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The relationship between peer association and interest in learning against student learning outcomes

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ABSTRACT This study is motivated by low student learning outcomes in learning mathematics. This study aimed to determine whether there is a relationship between peers and learning interests in student learning outcomes in mathematics. This study uses a descriptive method with a quantitative approach. The population in this study was 25 students from class VIIa and 30 students from class VIIb, while the sample in this study was 30 students from that class selected by a simple random sampling technique. This type of research is quantitative descriptive research. The data collection instruments used in this study were observations, interviews, response questionnaires from students to determine the effect of peer relations and student interest in learning outcomes, and documentation. The data collected were then analyzed using multiple correlations. The results showed that: (1) There was a significant relationship between peer association and learning outcomes in mathematics using Pearson correlation analysis. (2-tailed) variable X1 is 0.004 < Sig. variable Y of 0.005; (2) There is a significant relationship between learning interest and learning outcomes in mathematics with Pearson correlation analysis. The count value of the X2 variable is 0.471 >, the average value of the variable Y is 0.361, and the value of Sig. (2-tailed) variable X 2 is 0.009 < Sig. variable Y of 0.005; (3) There is a significant relationship between peer association and learning interest in student learning outcomes with simultaneous test results (F) obtained an F-count of 4.965 > F-table 3.34 and a significance value (Sig.) 0.15 < Probability value of 0.05.

1. INTRODUCTION

In educational institutions, learning outcomes are an essential indicator to measure the success of the teaching and learning process (Kashi, 2019; Wang, 2020). Learning outcomes can be said to be maximal if they can provide changes both in knowledge and behavior as a result of interactions (Aikina et al, 2020; Hong, 2021), which are expressed in symbols (Aikina et al, 2020; **?**; Kraft, 2018), letters and sentences (Hong, 2021), and involve several aspects, namely cognitive (Ettekal, 2019), affective (Freitas, 2019), and psychomotor aspects (Hanafin, 2021; He, 2018).

Learning outcomes used to measure the learning process in the classroom have several factors related to them. These factors are divided into two groups (Carbonell et al, 2020; **?**), namely: (1) internal factors (Aikina et al, 2020), including physiological factors (Milian, 2018; Yaniawati, 2020), such as good health (Darma et al, 2020), not in a state of stress and fatigue (Rojanna et al, 2020), having a healthy (Sabiri, 2020; Setyaningrum, 2020), perfect, and not disabled body (**?**), and psychological factors which include, intelligence (IQ), attention, interests, talents, and motivation of students, (2) external factors, including; environmental factors, such as family environment, social environment, natural environment, and instrumental factors.

Based on the Pre Observations conducted by researchers on Tuesday, November 8, 2022, researchers found phenomena related to peers and learning interest on student learning outcomes, including students tend to chat a lot and not pay attention to the material when the lesson takes place due to the negative influence of their peers so that the learning outcomes are less effective. In addition, the researcher interviewed one of the students with the initials AFK, and he said that one of the factors that caused his learning outcomes to decline was the influence of peers. Because some students invited him to talk and joke during the learning process, he paid less attention to the teacher's explanation and decreased interest in learning in class. Even AFK admits that he often follows friends' invitations to skip class during class. This is because peers are the closest people to school and have a strong relationship with students, especially with students' interest in learning.

With social interaction with peers, students are expected to be able to work together, learn from each other in groups, solve problems together, and create an attitude of responsibility and mutual tolerance for one another (**?**).

In addition, peer association can contribute to determining student achievement. So, in this case, selecting good peers is also essential. Based on the description above, the researcher conducted research with problems related to Peer Association Relations and Learning Interest on student learning outcomes.

Peer association has a positive and significant effect on student motivation and achievement. Research conducted by (Lee, 2020) states that there is a significant relationship between student learning interest and student learning outcomes. Research that has been carried out by (Dewy& Isnaini, 2021) states that there is a relationship between peer association and student learning interest. In this study, researchers wanted to examine the relationship between peer association and interest in learning on student learning outcomes. The location chosen was MTs Khozinatul Ulum Seputih Banyak or equivalent to SMP because, according to researchers, the MTs/SMP period is a period when children are more likely to follow the association of their peers, which can influence student learning interest and can have an impact on student learning processes and outcomes.

The low learning outcomes and student interest indicate low student learning performance. To find out why student learning outcomes are not as expected, the teacher needs to reflect on himself to determine the factors of student failure in the lesson. Several factors that need to be considered to improve student learning outcomes are peers and students' interest in learning mathematics. Some ways to foster student interest in learning include showing a friendly attitude in responding to various student mistakes, using various methods and approaches, and creating a humorous, fun, and relaxed atmosphere in the classroom by playing several games related to lessons and involving friends—and their peers. Besides increasing students' interest in learning, some of these methods can strengthen students' positive relationships with their peers and make students more active and happy in the learning process, so that student learning outcomes improve.

2. METHOD

This study uses a descriptive method with a quantitative approach. The type of quantitative research used is ex post facto research. Ex-post facto research examines causal relationships that the researcher does not manipulate or treat. Cause and effect research is carried out on programs, activities, or events that have taken place or have occurred. The existence of a causal relationship is based on theoretical studies that a variable is caused or motivated by certain variables or causes certain variables. (**?**) obtain the correct data for the sake of conclusions that are based on the actual situation, we need an instrument that is valid, consistent, and precise in providing (reliable) research data (**?**).

The population in this study was 25 students from class VIIa and 30 students from class VIIb, while the sample in this research was 30 students from that class selected by simple random sampling technique. The data collection instrument used in this study was observation to observe the condition of the school, infrastructure, and the process of learning activities in class, interviews to find out the history of the establishment of the school and other relevant data, questionnaires or questionnaire responses from students to find out the relationship between peers and interests—student learning. The researcher gave the questionnaire directly to the students who were the research sample. The measurement scale used in this study is the Likert scale. Documentation is used to obtain other sources that can further strengthen research—data analysis technique using Pearson correlation.

3. RESULT AND DISCUSSION

3.1 Testing Instrument Requirements

3.1.1 Validity test

Validity over validity indicates the extent to which a measuring tool can measure what it wants. A data validity test is needed to measure the accuracy and suitability of the questions in the questionnaire using the Pearson Product Moment formula. The results of testing the validity of the R-table instrument on the variables X1 and X2 show that all statement items can be used because the R count is greater than the R-table of 0.3610. Thus, it can be said that the statement in the variable is valid.

3.1.2 Reliability Test

This study used the Cronbach Alpha method to assess whether the questionnaire distributed to the respondents was reliable from each instrument, which was said to be valid if (ri) > 0.6. (**?**).

Based on the reliability test results, Cronbach's alpha X1 value of 0.895 and X2 of 0.932 is greater than the critical value 0.6, so the variable is very reliable.

3.2 Classical Assumption Test Results

3.2.1 Normality test

The normality test aims to test whether the dependent and independent variables have a normal distribution or not. In this study, the normality test was carried out using the Kolmogorov-Smirnov test.

In the Kolmogorov-Smirnov test, the Asymp value is obtained. Sig. (2-tailed) of 0.086 is more significant than 0.05. The data is said to be normally distributed if the significance value (Sig.) ◻ 0.05. So, it can be concluded that the data is normally distributed.

3.2.2 Linearity Test

Linearity testing is the nature of the linear relationship between. The testing criteria in the linearity test are as follows:

a. If the Deviation from the Linearity value is sig. > 0.005, there is a significant linear relationship between the independent (X) and dependent (Y) variables
b. calculated F value < F table, then there is a significant linear relationship between the independent variables (X) and the dependent (Y).

The output shows that:

a. The significance value of the X1 variable with the Y variable is 0.139 > 0.050, and it is known that the calculated F value is 1.783 and the F-table value is 2.42. then it can be interpreted that there is a significant linear relationship between variable X1 and variable Y.

TABLE 1. Anova Table Linearity Test of Variables X 1 and X 2 Against Variable Y

			Sum of Squares	df	Mean Square	F	Sig.	Description
Y*X1	Between Groups	(Combined)	3117.917	13	239.840	2.649	.034	
		Linearity	1181.084	1	1181.084	13.044	.002	
		Deviation from Linearity	1936.832	12	161.403	1.783	.139	Linear
	Within Groups		1448.750	16	90.547			
	Total		4566.667	29				

TABLE 2. Anova Table Linearity Test of Variables X 1 and X 2 Against Variable Y

			Sum of Squares	df	Mean Square	F	Sig.	Description
Y*X2	Between Groups	(Combined)	2511.667	12	209.306	1.731	.146	
		Linearity	1011.145	1	1181.084	1011.145	.010	
		Deviation from Linearity	1500.522	11	136.403	1.128	.399	Linear
	Within Groups		2055.000	17	120.882			
	Total		4566.667	29				

b. The significance value of the X2 variable with the Y variable is 0.399 > 0.050, and it is known that the calculated F-value is 1.128, and the F-table value is 2.41. it can be concluded that there is a significant linear relationship between variable X2 and variable Y.

3.3 Analysis Model Testing

3.3.1 Person Correlation Analysis

The correlation test is a test or data analysis that determines the degree of closeness of the relationship between the independent variable (X) and the dependent variable (Y).

TABLE 3. Person Correlation Test (N=30)

	Peer group	Interest	Achievement
Peer group	1		
Interest	808**	1	
Achievement	509**	471	1

** Correlations are significant at the 0.01 level (2-tailed)

The significance value of Sig. (2-tailed):

a. Sig. The value (2-tailed) between variables X1 and Y is 0.004 < 0.005. Furthermore, the difference between variable X2 and Y is 0.009 < 0.005, which means there is a significant correlation between variables X1 and X2 and Y.
b. Calculated r-value (Pearson Correlation): It is known that the count value for the relationship between variable X1 and variable Y is 0.509 > table 0.361. Furthermore, it is known that the count value for the relationship between variable X2 and variable Y is 0.471 > table 0.361, so it can be concluded that there is a relationship or correlation between variables X1 and X2 and variable Y.

3.3.2 Simultaneous Test (F-Test)

A simultaneous Test (F) is needed to determine the effect of the independent variable (X) on the dependent variable (Y) simultaneously and to determine the accuracy of the regression model used.

Simultaneous test results (F) obtained a 4.965 > F-table 3.34 F-count value. Significance value (Sig.) 0.15 < Probability value 0.05. So, it can be concluded that the independent variable (X) positively and significantly affects the dependent variable (Y).

3.4 Discussion

Student learning outcomes are one measure of success in education when learning. The data shows that the learning outcomes of students at MTs Khozinatul Ulum Seputih Banyak, especially class VII, are in the low group with a score of less than 65. These results are undoubtedly inseparable from peer factors and students' interest in learning, although it is undeniable that many other factors play a role and affect student learning outcomes.

There is a significant relationship between peers and learning outcomes in mathematics with Pearson correlation analysis. (2-tailed) variable X 1 of 0.004 < Sig. The Y variable is 0.005, which means that one of the results of student mathematics learning is influenced by their association with peers because peers are very close to students at school. So, if the peers are good, then the learning process and student learning outcomes are also good, but conversely, if the peers have a negative impact, the learning process and student learning outcomes will also be adverse. To overcome student mistakes in choosing associations, the role of people who are around students, especially teachers, and parents, is enormous by supervising student associations and providing education to children from childhood as a guide in the future, namely instilling an attitude of liking to learn and developing self-potential

TABLE 4. Simultaneous Statistical Test Results (F)

	Model	Sum of Squares	df	Mean Square	F	Sig.	Information
1	Regression	1227914	2	613.957	4.965	.015	Simultaneous
	Residual	3338753	27	123,658			
	Total	4566667	29				

** Correlations are significant at the 0.01 level (2-tailed)

through study. Interest is essential for getting students to do learning activities and determines how much they can learn from the activities or information they encounter. Interested students will show high cognitive processes in learning, absorbing, and remembering what has been learned.

The relationship between learning interest and learning outcomes in mathematics with Pearson correlation analysis. (2-tailed) variable X2 of 0.009 < Sig. The Y variable is 0.005, which means that one of the student learning outcomes in mathematics is influenced by student learning interest. Interest is one of the factors that influence the level of student learning outcomes. Interest is a feeling of preference and attraction to an activity or thing, which arises from oneself without any orders from other people (Jafar& Mardia, 2017; Widyastuti et al, 2018). Interest is very influential in the success of student learning. Therefore, educators need to understand student interests well so that students can receive the lesson being taught. going on (Fitri et al, 2020; Silviani et al, 2017). If students are highly interested in learning material, students will study the material with pleasure, which can bring up even greater curiosity. So that the learning process and student learning outcomes for the better.

In the simultaneous test (F) results, the F-count value was 4.965 > F-table 3.34. Significance value (Sig.) 0.15 < Probability value 0.05. So, it can be concluded that the independent variable (X) positively and significantly affects the dependent variable (Y). This statement shows that peers and learning interests are related to high and low student learning outcomes. If peer association positively impacts students, especially student learning interest, then student learning outcomes will be good, but if peers and student interest in learning are lacking, student learning outcomes will be low.

4. CONCLUSION

From the data analysis results, it can be concluded that: (a) There is a significant relationship between peer association and learning outcomes in mathematics with Pearson correlation analysis. (b) There is a significant relationship between learning interest and learning outcomes in mathematics. (c) A significant relationship exists between peer association and learning interest in student learning outcomes.

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