

THE RELATIONSHIP BETWEEN TEACHER'S ATTENTION, LEARNING HABITS, AND HOME STUDY FACILITIES WITH MATHEMATICS LEARNING OUTCOMES

Novi Wahyu Nugroho^a, Harina Fitriyani^b

Program Studi Pendidikan Matematika Universitas Ahmad Dahlan
Jalan Ring Road Selatan, Tamanan, Banguntapan, Bantul, Yogyakarta
^a novi.wahyu.nugroho@gmail.com, ^b harina.fitriyani@pmat.uad.ac.id

ABSTRACT

Many factors influence the low mathematics learning outcome. Teachers' attention, learning habits, and home study facilities may affect students' mathematics learning outcomes. Therefore, this research was conducted in order to determine whether there is a positive and significant relationship between teacher's attention, learning habits, and home study facilities with mathematics learning outcomes in even semester of the eight-grade students at SMP Negeri 7 kebumen academic year of 2016/2017. The population in this research were all students of class VIII SMP Negeri 7 kebumen in academic year 2016/2017 consisting of 3 classes with a total of 92 students. Random sampling techniques used to get the class sample and collected VIII H as a sample that consists of 30 students. Data collection techniques were conducted by questionnaires to the teacher's attention, learning habits, and home study facilities. They are a test method for mathematics learning outcomes. Test instruments used validity and reliability. Prerequisite test analysis using normality test, independent, and linearity test. Hypothesis testing data analysis using simple linear regression analysis and multiple regression analysis and correlation. The results showed that there is a positive and significant correlation among teacher's attention, learning habits and home study facilities with mathematics learning outcomes with $F_{\text{count}} = 11,97$ and $F_{\text{table}} = 2,98$ so $F_{\text{count}} > F_{\text{table}}$, multiple correlation coefficient (R) is 0,76, and the multiple determination coefficient (R^2) is 0,58. While the multiple regression equation is $\hat{Y} = -44,32 + 0,92X_1 + 0,46X_2 + 0,28X_3$, relatively contribution (X_1) = 45,51%, the relative contribution (X_2) = 31,19%, the relative contribution (X_3) = 23,30% and effective contribution (X_1) = 26,40%, the effective contribution (X_2) = 18,10%, and the effective contribution (X_3) = 13,52%.

Keywords: Teacher's attention, learning habits, home study facilities, mathematics learning outcomes.

INTRODUCTION

Translation of the 1945 Constitution regarding the function of education is outlined in Law no. 20 of 2003. Article 3 states that: National Education functions to develop the ability and shape the character and civilization of a dignified nation in order to educate the life of the nation, aiming at developing the potential of learners to become human beings who believe in and fear God Almighty, noble, healthy, knowledgeable, capable, creative, independent, and become citizens who are democratic and responsible. SMP Negeri 7 Kebumen can prepare students for senior secondary education and compete with other junior high schools. However, many obstacles that result in learning outcomes, especially in mathematics subject, to decline. Based on the data of final exams scores obtained from mathematics teachers of grade VIII of SMP Negeri 7 Kebumen, 37.63% of students' scores are still below the Minimum Mastery Criteria(MMC), which is 72 in Mathematics subjects applied in schools. This shows that student learning outcomes in mathematics have not been maximized or are still below the MMC. Of the many influential factors, some factors are suspected to influence learning outcomes of Grade VIII students of SMP Negeri 7 Kebumen, namely teacher attention, study habits, and learning facilities at home. The teacher's attention is the concentration of one's teacher's mental awareness directed to students to do an activity. Winarni, Sudati (2014: 42-43) argues, A teacher in interaction with students must be able to: be a role model, always be wise towards students, not be angry, motivate students to learn, be able to stimulate students to be creative, not choose, give commands pleasantly, giving rebuke wisely.

From the observations of several students of SMP Negeri 7 Kebumen on October 5, 2016, it was found that some teachers have not been able to give full attention to their students. With excellent attention, good learning habits will arise so that learning outcomes to be achieved by students will also increase. Learning habits are behaviors or activities that are carried out repeatedly and experience changes in behavior as a whole through the activities, practices, and experiences of the individuals themselves. According to Slameto (2010: 82), some habits affect learning, including making schedules and implementing them, reading and taking notes, repeating lesson material, doing assignments. Students want maximum mathematical learning outcomes then must form good math learning habits. Another factor that plays a role in determining the success of student learning is learning facilities at home. Learning facilities at home are all the needs needed by students to facilitate, and facilitate the process of gaining knowledge so that students can learn to the maximum and obtain satisfying results. Slameto (2010: 63) said that children who are learning besides fulfilling their basic needs, for example, eating, clothing, health protection, and others, also need learning facilities such as places/study rooms, tables, chairs, lighting, stationery, books- books, etc. This study aims to determine whether there is a relationship between teacher attention, study habits and learning facilities at home with student mathematics learning outcomes.

RESEARCH METHOD

This research is quantitative research with populations of class VIII even semester of SMP Negeri 7 Kebumen 2016/2017 Academic Year consisting of 3 classes. Sampling is done by random sampling of the class. The research sample consisted of 30 students in class VIII H. Data collection techniques used were questionnaires and test methods. Questionnaires are a data collection technique done by giving a set of statements or written questions to respondents to be answered (Sugiyono: 2012). A test is a tool or procedure that is systematic and objective to obtain the desired data or information about a person, in a way that can be said to be precise and fast (Arikunto, Suharsimi: 2009). The instruments used were questionnaires and tests. The questionnaire was used to obtain data on teacher attention, study habits, and learning facilities. In contrast, tests were used to obtain data on mathematics learning outcomes on the subject of building flat side spaces. Before the instruments were tested in the research class, so that the test results of the learning outcomes that were compiled did not deviate from the material being taught, then made a grid, a test item, a questionnaire question, and a study of test items and a questionnaire of the test. The instruments that have been compiled are then tested in the first-class test class VIII G. Furthermore, the test items are analyzed using the validity test using the product-moment formula, different power using the discrimination index formula, and the reliability test using the Kuder Richardson-20 (KR) formula -20). The analysis prerequisite test used the normality test, independent test, and linearity test—data analysis using linear regression analysis and correlation analysis. Also, a contribution test was conducted to determine the relative contribution and effective contribution of the teacher's attention, study habits, and learning facilities at home with mathematics learning outcomes.

RESULTS AND DISCUSSION

The research that has been carried out obtained data teacher attention, study habits, and learning facilities at home and mathematics learning outcomes. Based on the normality test that has been done, it was found that the four variables of teacher attention, study habits, and learning facilities at home and mathematics learning outcomes were usually distributed. The summary of normality test results can be seen in Table 1.

Table 1. Normality Test Results

No.	Variable	χ^2_{count}	χ^2_{table}
1.	Teacher's attention (X_1)	1,11	11,07
2.	Study Habits (X_2)	4,80	11,07
3.	Learning Facilities at Home (X_3)	2,84	11,07
4.	Mathematical Learning Outcomes (Y)	4,52	11,07

Based on the independent tests that have been carried out, it is found that the three independent variables, the teacher's attention, and study habits, the attention of the teacher and learning facilities at home, as well as the study habits and learning facilities at home, are obtained that the variables are mutually independent or mutually independent. The summary of independent test results can be seen in Table 2.

Table 2. Independent Test Results

No.	Variable	χ^2_{count}	χ^2_{table}
1	X ₁ with X ₂	28,95	37,65
2	X ₁ with X ₃	35,66	37,65
3	X ₂ with X ₃	36,74	37,65

Based on the linearity test that has been done, it is found that between the teacher's attention with the results of learning mathematics, study habits with the results of learning mathematics and learning facilities at home with the results of learning mathematics, there is a linear relationship. The summary of linearity test results can be seen in Table 3.

Table 3. Linearity test results

No.	Variable	χ^2_{count}	χ^2_{table}
1	X ₁ with Y	1,47	2,49
2	X ₂ with Y	0,60	2,69
3	X ₃ with Y	1,26	2,95

Based on the results of the F-test multiple correlation analysis, the correlation coefficient obtained teacher's attention (X₁), study habits (X₂) and learning facilities at home (X₃) with mathematics learning outcomes (Y) of 0.76 and the results of $F_{count} = 11,97$ while $F_{table} = 2,98$ at a significant level of 5% and ν_1 numerator = $p = 3$ and ν_2 denominator = $n - p - 1 = 26$. So $F_{count} > F_{table}$, the seventh hypothesis has been tested by rejecting $H_{0,7}$ and accepting $H_{1,7}$ which means that there is a positive and significant relationship between teacher's attention, study habits, and learning facilities at home with mathematics learning outcomes of students of class VIII even semester of SMP Negeri 7 Kebumen Academic Year 2016/2017. While the regression equation is $\hat{Y} = -44,32 + 0,92X_1 + 0,46X_2 + 0,28X_3$. The magnitude of the relative contribution (RC%) and the magnitude of the effective contribution (EC%) for each variable X₁, X₂, and X₃ with the Y variable can be seen in Table 4.

Table 4. Relative Contributions and Effective Contributions

Variable	Relative Contributions (RC%)	Effective Contributions (EC%)
X ₁	45,51%	26,40%
X ₂	31,19%	18,10%
X ₃	23,30%	13,52%
Total	100 %	58,02 %

In further discussion of the results of the study analyzed in correlation. This research found that:

1. The relationship between the teacher's attention and mathematics learning outcomes. The first hypothesis test result is that there is a positive and significant relationship between the teacher's attention and mathematics learning outcomes. In this study, a simple correlation coefficient (r) of 0.63 was obtained at a significant level of 5% and $df = 28$. A determinant coefficient (r^2) was obtained that was 0.39, which could be explained that the teacher's attention influenced 39% of learning outcomes while other factors influenced the rest. This can be explained through the linear relationship $\hat{Y} = -13,21 + 1,37 X_1$ with a coefficient of regression direction of 1.37. From the

results of this calculation, it can be seen that with increasing teacher attention, student mathematics learning outcomes will be even better, and vice versa.

2. The relationship between study habits with mathematics learning outcomes. The second hypothesis test result is that there is a positive and significant relationship between learning habits with mathematics learning outcomes. In this study, a simple correlation coefficient (r) of 0.66 was obtained at a significant level of 5% and $df = 28$. So that a determinant coefficient (r^2) of 0.38 was obtained, which can be explained that learning habits influence 38% of learning outcomes while other factors influence the rest. This can be explained through the linear relationship $\hat{Y} = -3,89 + 0,96 X_2$, with a regression coefficient of 0.96. From the results of this calculation, it can be seen that with the increase in learning habits, student mathematics learning outcomes will be even better, and vice versa.
3. Relationship between learning facilities at home with mathematics learning outcomes. The third hypothesis test results show a positive and significant relationship between learning facilities at home with mathematics learning outcomes. In this study, a simple correlation coefficient (r) of 0.64 was obtained at a significant level of 5% and $df = 28$. A determinant coefficient (r^2) was obtained of 0.40, which can be explained that 40% of learning outcomes are influenced by learning facilities at home while other factors influence the rest. This can be explained by the linear relationship $\hat{Y} = -5,24 + 0,85 X_3$, with a regression coefficient of 0.85. From the results of these calculations, it can be seen that with the increase in learning facilities at home, student mathematics learning outcomes will be even better, and vice versa.
4. Relationship between teacher attention and learning habits with mathematical learning outcomes. The fourth hypothesis test result is that there is a positive and significant relationship between teachers' attention and learning habits with mathematical learning outcomes. This study acquired a double correlation coefficient (R) of 0.75. A determinant (r^2) was obtained of 0.56, which could be explained that 56% of the outcomes were influenced by the teacher's attention and learning habits the rest were in. In contrast, ed by factors Other. This can be explained through. In contrast, linear relationship $\hat{Y} = -42,79 + 1,01 X_1 + 0,69 X_2$. in other words, when the teacher's attention and high learning habits, the student's mathematical learning results will be increased, and vice versa. —as for the relative contribution of X_1 of 51.60% and X_2 amounted to 48.40% as well as the effective contribution of X_1 by 29.09% and X_2 by 27.27%.
5. Relationship between teacher attention and home study facilities with mathematical learning outcomes. The fifth hypothetical test result is a positive and significant relationship between teacher attention and home study facilities with mathematical learning outcomes. This study acquired a double correlation coefficient (R) of 0.74 and a coefficient of the determinant (R^2) of 0.55, which could be explained that 55% of the outcomes were influenced by the attention of teachers and home study facilities. In contrast, the rest were influenced by Other factors. This can be explained through the linear relationship $\hat{Y} = -36,91 + 0,93 X_{-1} + 0,59 X_{-3}$, in other words when the teacher's attention and home study facilities are high, the student's mathematical learning results will be increased, and vice versa. As for the relative contribution of X_1 of 48.96% and X_3 by 51.04% as well as an effective contribution of X_1 of 26.73% and X_3 of 27.86%.
6. Relationship between learning habits and home-study facilities with mathematical learning outcomes. The sixth hypothesis of hypotheses is that there is a positive and significant relationship between learning habits and home-study facilities with mathematical learning outcomes. This study acquired a double correlation coefficient (R) of 0.66 and a coefficient of the determinant (R^2) of 0.44, which could be explained that learning habits and home-study facilities influenced learning habits and home-study facilities influenced 44% of the outcomes. In contrast, the rest were influenced by other factors. This can be explained through the linear relationship $\hat{Y} = -13,44 + 0,48 X_{-2} + 0,53 X_{-3}$, in other words, when the learning habits and the high-home learning facilities,

the students' math learning results will be increased, and vice versa. As for X_2 relative contributions of 43.05% and X_3 of 59.95% and an effective contribution of X_2 by 19.01% and X_3 of 25.15%.

- Relationship between teacher attention, learning habits, and home-study facilities with mathematical learning outcomes. The seventh hypothetical test result is a positive and significant relationship between teacher attention, learning habits, and home-study facilities with mathematical learning outcomes. In this study acquired a double correlation coefficient (R) of 0.76. It can be explained via linear relationship $\hat{Y} = -44,32 + 0,92X_1 + 0,46X_2 + 0,28X_3$. Meaning each increment of one unit of X_1 resulted in 0.92 increase in Y , the increment of one unit X_2 resulted in 0.46 increase in Y . The increment of one X_3 unit resulted in a 0.28 Y increase. When the teacher's attention, learning habits and learning facilities in the High House, the student's mathematical learning results will be increased, and vice versa. As for the relative contribution of X_1 of 45.51%, X_2 amounted to 31.19%, and X_3 by 23.30% and an effective contribution of X_1 of 26.40%, X_2 of 18.10%, and X_3 of 13.52%. This shows that the teacher's attention gives a more significant relationship to the mathematical learning outcomes than the learning habits and home-study facilities. The coefficient of the determinant (R^2) of 0.58 means that students' mathematical outcomes are influenced by teachers' attention, learning habits, and home-study facilities of 58%, while 42% are influenced by other factors not addressed in This research.

CONCLUSION

Based on the results of research and discussion, it can be concluded:

- There is a positive and significant relationship between teachers' attention and the results of learning Mathematics of SMP Negeri 7 Kebumen school year 2016/2017.
- There is a positive and significant relationship between the learning habits and the Mathematics of SMP Negeri 7 Kebumen school year 2016/2017.
- There is a positive and significant relationship between the home study facilities and the Mathematics of SMP Negeri 7 Kebumen school year 2016/2017.
- There is a positive and significant relationship between the teacher's attention and learning habits with the learning results of the mathematics of SMP Negeri 7 Kebumen school year 2016/2017.
- There is a positive and significant relationship between the teacher's attention and the home study facilities with the learning results of mathematics of SMP Negeri 7 Kebumen school year 2016/2017.
- There is a positive and significant relationship between the learning habits and the home study facilities with the mathematical learning results of SMP Negeri 7 Kebumen school year 2016/2017.
- There is a positive and significant relationship between teachers' attention, learning habits, and at-home study facilities with the mathematical outcomes of SMP Negeri 7 Kebumen, school year 2016/2017.

REFERENCES

- Arikunto, Suharsimi. 2009. *Dasar-dasar Evaluasi Pendidikan*. Jakarta: Bumi Aksara
- Departemen Pendidikan Nasional Republik Indonesia. 2003. *Undang-undang RI Nomor 20 Tahun 2003 Tentang Sistem Pendidikan Nasional*. Jakarta: Biro Hukum dan Organisasi Sekretariat Jenderal Departemen Pendidikan Nasional
- Arikunto, Suharsimi. 2012. *Prosedur Penelitian Suatu Pendekatan Praktik*. Jakarta : Bumi Askara.
- Slameto. 2010. *Belajar dan Faktor-faktor yang Mempengaruhinya*. Jakarta: PT Rineka Cipta.
- Sugiyono. 2012. *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta
- Winarni, Sudati. 2014. *Pengaruh Perhatian Guru, Motivasi Belajar, dan Kecerdasan Emosional terhadap Prestasi Belajar Biologi Siswa SMA Negeri 2 Bantul*. Jurnal BIOEDUKATIKA. UAD