depok Sleman in the academic year of 2016/2017. It is showed by $F_{count} > F_{table}$ is $5,126 > 3,276$ with $R = 0,481$ and $R^2 = 0,232$ with $\hat{Y} = 29,636 + 0,390 X_1 + 0,211 X_2$, with $SR X_1 = 75,716\%$ dan $SR X_2 = 24,284\%$, $SE X_1 = 17,541\%$, $SE X_2 = 5,626\%$.

Keywords: Learning Motivation and Learning environment at home, Mathematics Learning Outcomes.

INTRODUCTION

Various attempts have been made to improve the level of student success in mathematics in particular and improve the quality of mathematics education in general. These efforts include curriculum improvement, improvement of teaching materials, optimization of the learning process, procurement of new books, and the provision of mathematical teaching aids, but in reality, the results achieved are not as expected as what was expected.

According to Slameto (2010: 54), learning success is basically influenced by many factors, but can be classified into two groups, namely internal factors, and external factors. Internal factors are factors contained in students including intelligence, attention, interest, talent, motivation, and others, while external factors are factors that are outside the student's self include, including environment, facilities and infrastructure, weather, and others.

Of the many internal factors that are possible to influence student learning outcomes including learning motivation. Where in the learning process requires a driving force for learning mathematics. Motivation can also be said as the difference between being able to carry out and want to carry out mathematics learning because motivation is a strength, both from within and from outside that drives students specifically to learn mathematics. Based on observations made on August 15, 2016, students of SMP Muhammadiyah 1 Depok, Sleman Regency have low motivation to learn, namely the low motivation and need to learn this is indicated by the large number of students who do not concentrate when the teacher explains the lesson in front of the class then the low desire and desire to succeed, which is marked by the many students who are cool chatting with their classmates and do not ask the teacher difficulties when they do not understand the material described, then the low conducive learning environment, which allows

students to learn well that marked by the majority of students lazy to work on the problems given by the teacher, thus causing students to learn mathematics outcomes are not optimal.

In addition to these internal factors, external factors that influence the achievement of student learning outcomes are the learning environment, especially the learning environment at home. The results of interviews on August 12, 2016, some students revealed that the learning environment of students at home is less conducive like the study room, some students said that they do not have a special study room, most students study and do schoolwork in front of the television, there are students who do not have special study tables and chairs, then many students who do not have learning equipment such as rulers, stationery, bows, term and so on. Then there were some students who said that both parents and siblings did not direct them to study mathematics, some were even busy working and helping parents so they did not have time to study mathematics. The learning environment is a system component that also determines the success of the education process. A learning environment is a place where learning activities take place that has external influences on the sustainability of these activities and helps determine the success of the education process. In this study, the home environment is a concern because this factor is very close to the daily lives of students which affects behavior which in turn affects the achievement of learning outcomes.

Home environment that supports the process of teaching and learning activities is a home environment that is not noisy and crowded, and the atmosphere of the house that is too many inhabitants and the atmosphere of the house tense, noisy and often quarreling will greatly affect the concentration of student learning, thus affecting the learning outcomes of students, especially learning mathematics. If the home environment is not bad, it is possible to plunge students into a setback. The environmental aspects that are not good encourage students to not be excited about improving their learning outcomes. Therefore the learning environment at home has a very important role in the success of student learning.

Based on the data of the end of semester test scores (UAS) of odd students of class VIII of SMP Muhammadiyah 1 Depok, Sleman Regency in the 2016/2017 school year, it is known that the total number of all students does not meet the Minimum completeness Criteria (KKM) of 149 students who have not yet reached the KKM value of 75.00 in mathematics which is applied in schools. This shows that student mathematics learning outcomes are still low.

The aim of this research is to find out whether there is a positive and significant relationship between learning motivation and learning environment at home with mathematics learning outcomes of Grade VIII students of SMP Muhammadiyah 1 Depok, Sleman Regency, Academic Year 2016/2017.

THEORY

The definition of motivation itself is expressed by Uno, Hamzah B (2012: 1) motivation is the basic impulse that moves a person to behave. The impetus is in someone who moves himself to do something in accordance with what he wants. Therefore learning mathematics can arise due to intrinsic factors, in the form of the desire and desire to succeed and the drive for the need to learn mathematics.

The role of the environment around the house of residence also affects students in the formation of character in the formation of motivation to learn. The learning environment at home has a major influence on children's learning activities at home, which in turn affects children's learning achievement at school. Munandar, Utami (1999: 81) said that the higher the education level of parents, the better the child's performance. Including the extent to which the family is able to provide certain facilities for children (television, internet, and reading books). While according to Saroni, Muhammad (2006: 82-84) "The learning environment is everything related to where the learning process is carried out. it covers two main things, namely the physical environment and the social environment.

METHODS

The type of research used is as follows:

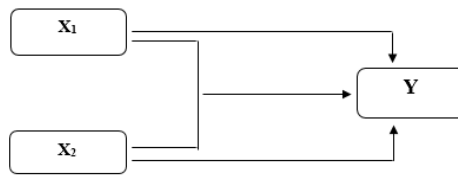


Figure I. Multiple paradigms with two independent variables.

Information:

X₁ = Learning Motivation

X₂ = Learning Environment at Home

Y = Mathematics Learning Outcomes

The study was conducted at SMP Muhammadiyah 1 Depok, Sleman Regency. The study was conducted in the even semester of the 2016/2017 school year. The population in this study were all students of class VIII even semester of SMP Muhammadiyah 1 Depok, Sleman Regency in the 2016/2017 academic year consisting of 4 classes, namely VIII A, VIII B, VIII C, and VIII D where VIIC class was the superior class. Sampling in this study uses a purposive sampling technique for the class that is taken one class with certain considerations, namely the superior class used as a sample class. The research that I conducted on eighth-grade students at Muhammadiyah 1 Junior High School in Depok, amounting to 4 (four) classes, namely VIIC, VIIB, VIIC, and VIID classes. Of the four classes, class VIID, amounting to 38 students, was used as the pilot class and class VIIC, amounting to 37 students, was taken as the research sample.

The techniques used to collect data in this study are questionnaires and tests. Before being used to reveal actual data, the instrument was tested in a pilot class with the aim of knowing the validity and reliability of the instrument or in other words to identify problems that were weak or flawed. According to Arikunto, Suharsimi (2012: 85) a test is said to have validity if the results are in accordance with the criteria, in the sense of having parallels between the results of the tests with the criteria.

The analysis test used in this study is a prerequisite test in the form of a normality test, an independent test and a linearity test, and a hypothesis test. To test the hypothesis, it uses simple linear regression analysis and multiple linear regression tests. The normality test, independent test and linearity test are as follows:

a. Normality test

A normality test is used to determine whether the data used is normally distributed or not. The formula used is the Chi-Square formula

b. Independent Test

Independence test is used to find out whether or not there is a relationship between the independent variable of learning independence (X₁) and the variable of learning resource utilization (X₂), namely by using the formula:

$$\chi^2 = \sum_{i=1}^b \sum_{j=1}^k \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

c. Linearity Test

Linearity Test is used to determine the relationship between independent variables and the dependent variable is linear or not. The test statistics used are:

$$F_{stat} = \frac{RJK_{TC}}{RJK_E}$$

RESULTS AND DISCUSSION

Data on student motivation was obtained from an instrument score given to 37 students in a total of 25 statements. Then obtained the highest score of 121 and the lowest score of 66. The highest average

score of indicators is 148,000 in indicator 3, namely the existence of hopes and ideals for the future, while the lowest average score of indicators is 45,667 on indicator 6, namely the existence of a conducive learning environment so that the possibility someone studies well.

Data on the learning environment at home were obtained from instrument scores given to 37 students totaling 25 statements. Then the highest score of 111 and the lowest score of 78 can be seen in Appendix 9. The highest average score of indicators is 155.00 on indicator 1d, namely the physical environment (other facilities), while the lowest average score of indicators is 118.00 on indicator 1b, namely environment physical (study tables and chairs).

Mathematics learning outcomes data obtained from the instrument score given to 37 students in the amount of 5 questions. Then they obtained the highest value of 98 and the lowest value of 44. The highest score of the highest indicator per indicator is 17,378 in indicator 3 Basic Competence 1, which is using the central angle and arc length in problem-solving, while the lowest average score of indicators is 15.973 in indicator 1 Basic Competency 1 namely determine the elements and parts of a circle, division, and rank in algebraic form.

The things that have been explained above can be explained through linear relationships. In the first hypothesis test, a simple correlation coefficient (r) of 0.438 is obtained at a significant level of 5%. In order to get the determinant coefficient (r^2) of 0.192 which can be explained that 19.2% of learning outcomes are influenced by learning motivation while the rest is influenced by other factors. There are variations in mathematics learning outcomes (Y) which are explained by learning motivation (X_1) through linear lines $\hat{Y} = 46,527 + 0,428 X_1$, with a coefficient of regression direction of 0.428. This means that every increase of one unit X_1 results in a 0.428 increase in Y .

The first hypothesis test result is that there is a positive and significant relationship between learning motivation and mathematics learning outcomes. In other words, the higher the child's learning motivation, the better the child's learning outcomes. If students have an interest and motivation in mathematics, students tend to participate and be enthusiastic when learning mathematics. In addition, students will also learn well and without coercion so that students who have good learning motivation will get good learning outcomes.

In the second hypothesis test, a correlation coefficient (r) of 0.278 is obtained at a significant level of 5%. So that the determinant coefficient (r^2) of 0.078 is obtained which can explain 7.84% of learning outcomes influenced by the learning environment at home, while the rest is influenced by other factors. There are variations in mathematics learning outcomes (Y) which are explained by mathematical communication (X_2) through linear lines $\hat{Y} = 56,181 + 0,290 X_2$ with a coefficient of regression direction of 0.290. This means that every increase of one unit X_2 results in a 0.290 increase in Y .

The second hypothesis test result is that there is a positive and significant relationship between the learning environment at home with mathematics learning outcomes. In other words, the more optimal parental supervision of student learning and learning facilities owned by students at home, the results of learning mathematics will also be good. With a supportive home learning environment, students will be more motivated and motivated to learn so students can learn well. So, the learning process of students is closely related to the learning environment at home. A supportive home learning environment will improve student learning outcomes in mathematics.

From the multiple correlation analysis, it is obtained the value of the multiple correlation coefficient (R) of 0.481. In this study also obtained a coefficient of determination (R^2) of 0.232 meaning 23.2% of learning outcomes are influenced by learning motivation and learning environment at home while the rest is influenced by other factors. There are variations in mathematics learning outcomes (Y) which can be explained by motivation to learn (X_1) and learning environment at home (X_2) through linear lines $\hat{Y} = 29,636 + 0,390 X_1 + 0,211 X_2$. This means an increase in one unit (X_1) results in a 0.390 increase in Y , and an increase in one unit (X_2) results in a 0,211 increase in Y . While for relative contributions X_1 is 75,716% and X_2 is 24.284% and effective contribution X_1 is 17.541% and X_2 is 5.626% .

The third hypothesis test result is that there is a positive and significant relationship between learning motivation and learning environment at home with mathematics learning outcomes. In other words, the better the child's motivation to learn, the better the child's learning outcomes. Likewise with the learning environment, the more optimal parental supervision of student learning, the better the learning outcomes. Learning motivation will run well if supported by parental supervision of student learning and the allowance of learning facilities that students have at home and vice versa if there are no good learning facilities cause students will be hampered in learning so that it can affect student learning outcomes. In addition, a home learning environment that supports the learning process will also make it easier for students to think, be creative, and be able to learn actively. So that arises motivation and interest in learning mathematics. With students interested in learning mathematics, the learning outcomes will be high.

CONCLUSION

Based on the results of research and discussion as described in Chapter IV, the following research conclusions can be drawn:

1. There is a positive and significant relationship between learning motivation and mathematics learning outcomes of VIII grade students of SMP Muhammadiyah 1 Depok, Sleman Regency in the even semester of the 2016/2017 school year. This is indicated by the t-test obtained $t_{count} = 2,886$, $t_{table} = 1,691$ so that $t_{count} > t_{table}$. The simple correlation coefficient (r) between learning motivation with mathematics learning outcomes of 0.438. And the simple regression equation Y for X1 is $\hat{Y} = 46,527 + 0,428 X_1$.
2. There is a positive and significant relationship between the learning environment at home with the mathematics learning outcomes of Grade VIII students of SMP Muhammadiyah 1 Depok, Sleman Regency, Yogyakarta on the even semester of the 2016/2017 school year. This is indicated by the t-test obtained $t_{count} = 1,714$, $t_{table} = 1,691$ so that $t_{count} > t_{table}$. The simple correlation coefficient (r) between the learning environment at home with mathematics learning outcomes of 0.278. In addition, we also obtain a simple regression equation for Y over X₂ is $\hat{Y} = 56,181 + 0,290 X_2$.
3. There is a positive and significant relationship between learning motivation and learning environment with the mathematics learning outcomes of VIII grade students of SMP Muhammadiyah 1 Depok, Sleman Regency in the even semester of the 2016/2017 school year. This is indicated by the F test obtained $F_{count} = 5126$, $F_{table} = 3,276$ so that $F_{count} > F_{table}$. The multiple correlation coefficient (R) between learning motivation and the environment with mathematics learning outcomes is 0.481. and the coefficient of determination (R^2) of 0.232 with a linear line equation $\hat{Y} = 29,636 + 0,390 X_1 + 0,211 X_2$. The relative contribution of X₁ was 75.716% and X₂ was 24.284% and the effective contribution of X₁ was 17.541% and X₂ was 5.626%.

REFERENCES

- Arikunto, Suharsimi. 2012. *Dasar-dasar Evaluasi Pendidikan*. Jakarta: Bumi Aksara.
- Munandar, Utami. 1991. *Mengembangkan Bakat dan Kreativitas Anak Sekolah*. Jakarta: Rineka Cipta.
- Saroni, Muhammad. 2006. *Manajemen Sekolah: Kiat Menjadi Pendidik yang Kompeten*. Jogjakarta: Ar-Ruzz.
- Slameto. 2010. *Belajar dan Faktor-Faktor yang Mempengaruhinya*. Jakarta: Rineka Cipta.
- Uno, H. B. 2012. *Teori Motivasi dan Pengukurannya Analisis di Bidang Pendidikan*. Jakarta: PT Bumi Aksara.