THE CORRELATION BETWEEN THE PARENTAL ATTENTION AND STUDY TIME AT HOME WITH THE RESULTS OF LEARNING MATHEMATICS

Siti Bunayah[a], Uus Kusdinar[b]
Program Studi Pendidikan Matematika Universitas Ahmad Dahlan
Jalan Ring Road Selatan, Tamanan, Banguntapan, Bantul Yogyakarta
[a]nanay6086@gmail.com, [b]uus.kusdinar@pmat.uad.ac.id

ABSTRACT

Student learning mathematics results relate to many factors. Interest in learning, learning independence, and learning a facility are some of the factors suspected to be related to learning outcomes. This study aims to determine whether there is a positive and significant relationship between parental attention and study time at home with the results of a learning mathematics students of class VIII odd semester SMP Muhammadiyah 6 Yogyakarta in the academic year 2017/2018. This study's population are all students of class VIII odd semester Junior High School (SMP) Muhammadiyah 6 Yogyakarta in the academic year 2017/2018 consisting of four classes with 106 students. Samples were taken by random sampling technique and obtained class VIII A, consisting of 28 students. Data collection techniques used questionnaires and test techniques. Test of research instrument using validity test, reliability test, and test of different power. Existence prerequisite tests include normality tests, independent tests, and linearity tests. To analysis the data, the researcher using correlation analysis and linear regression analysis. The results showed that there was a positive and significant correlation between learning parental attention (X_1) and learning study time at home (X_2) with students' mathematics learning result with $F_{count} > F_{table}$ ie 4,301> 3.37 with R = 0,506 and R^2 = 0,256 with Y = 19,368 + 0,307X_1 + 0,360X_2, and RC (X_1) = 53,539 % and RC (X_2) = 46,461%, EC (X_1) = 13,305% and EC (X_2) = 11,199%.

Keywords: Attention, study time, Results of learning.

INTRODUCTION

Education is used as an indicator of a nation's progress, which is very important in building a nation's competence. With education, humans can face and solve the problems and challenges they face. Talking about education cannot be separated from the efforts that must be made to create competent and quality human resources. The quality of education is closely related to learning outcomes. Learning outcomes are changes in cognitive, affective, and psychomotor aspects as a result of learning activities. At this time, mathematics is one of the basic science that continues to develop. According to Johnson and Rising (in Suherman, 2003), mathematics is a language that uses terms that are defined carefully, clearly, and accurately, its representation with symbols and reliability, more in the form of symbolic language about ideas than about sound.

In general, learning outcomes are influenced by two factors, namely, internal and external factors. Internal factors include intelligence, talent, interest, motivation, and learning of students themselves. While external factors include the family, environment, teachers, community, school, and learning facilities themselves are included in external factors from the information above, it can be seen that many factors influence student learning outcomes.

Internal factors that are thought to affect mathematics learning outcomes are how students learn how to use the available learning time properly. Herry Shaw (in Gie, 1995) asserts that Learning to use time is a valuable acquisition skill. This skill provides benefits not only in studies but throughout life. In addition to internal factors, external factors that are thought to influence learning outcomes in mathematics are families. Families here are more concerned with the parents given to their children according to Slameto (2010), saying that a good relationship is a caring and loving relationship, accompanied by guidance, supervision, and if necessary penalties for the success of children's learning.

However, in reality, many VIII grade students at SMP Muhammadiyah 6 Yogyakarta do not like mathematics, so mathematics learning outcomes are still low. Based on data retrieval results, the poor student learning outcomes can be seen from the odd Midterm Examination scores on mathematics students. The following are UTS results obtained by VII grade students of SMP Muhammadiyah 6 Yogyakarta, shown in Table 1.

Table 1. Midterm scores for Class VIII in the odd semester of SMP Muhammadiyah 6 Yogyakarta for the 2017-2018 academic year

Class	VIII A	VIII B	VIII C	VIII D
Mathematical Average Score	61,62	43,55	30,26	42,78
Highest	88	70	50	72,00
Lowest	11,70	25,67	14,55	10,54
≥ 75	6	0	0	0
< 75	22	26	26	26

(Source: SMP Muhammadiyah 6 Yogyakarta)

Based on the table above, it can be seen that the average grade of students in the Midterm Semester Exams of Grade VIII of SMP Muhammadiyah 6 Yogyakarta is still low.

Students' ability to learn mathematics can be measured through mathematics learning outcomes. According to Abdurahman in Jihad and Haris (2009: 14-16), children's learning outcomes are obtained after learning activities. The results of learning mathematics show how the level of student mastery of mathematics subjects. Several factors influence the poor learning outcomes. According to Slameto (2010: 54), Factors that influence learning of many types but can be classified into two groups, namely internal factors, and external factors.

Based on the results of interviews and observations with several students, most children consider mathematics a problematic subject, lack of parents' attention, lack of use of time at home to learn. Internal factors that can affect learning outcomes are the use of study time at home. The majority knows the low utilization of study time at the home of students who cannot use the time available at home as well as possible. The lack of use of study time at home is inseparable from the role of teachers and parents. Teachers and parents should be more motivating to students to bring up a great sense of curiosity, so wherever he can use the time he has well. According to Bahri (2008: 25), learning time is a factor in improving learning outcomes due to more study time at home than at school.

In addition to internal factors, external factors that affect mathematics learning outcomes are Parents' Attention. Parents' attention is the first and foremost educator because parents spend more time with their children than others. According to Purwanto (2011: 49), parents are genuine educators who accept God's task to educate their children. So parents must give more education, attention, and affection to children.

According to Slameto (2010: 60), the way parents educate their children greatly influences their children's learning. The attention that is too disciplined is also not a good thing to apply in educating children because it will cause rebellious attitudes towards children because children feel depressed. Parents' right attitude is to give genuine, loving care and give children freedom of opinion and always build relationships. A harmonious relationship between families will create a comfortable home atmosphere for children and other families to encourage children to be more active and enthusiastic in learning. According to Slameto (2010: 62), A good relationship is a loving relationship, accompanied by guidance, direction, and, if necessary, punishment for the success of children's learning.

Based on the background of the problem can be formulated problems that can be taken in this study are: 1) Is there a positive and significant relationship between parents' attention and the mathematics learning outcomes of students of class VIII at SMP Muhammadiyah 6 Yogyakarta odd semester for the academic year 2017/2018? 2) Is there a positive and significant relationship between the use of study time at home with the mathematics learning outcomes of students of class VIII at SMP Muhammadiyah 6 Yogyakarta odd semester of the academic year 2017/2018? 3) Is there a positive and significant relationship between parents' attention and the use of study time at home with the

mathematics learning outcomes of Grade VIII students at SMP Muhammadiyah 6 Yogyakarta odd semester for the academic year 2017/2018?

Based on the problem formulation, this study's objectives are to 1) To determine whether there is a positive and significant relationship between parents' attention and mathematics learning outcomes of class VIII students at SMP Muhammadiyah 6 Yogyakarta semester of the academic year 2017/2018. 2) To determine whether there is a positive and significant relationship between the use of study time at home with the mathematics learning outcomes of eighth-grade students at SMP Muhammadiyah 6 Yogyakarta an odd semester of the academic year 2017/2018. 3) To determine whether there is a positive and significant relationship between parents' attention and the use of study time at home with the mathematics learning outcomes of students of class VIII at SMP Muhammadiyah 6 Yogyakarta odd semester of the academic year 2017/2018.

METHODS

This research is classified as quantitative research, used to examine specific populations or samples, sampling techniques are generally carried out randomly, and data collection uses research instruments. The following research design is shown in Figure 1.

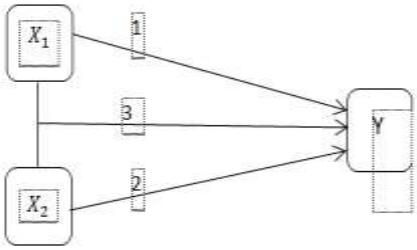

Figure 1. Research Design X_1, X_2, and Y

The place of research was carried out at SMP Muhammadiyah 6 Yogyakarta, located at Jl. Letjen Suprapto No.86, RW.001, Pringgokusuman Gedong Tengen Meanwhile, Yogyakarta city. The study was conducted on November 1, 2017. This study's population were all eighth-grade students of the odd semester of SMP Muhammadiyah 6 Yogyakarta, consisting of 4 classes. The sampling technique in this study used a random sampling technique for class. It is said to be random. The sampling class is done randomly from the existing class because the class's preparation is random. The sample class is VIII A, with 28 students.

In this study, three variables are consisting of two independent variables, namely parents' attention (X_1) and the use of study time at home (X_2), and one dependent variable, namely mathematics learning outcomes (Y). Data collection techniques used questionnaires and test methods. In this study, the questionnaire method was used to obtain data on learning interests and learning facilities. The test method is used to obtain data on mathematics learning outcomes for class VIII students at SMP Muhammadiyah 6 Yogyakarta.

In this study, the class taken as a trial class was class VIII C, with 26 students. This study's trial questionnaire instrument used a validity test by reviewers and a reliability test using the alpha formula (Arikunto, 2012: 122-123). Meanwhile, the test instrument uses a validity test with the product-moment correlation formula (Sugiyono, 2015: 255), a different power test with a discrimination index formula (Arikunto, 2012: 232), and a reliability test using the KR-20 formula (Arikunto, 2012: 115). After the data has been collected, descriptive data analysis and analysis, prerequisite tests are carried out. Descriptive data analysis determines the grouping of high, medium, and low student data. The analysis prerequisite tests must be met, namely the normality test, independent test, and linearity test, meanwhile, for data analysis using correlation analysis and linear regression analysis.

RESULTS AND DISCUSSION

Rating Data Description:

a. Parent Attention Data. The attention of parents of eighth-grade students of SMP Muhammadiyah 6 Yogyakarta odd semester of the academic year 2017/2018 is included in the medium category because the highest frequency is located at intervals of 64,480≤ x≤ 84,876, namely as many as 15 students or 53,571%.
b. Data on the Use of Study Time at Home. The Use of Study Time at Home in VIII grade students of SMP Muhammadiyah 6 Yogyakarta odd semester of the academic year 2017/2018 is included in the medium category because the highest frequency is located at intervals of $71{,}432 \leq x \leq 86{,}424$, namely as many as 16 students or 57.14%.
c. Mathematics Learning Outcomes Data. Mathematics learning outcomes of VIII grade students of SMP Muhammadiyah 6 Yogyakarta odd semester of the academic year 2017/2018 are included in the medium category because the most significant frequency lies in the interval $61{,}598 \leq x \leq 81{,}116$, namely as many as 19 students or 67.86%.

Based on the normality test, it was found that the parents' attention variables, the use of study time at home, and the learning outcomes of mathematics were normally distributed. The results of the normality of the three variables can be seen in Table 2.

Table 2. Normality Test Results

No	Variable	χ^2_{count}	χ^2_{table}	Df	Information
1	Parent Attention (X_1)	2,092	5,9915	2	Normal
2	Use Of Study Time At Home (X_2)	0,366	5,9915	2	Normal
3	Mathematics Learning Outcomes (Y)	4,209	7,8147	3	Normal

Based on the independent test it was found that the parent's concern variable (X_1) with the use of study time at home (X_2) was independent. Independent test results can be seen in Table 3. Based on the independent test, it was found that the parent's attention variable (X_1) and the use of study time at home (X_2) were independent. The independent test results can be seen in Table 3.

Table 3. Independent Test Results

No	Variable	χ^2_{count}	χ^2_{table}	df	Information
1	X_1 to X_2	21,5140	37,6525	25	Independent

Based on the linearity test, it was found that parents' attention with the results of learning mathematics and the use of learning time at home with the results of learning linear mathematics. The results of the linearity test can be seen in Table 4.

Table 4. Linearity Test Results

No	Variable	F_{count}	F_{table}	Information
1	X_1 to Y	1,202	3,46	Linear
2	X_2 to Y	1,642	2,53	Linear

a. The first hypothesis test result is $t_{count} > t_{table}$ or $2.158 > 1.7056$, then $H_{0.1}$ is rejected, and $H_{1.1}$ is accepted, which means there is a positive and significant relationship between parents' attention and mathematics learning outcomes of VIII grade students of SMP Muhammadiyah 6 Yogyakarta odd semester year 2017/2018 teachings.
b. The second hypothesis test results are $t_{count} > t_{table}$ or $2.186 > 1.7056$, then $H_{0.2}$ is rejected, and $H_{1.2}$ is accepted, which means there is a positive and significant relationship between the use of study time at home with mathematics learning outcomes of VIII grade students of SMP Muhammadiyah 6 Yogyakarta semester odd in the 2017/2018 school year.
c. The third hypothesis test results are $F_{count} > F_{table}$ or $4.301 > 3.37$ then $H_{0.3}$ is rejected, and $H_{1.3}$ is accepted, which means there is a positive and significant relationship between parents'

attention and use of study time at home with mathematics learning outcomes of VIII students SMP Muhammadiyah 6 Yogyakarta odd semester of the academic year 2017/2018.

The results showed a positive and significant relationship between parents' attention and mathematics learning outcomes, with a simple correlation coefficient R = 0.394 and $t_{count} = 2.158$ while t_{table} at a significant level of 5% with dk = 26 that is equal to 1.7056 then obtained $t_{count} > t_{table}$ or $2.158 > 1.7056$. This can be explained through the linear relationship $\hat{Y} = 44{,}908 + 0{,}347X_1$. Every increase of one unit X_1 results in a 0.347 increase of Y. In other words, if parents' attention is excellent towards children, it will positively impact mathematics learning outcomes. From the results of these calculations, it can be seen that the student's mathematics learning outcomes will be better by increasing parents' attention.

The results showed a positive and significant correlation between study time at home with mathematics learning outcomes. A simple correlation coefficient (R) $= 0.370$ and $t_{count} = 2.186$. In contrast, the table at a significant level of 5% with dk = 26 is equal to 1.7056 then obtained $t_{count} > t_{table}$ or $2.186 > 1.7056$. This can be explained through the linear relationship $\hat{Y} = 37{,}986 + 0{,}415X_2$. Every increase of one unit of X_2 results in a 0.415 increase in Y. In other words, the use of study time at home is high; it will have a positive impact on mathematics learning outcomes. From the results of this calculation, it can be seen that by increasing and utilizing study time at home, student mathematics learning outcomes will be better.

The results showed a positive and significant relationship of parents' attention and use of study time with mathematics learning outcomes, with multiple correlation coefficients R = 0.506 and R^2 = 0.256 with $F_{count} = 4.301$ while F_{table} = 3.37 at 5% significant level with degrees of freedom (dk) numerator ($v_2 = k = 2$) and denominator $V_2 = nk - 1 = 28 - 2 - 1 = 25$). So we get $F_{count} > F_{table}$ or $4.301 > 3.37$. This can be explained through the linear relationship $\hat{Y} = 19{,}368 + 0{,}307\,X_1 + 0{,}360\,X_2$. While the relative contribution of X_1 is 53.539%, the relative contribution of X2 is 46.561%. Effective contribution X_1 is 13.305%, effective contribution X_2 is 11.199%. Parent's attention variable (X_1) gave the biggest contribution to studying time at home, namely the relative contribution of X_1 by 53.539% and the effective contribution of $X_1$by 13.305%. From the discussion above, parents' attention is a factor that greatly influences the learning outcomes of mathematics. Every increase of one unit X_1 results in a 0.307 increase in Y; every increase in one unit X_2 results in a 0.360 increase in Y. From the results of this calculation, it can be seen that by increasing parents' attention and making good use of time at home to study, students' mathematics learning outcomes will be better.

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 parents' attention and the use of study time at home with mathematics learning outcomes of VIII grade students of SMP Muhammadiyah 6 Yogyakarta odd semester in the academic year 2017/2018.

REFERENCES

Arikunto, S. 2012. *Dasar-Dasar Evaluasi Pendidikan*. Jakarta: Bumi Aksara.
Bahri, D, S. 2008. *Rahasia Sukses Belajar*. Jakarta: Rineka Cipta.
Gie, The Liang. 1995. *Cara Belajar yang Efisien.*Yogyakarta: Liberty.
Jihad, Asep. 2009. *Evaluasi Pembelajaran.* Yogyakarta: Multi Pressindo.
Purwanto, N. 2011. *Ilmu Pendidikan Teoritis dan Praktis.*Bandung:PT Remaja Rosdakarya.
Slameto. 2010. *Belajar dan Faktor-Faktor yang Mempengaruhinya*. Jakarta: Rineka Cipta.
Sugiyono. 2015. *Metode Penelitian Pendidikan*. Bandung: Alfabeta.
Suherman, Eman, dkk. 2003. *Strategi Pembelajaran Matematika Kontemporer*. Bandung: Jica.