

## THE RELATIONSHIP BETWEEN LEARNING MOTIVATION, PARENTS' ATTENTION, AND PEERS INTERACTION WITH STUDENTS MATHEMATICS LEARNING OUTCOMES OF CLASS VIII SMP NEGERI 13 YOGYAKARTA

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### ABSTRACT

The low of students' mathematics learning outcome associated with many factors. Students' low motivation, parents' attention, peer interaction are several factors that were to have a relation with the mathematics learning outcomes. Therefore, this study aimed to determine whether there is a positive and significant relationship between learning motivation, parents' attention and peer interaction with student mathematics learning outcomes of class VIII SMP Negeri 13 Yogyakarta on the odd semester in the academic year of 2016/2017. The population in this study was all eight grade students in SMP Negeri 13 Yogyakarta on the odd semester in the academic year of 2016/2017 consisting of 133 students in four classes. The sample was class VIII B consisting of 33 students. The random sampling technique was used in taking the sample. Data were collected by questionnaires and tests. The questionnaire was used to find out the students' learning motivation, parents' attention, and peer interaction, while the test was used to find out the students' learning outcomes. The research instrument: validity test, different power test, and reliability test. The requirement analysis includes a test of normality, test of linearity, and the test independence. The writer uses product-moment correlation analysis and multiple linear regression analysis to analyze the data. The finding shows a positive and significant relationship between motivation, parents' attention and peer interaction toward mathematics learning outcomes with  $F_{count} > F_{table}$  is  $7,3105 > 2,93$  with  $R = 0,6764$  and  $R^2 = 0,4576$  with  $\hat{Y} = -88,6037 + 0,5990 X_1 + 0,3524 X_2 + 0,6531 X_3$  with  $SR X_1 = 35,5937\%$ ,  $SR X_2 = 15,0716\%$  and  $SR X_3 = 25,9313\%$ ,  $SE X_1 = 16,2862\%$ ,  $SE X_2 = 6,8961\%$  and  $SE X_3 = 11,8651\%$ .

**Kata kunci:** *learning motivation, parents' attention, peer interaction, learning outcome*

### INTRODUCTION

Mathematics is one of the most important disciplines in human life. According to Kline (1973) in Suherman, Erman, et al (2003: 17), he said that "mathematics is not a solitary knowledge that can be perfect because of itself, but the existence of mathematics is mainly to help humans in understanding and mastering social, economic problems, and nature ". Without realizing it, many things in everyday life that apply mathematics. For example, daily routines that can never be separated from the calculation of hours, calculation of distances, and so on. In addition, many other fields also require mastery of mathematics such as banking, commerce, etc. Therefore, mathematics is one of the disciplines that must be mastered given the importance of knowledge in various aspects of life.

Slameto (2010: 54) says that the factors that influence learning are many types, but can be classified into only two groups, namely internal factors, and external factors. Internal factors are factors that exist within the individual itself such as motivation, while external factors are factors that exist outside the individual self such as the attention of parents and peers.

According to Winkel, W.S (1984: 27) Learning motivation is the overall driving force in students who cause learning activities, which ensures the continuity of learning activities and which gives direction to the learning activities; then the desired goal by students is achieved.

Uno, Hamzah B (2012: 31) said that the nature of learning motivation is internal and external encouragement to students who are learning to make changes in behavior in general with several indicators including a) the desire and desire to succeed, b) the drive and need in learning, c) the hopes and ideals of the future, d) the existence of members in learning, e) the existence of interesting activities in learning, f) the existence of a conducive learning environment, so as to enable a student to learn well.

According to Purwanto, Ngalim (2011: 80) parents are true educators, educators because of their nature. Therefore, parental love for children should be true affection too. In addition, Slameto (2010: 64) also said that parents are obliged to give understanding and encourage it, to help wherever possible difficulties experienced by children in school.

Walgito, Bimo (2010: 146-147) said that environmental factors also play an important role. Family as the first social environment for children where parents are the first figure for children has an important role in children's learning activities. Understanding the environment here is including equipment. Therefore, this matter must get the best attention.

The attention that parents can give to children is to pay attention to 1) Place. A good place to study is a separate place, quiet, the color of the walls should not be sharp or flashy, and in the room, there should be no things that can disturb attention (for example, striking pictures). It should also be noted about adequate lighting because poor lighting will cause fatigue in the eyes, which certainly will disrupt the learning process. Air ventilation needs to be considered as well as possible. 2) Tools for learning. Learning cannot run well without sufficient learning tools. The learning process will be disrupted if the tools used are not available. The more complete the tools, the easier it is to learn as well as possible. Conversely, if the tool is incomplete, the learning process will be interrupted so that the results will be less good. The unavailability of tools can cause frustration for children. 3) Atmosphere. A good learning atmosphere can be created because it will provide good motivation in the learning process and a good influence on children's learning achievement. 4) Time. The division of learning time must be considered as well as possible, there must be a certain time table. The duration of learning depends on the amount of material being studied. Studying too long will be tiring and less efficient. 5) Association. Children's relationships will also affect children's learning. Therefore, it should be maintained so that children associate with children who like to learn. This will have a big influence on children's motives for learning.

According to Santrock, John W (2003: 219; 2007: 205) who are peers are children or adolescents of the same age or maturity. Yusuf, Syamsu (2009: 56) argues that learning progress is influenced by interpersonal relationships that occur in the classroom. This relationship can be warm or cool, tense or relaxed, antagonistic or cohesive, friendly or hostile.

The aim of this research is to find out whether or not there is a positive and significant relationship between learning motivation, parents' attention and peer interaction with mathematics learning outcomes of Grade VIII students of SMP Negeri 13 Yogyakarta in the odd semester of the 2016/2017 school year.

## **METHODS**

This research is classified as quantitative research by taking place at SMP Negeri 13 Yogyakarta in the odd semester of the 2016/2017 school year. The population in this study were all eighth-grade students of SMP Negeri 13 Yogyakarta consisting of 4 classes, namely VIII A, VIII B, VIII C, and VIII D totaling 133 students. As a sample class, there were 33 students in Class VIII B using random sampling techniques.

In this study, there are 4 variables consisting of 3 independent variables and 1 dependent variable. The independent variable consists of learning motivation ( $X_1$ ), parents' attention ( $X_2$ ), and peer interaction ( $X_3$ ), while the dependent variable is mathematics learning outcomes ( $Y$ ). Data collection techniques used by using the questionnaire and test methods. The questionnaire method is used to obtain data on learning motivation, parents' attention and peer interaction, while the test method is used to obtain data about student mathematics learning outcomes.

The questionnaire test uses the content validity test by the reviewers and the instrument reliability test using the alpha formula, while the test instrument questions use the instrument validity test with product-moment correlation techniques, the difference power test and the instrument reliability test with the KR-20 formula. After the data is collected, the analysis prerequisite tests that must be met include normality test, linearity test, and independence test. Data analysis uses product-moment correlation analysis and multiple linear regression analysis.

## **RESULTS AND DISCUSSION**

### 1. Learning Motivation

Distribution of Number of Students Based on Learning Motivation Score Categories

**Table 1.** Distribution of Number of Students Based on Learning Motivation Score Categories

Category	Score	<i>F</i>	%
High	$X > 92,6394$	6	18,1818
Medium	$76,0879 \leq X \leq 92,6394$	21	63,6364
Low	$X < 76,0879$	6	18,1818
<b>Total</b>		33	100

From the results of the categorization, it can be seen that the motivation to study in class VIII B, SMP Negeri 13 Yogyakarta in the 2016/2017 school year is included in the medium category because the greatest frequency lies in the interval of  $76.0879 \leq X \leq 92.6394$ , namely 21 students or 63.6364%.

### 2. Parental Attention

Distribution of Number of Students by Parent Attention Score Category

**Table 2.** Distribution of Number of Students by Parent Attention Score Category

Category	Skor	<i>F</i>	%
High	$X > 95,1642$	5	15,1516
Medium	$75,5631 \leq X \leq 95,1642$	22	66,6667
Low	$X < 75,5631$	6	18,1818
<b>Total</b>		33	100

From the results of the categorization, it can be seen that the attention of parents of class VIII B, SMP Negeri 13 Yogyakarta in the 2016/2017 school year is included in the medium category because the greatest frequency lies in the interval  $75.5631 \leq X \leq 95.1642$ , as many as 22 students or 66.6667%.

### 3. Peer Interaction

Distribution of Number of Students by Peer Interaction Category Score

**Table 3.** Distribution of Number of Students by Peer Interaction Category Score

Category	Skor	<i>F</i>	%
High	$X > 93,8441$	5	15,1516
Medium	$78,246 \leq X \leq 93,8441$	21	63,6364
Low	$X < 78,246$	7	21,2121
<b>Total</b>		33	100

From the results of the categorization, it can be seen that peer interaction class VIII B, SMP Negeri 13 Yogyakarta in the 2016/2017 school year is included in the medium category because the highest frequency lies in the interval  $78,246 \leq X \leq 93,8441$ , namely 21 students or 63,6364%.

### 4. Mathematics learning outcomes

Distribution of Number of Students by Mathematical Learning Outcome Category.

**Table 4.** Distribution of Number of Students by Mathematical Learning Outcome Category

Category	Skor	<i>F</i>	%
High	$X > 64,1664$	4	12,1212
Medium	$31,9648 \leq X \leq 64,1664$	24	72,7273
Low	$X < 31,9648$	5	15,1516
<b>Total</b>		33	100

From the results of the categorization, it can be seen that the results of learning mathematics in class VIII B, SMP Negeri 13 Yogyakarta in the 2016/2017 school year are included in the medium

category because the highest frequency is located at an interval of  $31.9648 \leq X \leq 64.1664$  namely 24 students or 72.7273%

**a. Normality test**

Summary of Normality Test Results

**Table 5.** Summary of Normality Test Results

Category	$\chi^2_{count}$	$\chi^2_{table}$	dk	Conclusion
Motivation to learn	1,7618	5,9915	2	Normal
Parents attention	4,4458	7,8147	3	Normal
Peer Interaction	0,2386	7,8147	3	Normal
Learning outcomes	0,5046	7,8147	3	Normal

**b. Linearity Test**

Summary of Linearity Test Results

**Table 6.** Summary of Linearity Test Results

Variable	$F_{count}$	$F_{table}$	Conclusion
X <sub>1</sub> to Y	1,70	2,76	Linear
X <sub>2</sub> to Y	1,13	2,65	Linear
X <sub>3</sub> to Y	0,70	2,56	Linear

**c. Independent test**

Summary of Independent Test Results

**Table 7.** Summary of Independent Test Results

Variable	$\chi^2_{count}$	$\chi^2_{table}$	df	Conclusion
X <sub>1</sub> and X <sub>2</sub>	23,678	37,6525	25	Independent
X <sub>1</sub> and X <sub>3</sub>	24,778	37,6525	25	Independent
X <sub>2</sub> and X <sub>3</sub>	25,204	37,6525	25	independent

**d. Hypothesis testing**

Summary of Hypothesis Test Results

**Table 8.** Summary of Hypothesis Test Results

Hypothesis	$T_{count}$	$t_{table}$	df	Information
1	3,2857	1,6955	31	H <sub>0</sub> is rejected
2	1,8577	1,6955	31	H <sub>0</sub> is rejected
3	2,4232	1,6955	31	H <sub>0</sub> is rejected
4	5,7660	3,32	V <sub>1</sub> =2 V <sub>2</sub> =3	H <sub>0</sub> is rejected
5	6,7892	3,32	V <sub>1</sub> =2 V <sub>2</sub> =30	H <sub>0</sub> is rejected
6	5,7484	3,32	V <sub>1</sub> =2 V <sub>2</sub> =30	H <sub>0</sub> is rejected
7	7,3105	2,93	V <sub>1</sub> =3 V <sub>2</sub> =29	H <sub>0</sub> is rejected

The seventh hypothesis test statement shows that H<sub>0</sub> is rejected, this means that there is a positive and significant relationship between learning motivation, parents' attention and peer interaction with mathematics learning outcomes in class VIII of SMP Negeri 13 Yogyakarta Odd Semester 2016/2017 Academic Year. In other words, the higher the learning motivation of children, the higher the learning outcomes. Likewise with the attention of parents, the greater the attention of parents to children's learning activities, the greater the learning outcomes. In

addition, peer interaction also influences learning outcomes, because the better the interaction between peers, the better the learning outcomes.

## CONCLUSION

Based on the results of the study concluded that there is a positive and significant relationship between learning motivation, parents' attention and peer interaction with mathematics learning outcomes of class VIII SMP Negeri 13 Yogyakarta Odd Semester 2016/2017 Academic Year. This is indicated by the F-test is  $F_{\text{count}} > F_{\text{table}}$  or  $7,3105 > 2,93$  with a multiple correlation coefficient (R) of 0.6764 and a coefficient of determination ( $R^2$ ) of 0.4576. Linear regression equation  $\hat{Y} = -88,6037 + 0,5990X_1 + 0,3524X_2 + 0,6531X_3$ . The relative contribution of  $X_1$  was 35.5937%,  $X_2$  was 15.0716% and  $X_3$  was 25.9313% and the effective contribution was 16.2862%,  $X_2$  was 6.8961% and  $X_3$  was 11.8651%.

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