THE RELATIONSHIP BETWEEN INTEREST INDEPENDENT AND PARENT'S ATTENTION WITH MATHEMATICS LEARNING OUTCOMES

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ABSTRACT

The mathematics students are learning outcomes are associated with many factors. Interest independent and parents attention some of the factors related to learning outcomes. This study aims to determine the presence or absence of a positive and significant relationship between interest independent and parents attention with learning achievement mathematics comes students class VIII Islamic Junior High Scool (MTs) Muhammadiyah Karangkajen Yogyakarta semester in the academic year of 2016/2017. This study's population is all students of class VIII MTs Muhammadiyah Karangkajen Yogyakarta semester in the academic year of 2016/2017, consisting of 5 classes with 151 students. The experimental class and the sample class were taken by random sampling technique to the class. They obtained the trial class VIII A and VIII B as the sample class. The technique of collecting data is done by test, questionnaire method, and interview. The instrument using the test, questionnaire method, and interview. Test the instrument using the validity test, a test of different power and reliability test. Test prerequisite analysis that is normality test, independent test, and linearity test. Analysis of data using product-moment correlation analysis and multiple linear regression analysis. The results showed a positive and significant relationship between independent interest and parents' attention to mathematics learning. Students class VIII in even Semester of MTs Muhammadiyah Karangkajen Yogyakarta semester in 2016/2017. It is showed by F_{count} = 5.8345 > F_{table}= 3.3541 with R = 0.5493 and R^2 = 0.3018 with $\hat{Y} = -25.1145 + 0.7845\,X_1 + 0.3878\,X_2$, with RC X_1= 47.6110%, RC X_2= 52.3890%, EC X_1= 14.3675%, EC X_2= 15.8093%.

Keywords: Interest Independent and Parents Attention, Mathematics Learning Outcomes.

INTRODUCTION

Education is a learning process carried out by someone to gain knowledge, broad insights, and skills. Education is the most important thing in a person's life because, through education, a person can be seen as respectful and behave well under applicable norms. The purpose of education in schools directs all components such as teaching methods, media, materials, and evaluation tools selected by educational objectives. To determine the achievement of educational goals can be obtained based on the teaching and learning process.

Mathematics is a basic science that must be mastered in developing science and technology. Mathematics also plays an important role in developing the ability to think logically, analytically, systematically, creatively, and improve students' ability to apply mathematics to face life's challenges in solving problems. However, in reality, many students do not like math and think that mathematics is complicated.

Interest is a high desire to do something you like is shown with pleasure through passion and initiative, attention through concentration and accuracy, involvement through a will, perseverance, and hard work. In the opinion of Khairini, Makmum (2014: 136), interest is interpreted in various ways, varying according to their ways and perspectives. Based on the experts' opinion, the interests are interpreted in various ways according to each student's perspective in learning mathematics. Each student has a different interest in learning. One of the teachers who taught mathematics and eighth-grade students at MTs, Muhammadiyah Karangkajen Yogyakarta, stated that students' interest in learning, especially in mathematics, is still low. This can be seen from some students who do not like mathematics.

Based on observations on October 12, 2016, most students in the teaching and learning process, some students chatted alone, did not do the teacher's assignments. When the learning process took place, some students were outside the class, not following the lesson. Some students do not have enough self-confidence when they appoint one student to work on the problem in front of the class because they do not yet know the right or wrong answers. Feelings of anxiety arise in students. Thus, low student interest in learning will impact understanding and mastery of the material in mathematics. This will undoubtedly hurt mathematics learning outcomes.

The early education for the development of personality and student education is family education. Some parents who spend time to work, without regard to student learning activities at home, even parents do not ask about student learning activities at school. According to Soemanto Wasty (1984: 33), attention is focused on the scope of objects that are very limited and attention to something when focused on the scope of broad or focused objects on various objects. Based on experts' opinion, it can be concluded that attention is an activity that causes increased activity aimed at an object or a group of objects. Based on observations on October 12, 2016, some students did not do homework because they forgot to give them an assignment. At home, students never learn. If some tasks or materials have not been mastered, students often ask friends compared to parents, especially in mathematics. Another problem faced by students when working on exam questions; students cannot work on problems because students at home do not study. Thus, the low attention of parents of students will impact the impact on very low math scores. This will undoubtedly hurt mathematics learning outcomes. Student learning's success is determined not only by the subject teacher at school but also by parents' attention and role.

In accordance with the formulation of the problem that has been described, the research objectives are as follows: 1) To find out whether or not there is a positive and significant relationship between interest in learning with mathematics learning outcomes of eighth grade students of MTs Muhammadiyah Karangkajen Yogyakarta Even Semester Academic Year 2016/2017. 2) To find out whether or not there is a positive and significant relationship between parents' attention and mathematics learning outcomes of eighth grade students of MTs Muhammadiyah Karangkajen Yogyakarta Even Semester Academic Year 2016/2017. 3) To find out whether or not there is a positive and significant relationship between interest in learning and the attention of parents with mathematics learning outcomes of eighth grade students of MTs Muhammadiyah Karangkajen Yogyakarta Even Semester Academic Year 2016/2017. 4) To find out whether or not there is a dominant element of the aspect of interest in learning with mathematics learning outcomes of students of class VIII Muhammadiyah Karangkajen Yogyakarta Even Semester 2016/2017 Academic Year. 5) To determine whether or not there is a dominant element of parents' attention to the mathematics learning outcomes of eighth-grade students of MTs Muhammadiyah Karangkajen Yogyakarta Even Semester Academic Year 2016/2017.

METHODS

Quantitative research methods can be interpreted as a research method based on the philosophy of positivity, used to examine populations or specific samples, sampling techniques are generally carried out by random, data collection using research instruments, and quantitative/statistical data analysis to test hypotheses are has been applied. This research is classified as quantitative research. Based on the research variables, the relationship model between the independent variables and Bound Variables as in Figure 1.

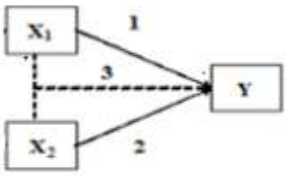

Figure 1. Schema of Relationship between Independent Variables and Bound Variables

(Sugiyono,2015: 69)

This research was conducted at MTs Muhammadiyah Karangkajen Yogyakarta Class VIII Even Semester 2016/2017 Academic Year. This study's population were all students of class VIII, even semester MTs Muhammadiyah Karangkajen Yogyakarta totaling 150 students consisting of 5 classes with an average of almost the same ability for grades VIII A to grade VIII E. In this study, sampling uses a random sampling technique for classes, i.e., sampling from members of the population is carried out randomly without regard to strata in that population. In this study, the class selected as the sample class is class VIII B. This variable is often referred to as a stimulus variable, predictor, antecedent. In Indonesian, it is often called the independent variable. This study's independent variables were: Interest in Learning (X_1), Parental Attention (X_2). Dependent variables are often called output variables, criteria, and consequences. In Indonesian, it is often referred to as a bound variable. This study's dependent variable was the mathematics learning outcomes of the eighth-grade students of MTs Muhammadiyah Karangkajen Yogyakarta 2016/2017 (Y). Data collection techniques in this study were questionnaires, tests, and interviews.

To find out the results of mathematics learning for eighth-grade students of MTs Muhmmadiyah Karangkajen Yogyakarta. The researcher will then give a test in the form of multiple-choice questions to students with four alternative answers: a, b, c, or d, with the correct answer's score for the wrong answer is 0. This test score is used as a student's ability to learn. The cognitive domains used for this test instrument are aspects of knowledge (C_1), understanding (C_2), and application (C_3). These questions concern material about building space. Analysis prerequisite test: normality test, independent test, linearity test. This study using simple regression analysis and multiple regression analysis.

RESULTS AND DISCUSSION

Learning interest data is obtained from the learning interest questionnaire score, which amounts to 25 statements. The lowest score is 70, and the highest score is 114.

Table 1. Learning Interest Frequency Distribution Data

Interval Limitation	f_i	X_i	f_iX_i	X_i^2	$f_iX_i^2$
70 - 73	2	71,5	143	5112,25	10224,5
74 – 77	6	75,5	453	5700,25	34201,5
78 – 81	5	79,5	397,5	6320,25	31601,25
82 – 85	8	83,5	668	6972,25	55778
86 – 89	8	87,5	700	7656,25	61250
90 – 93	1	91,5	91,5	8372,25	8372,25
Total	30	489	2453	40133,50	201472,50

From the Table 1 above obtained an average value of 81.4333 and a standard deviation of 5.4252. To interpret the scores obtained, students are divided into three groups: good, medium, and low. From these criteria, the grouping scores of interest in learning is obtained as follows:

Tabel 2. Distribution of Number of Students by Learning Interest Score Category

Category	Sore	χ
Good	$\chi < 86{,}8585$	4
Moderate	$76{,}0081 \leq \chi \leq 86{,}8585$	22
Low	$\chi < 76{,}0081$	4
Total		30

From the results of the categorization, as shown in Table 2, it can be seen that the motivation of students of class VIII Even Semester MTs Muhammadiyah Karangkajen Yogyakarta in the 2016/2017 Academic Year is included in the medium category because the highest frequency lies in the interval of $76{,}0081 \leq X \leq 86.8585$, i.e., as many as 22 students. Parental attention data obtained from parental attention questionnaire scores totaling 25 statements. The lowest score obtained is 75, and the highest score is 106.

Table 3. List of Frequency Distribution of Parents' Attention

Interval Limitation	f_i	X_i	f_iX_i	X_i^2	$f_iX_i^2$
60 – 66	7	63	441	3696	27783
67 – 73	3	70	210	4900	14700
74 – 80	9	77	693	5929	53361
81 – 87	4	84	336	7056	28224
88 – 94	3	91	273	8281	24843
95 – 101	4	98	392	9604	38416
Total	30	483	2345	39739	187327

From the table above obtained an average value of 78.1667 and a standard deviation of 11.7828.
To interpret the scores obtained, students are divided into three groups: good, medium, and low. From this criterion, the grouping scores of parents of learning are obtained as follows:

Tabel 4. Distribution of Number of Students by Parents' Attention Score Category

Category	Sore	χ
Good	$\chi < 89{,}9495$	6
Moderate	$66{,}3839 \leq \chi \leq 89{,}9495$	18
Low	$\chi < 66{,}3839$	6
Total		30

From the results of the categorization, as shown in Table 4, it can be seen that the attention of parents of eighth-grade students of Even Semester MTs Muhammadiyah Karangkajen Yogyakarta in the 2016/2017 Academic Year is included in the medium category because the highest frequency lies in the interval of $66.3839 \leq X \leq 84.9495$, i.e., as many as 18 students.

Learning outcomes data were obtained from the test scores of learning outcomes, amounting to 25 items, so the lowest score obtained is 55.56. The highest score is 88.89.

Table 5. List of Frequency Distribution of Mathematics Learning Outcomes

Interval Limitation	f_i	X_i	f_iX_i	X_i^2	$f_iX_i^2$
38,89 – 47,88	1	42,89	42,89	1839,55	1839,55
47,89 – 56,88	1	50,90	50,90	2590,81	2590,81
56,89 – 65,88	6	58,91	353,46	3470,39	20822,33
65,89 – 74,88	5	66,92	334,60	4478,29	22391,43
74,89 – 83,88	13	70,93	922,09	5031,06	65403,84
83,89 – 92,88	4	82,94	331,76	6879,04	27516,17
Total	30	373,49	2035,7	24289,1	140564,1

From the Table 5 above obtained an average value of 67.8567 and a standard deviation of 9,1506. To interpret the scores obtained, students are divided into two groups: graduated and not graduated. From these criteria, the grouping scores of mathematics learning outcomes are obtained as follows:

Table 6. Distribution of the Amount of Data based on Mathematical Learning Outcomes

MCC	Category	χ
≥ 70	Graduated	17
≥ 70	Not Graduated	13
Total		30

From the results of the categorization, as shown in Table 6, it can be seen that the learning outcomes of Grade VIII students of the Even Semester MTs Muhammadiyah Karangkajen Yogyakarta in the 2016/2017 Academic Year are included in the graduation category because the highest frequency lies in the ≥70 interval, which is 17 students.

Data on student learning interest is obtained from the instrument scores given to 30 students with 25 items grouped according to indicators. The results of the calculation of the learning interest questionnaire can be seen in the table.

Table 7. Calculation of the Learning Interest Questionnaire

Indicator	Total	Percentage
Indicator 1	1000	40,87 %
Indicator 2	776	31,71 %
Indicator 3	671	27,42 %

Data on student learning interest is obtained from the instrument scores given to 30 students with 25 items grouped according to indicators. The results of the calculation of the learning interest questionnaire can be seen in the table.

Table 8. Calculation of Parent Attention Questionnaire

Indicator	Total	Percentage
Indicator 1	542	22,32 %
Indicator 2	379	16,03 %
Indicator 3	483	20,42 %
Indicator 2	470	19,87 %
Indicator 3	491	20,76 %

Student mathematics learning outcomes data obtained from the instrument scores given to 30 students with 18 items grouped according to essential competencies. The results of the calculation of mathematics learning outcomes.

Table 9. Calculation of Mathematical Learning Outcome

Indicator	Total	Percentage
BC 1	99	26,4 %
BC 2	39	10,4 %
BC 3	39	10,4 %
BC 4	57	15,2 %
BC 5	19	5,07 %
BC 6	23	6,13 %
BC 7	60	16 %
BC 8	39	10,4 %

Table 10. Summary of Normality Test Results

Variable	χ^2_{count}	χ^2_{table}	df	Conclusion
Interest to learn (X_1)	3,1999	11,0705	5	Normal
Parents attention (X_2)	0,5874	11,0705	5	Normal
Mathematical Learning Outcomes (X_3)	5,9011	11,0705	5	Normal

Table 11. Summary of Independent Test Results

Variable	χ^2_{count}	χ^2_{table}	df	Conclusion
X_1 and X_2	31,120	37,6525	25	Independent

Table 12. Summary of Linearity Test Results

Variable	F_{count}	F_{table}	Conclusion
X_1 to Y	-0,4328	2,5989	Linear
X_2 to Y	1,1085	3,1503	Linear

In the first hypothesis test, a simple correlation coefficient (*r*) of 0.3626 is obtained at a significant level of 5%, in order to get the determinant coefficient (r^2) of 0.1315, which can be explained that an interest influences 13.15% of learning outcomes in learning while other factors influence the rest. There is a variation in mathematics learning outcomes (Y), explained by learning independence (X_1) through a linear line $\hat{Y} = 10{,}8918 + 0{,}7179\ X_1$, with a regression direction coefficient of 0.7179. This means that every increase of one unit X_1 results in a 0.7179 increase in Y. The first hypothesis test result is that there is a positive and significant relationship between learning interest and mathematics learning outcomes. In other words, the higher the student's learning interest, the better the student's learning outcomes.

In the second hypothesis test, a correlation coefficient (*r*) of 0.3818 is obtained at a significant level of 5%, in order to obtain a determinant coefficient (r^2) of 0.1458, which can explain 14.58% of learning outcomes influenced by parents' attention while other factors influence the rest. There is a variation in mathematics learning outcomes (Y), which is explained by parents' attention (X_2) through a linear line $\hat{Y} = 41{,}2487 + 0{,}3577\ X_2$, with a regression direction 0.3577. This means that every increase of one unit X_2 results in a 0.3577 increase in Y. The second hypothesis test result is a positive and significant relationship between parents' attention and mathematics learning outcomes. In other words, the higher the attention of the students' parents, the higher their learning outcomes will be. The multiple correlation analysis obtained the value of the multiple correlation coefficient (r) of 0.5493. This study also obtained a coefficient of determination (r^2) of 0.3018, meaning 30.18% of learning outcomes are influenced by learning interest and parents' attention while other factors influence the rest. There are variations in mathematics learning outcomes (Y) that can be explained by an interest in learning (X_1) and parents' attention (X_2) through linear lines $\hat{Y} = -25{,}1145 + 0{,}7845X_1 + 0{,}387\ X_2$. This means an increase of one unit (X_1) results in a 0.7845 increase in Y. An increase in one unit (X_2) results in a 0.3878 increase in Y. As for the relative contribution of X_1 by 47.6110% and X_2 by 52.3890% and the effective contribution of X_1 by 14.3675% and X_2 by 15.8093%.

The third hypothesis test results show a positive and significant relationship between learning interest and parental attention with mathematics learning outcomes. In other words, the higher the student's interest in learning about mathematics, the better the student's learning outcomes. Likewise, with parents' attention, the higher the parents' attention given to their children, the better the learning outcomes. After learning that parents 'interest in learning and school attention is significantly related to student mathematics learning outcomes. This means that the increase and decrease in student mathematics learning outcomes are related to parents' interest in learning and attention.

The fourth hypothesis calculates student interest in learning MTs Muhammadiyah Karangkajen Yogyakarta even semester2017/2018 school year. Indicator 1 was 28.54%, indicator 2 was 8.08%, indicator 3 was 16.86%, indicator 4 was 7.19%, and indicator 5 was 16.17%. Based on the calculation of aspects of interest in learning, the first indicator = 28.54% is the highest result and indicator 4 = 7.19% results from a low indicator.

In the calculation of parents' attention MTs Muhammadiyah Karangkajen Yogyakarta even semester of 2017/2018. Indicator 1 obtained 22.19%, and indicator 2 obtained 21.52%, and indicator 3 obtained 23.43%. Based on the calculation of parents' attention, the 3rd indicator = 23.43% is the highest result, and indicator 2 = 21.52% is the low indicator result. From the calculation results, it can be seen that the highest indicator is in the first indicator = 40.87%, and the lowest indicator is in the third indicator = 27.42%. Based on the study results, students' highest number is number 8 on indicator 1 with the statement I am nervous if the math test scores are not optimal. The lowest number chosen by students is number 12 in indicator 2. The statement After school, I invite friends - friends, to study groups to do math assignments. So it can be concluded that students' interest in learning at MTs Muhammadiyah Karangkajen Yogyakarta even semester 2016/2017 academic year that students are nervous if the math test scores are not optimal and after school students invite friends to study in groups to do math assignments.

From the calculation results, it can be seen that the highest indicator is on indicator 1 = 22.32%, and the lowest indicator is on indicator 2 = 16.03%. Based on the study results, the highest number selected by students is number 21 on indicator 5 with the statement Parents remind me to be careful in choosing friends. Students' lowest number is found in number 2 indicator 1 with the statement Parents give a striking color to the wall where I study. So it can be concluded that the students' interest in learning at MTs Muhammadiyah Karangkajen Yogyakarta even semester 2016/2017 academic year that parents remind students to be careful in choosing friends and parents provide a striking color of the wall where I study.

From the calculation results, it can be seen that the highest indicator found in the first BC determines the elements and parts of the circle of 26.4%. The lowest basic competence found in the 5th BC determines the circle nets of 5.07%.

CONCLUSION

1. There is a positive and significant relationship between interest in learning and mathematics learning outcomes even in the eighth-grade students of MTs Muhammadiyah Karangkajen Yogyakarta 2016/2017 Academic Year.
2. There is a positive and significant relationship between parents' attention and the mathematics learning outcomes of the eighth-grade students of MTs Muhammadiyah Karangkajen Yogyakarta 2016/2017 Academic Year.
3. There is a positive and significant relationship between interest in learning and parents' attention with mathematics learning outcomes even semester VIII grade students of MTs Muhammadiyah Karangkajen Yogyakarta 2016/2017 Academic Year.
4. There is a dominant element in the aspect of interest in learning. This can be seen from the calculation results, and it can be seen that the highest indicator is the 1st indicator. Interest = 40.87%, and the lowest indicator is the 3rd indicator. Concentration = 27.42%. Based on the study results, students' highest number is number 8 on indicator 1 with the statement I am nervous if the math test scores are not optimal. The lowest number chosen by students is number 12 in indicator 2. The statement, After school, I invite friends - friends, to study groups to do math assignments. So it can be concluded that students' interest in learning at MTs Muhammadiyah Karangkajen Yogyakarta even semester 2016/2017 academic year that students are nervous if the math test scores are not optimal and after school students invite friends to study in groups to do math assignments.
5. There is a dominant element in the aspect of parental attention. This can be seen from the calculation results, and then the highest indicator is in indicator 1. Control student learning time = 22.32%, and the lowest indicator is in indicator 2. Monitor the development of students' academic skills = 16.03%. The highest number of students chosen is number 21 on the 5th indicator based on the study results. The statement Parents remind me to be careful in choosing friends. The lowest number of students chosen is number 2 in indicator 1. The statement Parents give a striking color of the walls where I study. So it can be concluded that the students' interest in learning at MTs Muhammadiyah Karangkajen Yogyakarta even semester 2016/2017 academic year that parents remind students to be careful in choosing friends and parents provide a striking color of the wall where I study.

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