THE RELATION BETWEEN CONFIDENCE, PARENTS' ATTENTION, CLASSMATE INTERACTIONS AND MATHEMATICS LEARNING OUTCOMES OF GRADE VIII

Widi Priyati Nugraheni[a], Edi Prajitno[b]
Program Studi Pendidikan Matematika Universitas Ahmad Dahlan
Jalan Ring Road Selatan, Tamanan, Banguntapan, Bantul, Yogyakarta
[a]widipn30@gmail.com, [b]ediprajitno@yahoo.com

ABSTRACT

Low students' learning outcomes are related to many factors. Confidence, parents' attention, and classmate's interactions are among them. This study aims to determine whether there are positive and significant relations between confidences, parents' attention, classmate interactions, and mathematics learning outcomes of grade VIII students of SMP Muhammadiyah 2 Yogyakarta in the even semester of the academic year of 2016/2017. The population in this study were regular grade VIII students of SMP Muhammadiyah 2 Yogyakarta in 2016/2017, consisting of four classes with the total number of 115 students. Random sampling technique was applied to take the sample of this research, which is grade VIII students class C. The data on confidences, parents' attention, and classmate interactions were obtained through questionnaires. At the same time, the data of the mathematics learning outcomes were obtained through the test. The research instruments were tested using a validity test, differential test, and reliability test. Analysis prerequisite test includes normality, linearity, and independence test. Product moment and multiple linear regression analyses were used to analyze the data. The results show that there are positive and significant relations between confidence, parents' attention, and classmate interactions with mathematics learning outcomes of grade VIII students of SMP Muhammadiyah 2 Yogyakarta in the even semester of the academic year of 2016/2017. The results are evidence in $F_{count} > F_{table}$ which is 8,251 > 2,975 with R = 0,976 and R^2 = 0.952 with $\hat{Y} = 88{,}420 + 0{,}570\,X_1 + 0{,}239\,X_2 + 0{,}432\,X_3$, with RC X_1= 53,291%, RC X_2= 15,775% and RC X_3= 30,934%, EC X_1= 50,733%, EC X_2= 15,018% and EC X_3= 29,449%.

Keywords: Confidence, Parents' Attention, Classmate Interactions, Mathematics Learning Outcomes.

INTRODUCTION

Education is a fundamental aspect to prepare quality human resources and be able to compete. Every human being needs the education to turn himself into a better person because education is essentially a transformation or behavior change process. Therefore, education problems need to get better attention and care that concerns various problems related to quantity, quality, and relevance. Learning outcomes are the ultimate goal of a learning activity. However, the learning experience that has been passed while doing the learning process is also important. So the learning outcomes and learning experiences students have a close relationship. Many things can affect learning outcomes, as well as many things that can affect learning. According to Slameto (2015:54), factors that affect learning many types but can be classified into two classes, namely internal factors and external factors. Internal factors are the factors contained in students, including intelligence, attention, interest, talent, motivation, etc.. In contrast, external factors are factors that are outside the students' self including, environment, facilities, and infrastructure, weather, and others.

From the data on the value of odd semester at SMP Muhammadiyah 2 Yogyakarta school year 2016/2017, it is seen that the average mathematical value of grade VIII students is still far below the minimum standard of submission criteria that the school has set. This proves that math lessons are still difficult for students to understand. Learning mathematics also becomes very heavy because the lesson has been difficult for students.

Table 1. List of Odd Semester assessment

Score	Class VIII			
	A	B	C	D
CCM	75			
Highest Score	90	93	93	91
Lowest Score	45	40	40	50
Mean	67,3	63,0	65,1	67,4
≥ 75	15%	28%	22%	25%
< 75	85%	72%	78%	75%

Based on the results of the author's interview with a teacher of mathematics subjects, stating that students in SMP Muhammadiyah 2 Yogyakarta are mostly from families whose economic level is upper and above, so it is not uncommon for us to meet erratic students And the spoiled student, it was because all that students had asked the parents was filled with ease. Parents of very busy students have less attention to their children's learning patterns in the home, so there are still many students who do not do homework. Some students are already riding their motorcycles when leaving school, but they do not yet have a driver's license. They prioritize to follow the trend of today's learning.

When associating it, the confidence of students tends to be high, but when faced with a particular mathematical lesson, his confidence will descend. Seen when there is a daily replay, they still ask a lot of friends next door. Interaction between classmates is still lacking. It is seen during the lesson that some students interfere with their friends. Many students make their group and do not want to mingle with other students.

METHODS

The type of research used in this study is quantitative research. Design interconnectedness between free variables and bound variables are compiled as follows:

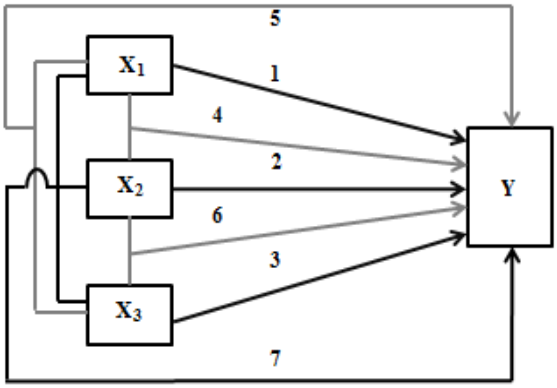

Figure I. Research Design

Description :

X_1: Confidence

X_2: Parents attention

X_3: Classmate Interaction

Y: Mathematics Learning Results

This study was conducted in SMP Muhammadiyah 2 Yogyakarta in class VIII of the school year, even Semester 2016/2017. The population in this study is all students of the regular grade VIII SMP Muhammadiyah 2 Yogyakarta, even semester 2016/2017 school year consisting of 4 classes with a population of 115 students. Samples were carried out using random sampling techniques. The sample of this research is class VIII C students with a total of 30 students.

Data collection techniques using non-test instruments and test instruments. Non-test instruments are used to know confidence, parental attention, and classmates ' interactions—test instrument to learn the results of mathematical learning with the material of building a flat side. The validity test using item analysis is done using the product-moment formula. The reliability test uses the Cronbach Alpha formula. Test prerequisite analysis with the normality test and the independence test using the Chi-squared formula, and the Linearity test using the test-F formula. The research hypothesis test uses simple correlation tests, double regression analysis tests, and double linear regression tests with three free variables.

RESULTS AND DISCUSSION

Test prerequisite analysis conducted in this study is a test of normality, independence test, and linearity test.

The normality test is used to test the spread of data obtained on each standard distribution variable. Test the normality in this study using the chi-squared statistical test (χ^2). The decision-making criteria used is the spread of data obtained on each standard distribution variable when $\chi^2_{count} \leq \chi^2_{table}$ with a significant level of 5% and degrees of freedom (*k-1*) where k is many interval classes. The test result of the four normality variables can be seen in Table 2 as follows:

Table 2. Test result normality

Variable	χ^2_{count}	χ^2_{table}	df	Information
Confidence (X_1)	0,945	5,992	2	Normal
Parents Attention (X_2)	3,967	7,815	3	Normal
Classmate Interaction (X_3)	2,943	7,815	3	Normal
Mathematics Learning Results (Y)	1,088	7,815	3	Normal

From table 2, It is known that each variable is a normal distribution.

The linearity test is used to know between the free and bound variables to have a linear relationship or not by using a linear regression formula *(test F*). The decision-making criteria are the relationship between X variables and the Y linear variable when $F_{count} \leq F_{table}$, with a significant level of 5% and the degree of freedom of the requestor ($v_1 = k - 2$) and the degree of freedom of the denominator ($v_2 = n - k$). In this study for X_1 against Y with v_1 = 15 and v_2 = 13, for X_2 against Y with v_1 = 19 and v_2 = 9, and for X_3 against Y with v_1 = 16 and v_2 = 12. Summary of linearity test results can be seen in Table 3 as follows:

Table 3. Results of the linearity test

Variable	F_{count}	F_{table}	Conclusion
X_1 and Y	1,012	2,533	Linear
X_2 and Y	0,812	2,948	Linear
X_3 and Y	0,430	2,599	Linear

From table 3, It is known that the relationship of each variable is free with a linear bound variable.

Independent tests are used to determine the presence or absence of a relationship between a self-reliance free variable (X_1) with the parent's attention-free variable (X_2), the relationship between self-confidence-free variables (X_1) and a friend's interaction-free variable Classmate (X_3), and the relationship between the parent-free variables (X_2) with a variable-free classmate interaction (X_3) using a chi-squared formula. The decision-making criterion is that both variables are independent when $\chi^2_{count} \leq \chi^2_{table}$, at α = 5%, and degrees of freedom $(df) = (B - 1)(K - 1)$. D Faith B is a large number of lines, and K is a large number of columns. A summary of independent test results can be seen in table 4.

Table 4. Independent test Results

Variable	χ^2_{count}	χ^2_{table}	Df	Conclusion
X_1 and X_2	31,248	37,653	25	Independent
X_1 and X_3	34,139	37,653	25	Independent
X_2 and X_3	34,329	37,653	25	Independent

From table 4, It is known that each variable is freely independent of each other.

Hypothesis test using a correlation test product moment. Hypothesis testing results are presented as follows.

a. First Hypothesis. A simple correlation analysis obtained the value of a simple correlation coefficient (*r*) between the confidence and learning results of mathematics of 0.597. Further testing of the significance of the correlation coefficient using T-Test was obtained $t_{count} = 3{,}935$ while $t_{table} = 2{,}048$ at a significant level of 5% and $v = n - 2 = 28$. The rejection area used is $t_{count} > t_{table}$. Then it was obtained 3.935 > 2.048, so $H_{0,1}$ rejected, and $H_{1,1}$ received. So, there is a positive and significant relationship between the confidence with the results of learning Mathematics students Grade VIII SMP Muhammadiyah 2 Yogyakarta, even semester 2016/2017. Additionally, it acquired a simple regression equation Y over X_1 is $\hat{Y} = 4{,}622 + 0{,}781\, X_1$.

b. Second Hypothesis With a simple correlation analysis obtained the value of a simple correlation coefficient (*r*) between the attention of the elderly with mathematics learning results of 0.399. Further testing of the significance of the correlation coefficient using T-Test was obtained $t_{count} = 2{,}301$ while t_{table} = 2,048 at a significant level of 5% and $v = n - 2 = 28$. The rejection area used is $t_{hitung} > t_{tabel}$. Then it was obtained 2.301 > 2.048, so $H_{0,2}$ rejected, and $H_{1,2}$ received. So, there is a positive and significant relationship between parents' attention with the results of learning Mathematics students Grade VIII SMP Muhammadiyah 2 Yogyakarta even semester 2016/2017 school year. Also, it acquired a simple regression equation Y over X_2 is $\hat{Y} = 31{,}873 + 0{,}495\, X_2$.

c. Third Hypothesis. A simple correlation analysis obtained the value of a simple correlation coefficient (*r*) between classmate's interaction with a math learning result of 0.512. Further testing of the significance of the correlation coefficient using T-Test was obtained t_{count} = 3,150 while t_{table} = 2,048 at a significant level of 5% and $v = n - 2 = 29$. The rejection area used is $t_{hitung} > t_{tabel}$. Then it was obtained 3.150 > 2.048, so $H_{0,3}$ rejected, and $H_{1,3}$ received. So, there is a positive and significant relationship between the interaction of classmates with the results of learning Mathematics students Grade VIII SMP Muhammadiyah 2 Yogyakarta even semester 2016/2017 school year. Also, it is obtained a simple regression equation Y over X_3 is $\hat{Y} = 5{,}234 + 0{,}750\, X_3$.

d. Fourth Hypothesis. The double correlation analysis obtained the value of a simple correlation coefficient (*R*) between the confidence and attention of parents with a learning result of mathematics of 0.645. Further testing of the significance of the correlation coefficient using test-F was obtained $F_{count} = 9{,}614$, whereas $F_{table} = 3{,}354$ at a significant level of 5% and $v_1 = 2$ and $v_2 = 27$ thus obtained $F_{count} > F_{table}$. Thus $H_{0,4}$ rejected, and $H_{1,4}$ received. So, there is a positive and significant relationship between the confidence and attention of parents with the result of learning Mathematics students Grade VIII SMP Muhammadiyah 2 Yogyakarta even semester 2016/2017 school year. Additionally acquired double linear regression equation Y over X_1 and X_2 is $\hat{Y} = 42{,}450 + 0{,}690\, X_1 + 0{,}316\, X_2$.

e. Fifth Hypothesis. With double correlation analysis obtained the value of a simple correlation coefficient (*R*) between the confidence and interaction of classmates with the result of mathematics learning of 0.674. Further testing of the significance of the correlation coefficient using test-F is obtained $F_{count} = 11{,}265$, whereas $F_{table} = 3{,}354$ at a significant level of 5% and $v_1 = 2$ and $v_2 = 27$ thus obtained $F_{count} > F_{table}$. Thus $H_{0,5}$ rejected, and $H_{1,5}$ received. So, there is a

positive and significant relationship between the confidence and interaction of classmates with the results of learning Mathematics students Grade VIII SMP Muhammadiyah 2 Yogyakarta even semester 2016/2017 school year. Also acquired double linear regression equation Y over X_1 and X_3 is $\hat{Y} = 67{,}763 + 0{,}619\, X_1 + 0{,}495\, X_3$.

f. Sixth Hypothesis. The double correlation analysis obtained the value of a simple correlation coefficient (R) between the confidence and attention of parents with a learning result of mathematics of 0.574. Further testing of the significance of the correlation coefficient using test-F obtained F_hitung = 6,629, whereas $F_{count} = 3{,}354$ at a significant level of 5% and $v_1 = 2$ and $v_2 = 27$ so obtained $F_{count} > F_{table}$. Thus $H_{0,6}$ rejected, and $H_{1,6}$ received. So, there is a positive and significant relationship between the attention of parents and classmates interaction with the results of learning Mathematics students Grade VIII SMP Muhammadiyah 2 Yogyakarta even semester 2016/2017 school year. Additionally, acquired double Y linear regression equations over X_2 and X_3 are $\hat{Y} = 107{,}675 + 0{,}338\, X_2 + 0{,}633 X_3$.

g. Seventh Hypothesis. With double analysis obtained the value of a simple correlation coefficient (R) between confidence, parental attention, and classmate interaction with mathematics learning results of 0.976. Further testing of the significance of the correlation coefficient using test-F was obtained $F_{count} = 8{,}251$, whereas $F_{table} = 2{,}975$ at a significant level of 5% and $v_1 = 3$ and $v_2 = n - m - 1 = 26$ thus obtained $F_{count} > F_{table}$. Thus $H_{0,7}$ rejected, And $H_{1,7}$ received. So, there is a positive and significant relationship between confidence, the attention of parents, and the interaction of classmates with the results of learning Mathematics students Grade VIII SMP Muhammadiyah 2 Yogyakarta even semester 2016/2017 school year. Also acquired double linear regression equation Y over X_1, X_2 and X_3 are $\hat{Y} = 88{,}420 + 0{,}570\, X_1 + 0{,}239\, X_2 + 0{,}432\, X_3$.

CONCLUSION

1. There is a positive and significant relationship between the confidence and learning of mathematics students from grade VIII SMP Muhammadiyah 2 Yogyakarta and even semester 2016/2017. This is demonstrated by test-t i.e. $t_{count} > t_{table}$ or 3,935 > 2,048. The value of a simple correlation coefficient (*r*) between confidence and a math learning result of 0.597. As well as a simple regression equation, Y over X_1 is $\hat{Y} = 4{,}622 + 0{,}781\, X_1$.
2. There is a positive and significant relationship between the attention of parents with the results of learning Mathematics students Grade VIII SMP Muhammadiyah 2 Yogyakarta even semester 2016/2017 school year. This is demonstrated by test-t i.e. $t_{count} > t_{table}$ or 2,301 > 2,048. The value of a simple correlation coefficient (*r*) between the attention of the elderly with mathematics study results of 0.399. As well as the simplified regression equation Y over X_2 is $\hat{Y} = 31{,}873 + 0{,}495\, X_2$.
3. There is a positive and significant relationship between classmate's interactions with learning outcomes of grade VIII students in SMP Muhammadiyah 2 Yogyakarta, even semester 2016/2017. This is demonstrated by test-t i.e. $t_{count} > t_{table}$ or 3,150 > 2,048. The value of a simple correlation coefficient (*r*) between a classmate interaction and a math learning result of 0.512. As well as the simplified regression equation Y over X_3 is $\hat{Y} = 5{,}234 + 0{,}750\, X_3$.
4. There is a positive and significant relationship between the confidence and attention of parents with the result of mathematics teaching students of grade VIII SMP Muhammadiyah 2 Yogyakarta, even semester 2016/2017 school year. It is demonstrated with test-F i.e. $F_{count} > F_{table}$ or 9,614 > 3,354. The second correlation coefficient (*R*) between the confidence and attention of the elderly with the results of mathematical learning by 0.645 with the equation linear line $\hat{Y} = 42{,}450 + 0{,}690\, X_1 + 0{,}316\, X_2$. The relative donation of X1 was 75.612% and X_2 by 24.388%, as well as an effective contribution of X_1 by 31.451% and X_2 by 10.144%.
5. There is a positive and significant relationship between self-confidence and classmate's interaction with a student math learning result grade VIII SMP Muhammadiyah 2 Yogyakarta, even semester

2016/2017 school year. It is demonstrated with test-F i.e. $F_{count} > F_{table}$ or 11,265 > 3,354. The double correlation coefficient (*R*) between confidence and classmate interaction with math learning result of 0.674 with linear line equation $\hat{Y} = 67{,}763 + 0{,}619\, X_1 + 0{,}495\, X_3$. The relative donation of X_1 was 61.999% and X_3 for 38.001%, as well as an effective contribution of X1 of 28.202% and X_3 of 17.286%.

6. There is a positive and significant relationship between the attention of parents and the interaction of classmates with the results of learning Mathematics students Grade VIII SMP Muhammadiyah 2 Yogyakarta even semester 2016/2017 school year. It is demonstrated with test-F i.e. $F_{count} > F_{table}$ or 6,629 > 3,354. The double correlation coefficient (*R*) between the attention of parents and classmate interactions with the results of mathematics learning of 0.574 with the equation of a linear line $\hat{Y} = 107{,}675 + 0{,}338\, X_2 + 0{,}633 X_3$. The relative amount of X_2 donations amounted to 32.948% and X_3 by 67.052%, as well as an effective donation of X_2 by 10.851% and X_3 of 22.083%.
7. There is a positive and significant relationship between confidence, parental attention, and classmate interaction with learning outcomes of grade VIII students of SMP Muhammadiyah 2 Yogyakarta, even semester 2016/2017 school year. It is demonstrated with test-F I .e. $F_{count} > F_{table}$ or 8,251 > 2,975. The correlation coefficient (*R*) between confidence, parental attention, and classmate interaction with mathematical learning results of 0.976 and coefficient of determination (R^2) of 0.952 with linear equation line $\hat{Y} = 88{,}420 + 0{,}570\, X_1 + 0{,}239\, X_2 + 0{,}432\, X_3$. The large relative donation of X_1 amounted to 53.291%, X_2 of 15.775% and X_3 by 30.934% as well as an effective donation of X_1 of 50.733%, X_2 amounting to 15.018% and X_3 of 29.449%, this indicates that the self-confidence variable X_1 is more dominant than With the parental attention variables X_2 and classmate interaction variables X_3.

REFERENCES

Arikunto, Suharsimi. 2012. *Dasar-Dasar Evaluasi Pendidikan*. Jakarta : PT. Bumi Aksara.

Dimyati dan Mudjiono. 2013. *Belajar dan Pembelajaran*. Jakarta : Rineka Cipta.

Khasanah, Uswatun. 2013. *Analisis Regresi*. Yogyakarta : MIPA UAD Press.

Purwanto, M. Ngalim. 1995. *Ilmu Pendidikan Teoritis dan Praktis*. Bandung : PT. Remaja Rosdakarya.

Samadi, Farzaneh. *Panduan Islami dalam Memahami Remaja*. Jakarta : Pustaka Zara.

Slameto. 2013. *Belajar dan Faktor-faktor yang Mempengaruhi*. Jakarta: Rineka Cipta.

Syah, Muhibbin. 2013. *Psikologi Pendidikan Dengan Pendekatan Baru*. Bandung: PT. Remaja Rosdakarya.