THE RELATIONSHIP BETWEEN INDEPENDENCE LEARNING, PARENT'S ATTENTION, AND STUDENTS INTERACTION WITH TEACHER WITH MATHEMATICS LEARNING OUTCOMES IN STUDENTS CLASS XI TITL OF SMK NEGERI 1 PLERET BANTUL REGENCY

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ABSTRACT

Low student learning outcomes associated with many factors. The relationship between learning independence, parent's attention and students interact with the teacher are some of the factors possibly related to learning outcomes. This research aims to determine the presence or absence of positive and significance the relationship between learning independence, parent's attention and students interact with a teacher with Mathematics Learning Outcomes in Students Class XI TITL of SMK Negeri 1 Pleret Bantul Regency in the odd semester in the academic year of 2016/2017. The population in this research was the students of XI TITL grade in SMK Negeri 1 Pleret Bantul Regency in the academic year of 2016/2017, consisted of class XI TITLA, XI TITL B, and XI TITL C, totaling 94 students. Samples were taken from XI TITL A as the research sample class and with the random sampling technique. The writer uses a questionnaire method to collect the data of learning independence, parent's attention and students interact with the teacher and test method to get the resulting learning of math. The research instrument: validity test, different power test, and reliability test. Test requirement analysis includes a test of normality, the test of linearity, and the test of independence. The writer uses product-moment correlation analysis and multiple linear regression analysis to analyze the data. The results showed that there was a positive and significant relationship between learning independence, parent's attention and students interact with teachers with mathematics learning outcomes in students class XI TITL in odd Semester of SMK Negeri 1 Pleret Bantul Regency in academic year of 2016/2017. It is showed by $F_{count} > F_{table}$ is $20,7284 > 2,93$ with $R = 0,8258$ and $R^2 = 0,6820$ with $\hat{Y} = (-55,1154) + 0,3699\,X_1 + 0,5661\,X_2 + 0,3137\,X_3$, with $SR\,X_1 = 30,3483\,\%$, $SR\,X_2 = 52,9882\,\%$ and $SR\,X_3 = 16,6635\,\%$, $SE\,X_1 = 20,6965\%$, $SE\,X_2 = 36,1361\%$ and $SE\,X_3 = 11,3639\%$.

Keywords: Learning Independence, Parent's Attention, Students Interaction with Teacher, Mathematics Learning Outcomes.

INTRODUCTION

Education has an important role in development, especially in improving the quality of human resources. Efforts to improve the quality of education are an integrated part of efforts to improve quality, both aspects of ability, and responsibility as citizens. One of the most important and related sciences in human life is mathematics. Mathematics is a universal science that underlies the development of modern technology and can be said to be the basis of all science, has an important role in various scientific disciplines and advances human thinking. Therefore, mathematics needs to be taught at every level of education in Indonesia, from elementary schools to high schools.

A learning success is basically caused by several factors but can be classified into two groups, namely internal factors and external factors. Internal factors are factors contained in students include intelligence, independence, interests and motivation. While external factors are factors that exist outside of students include the environment, parental attention, interaction, facilities and infrastructure and others. Independence of student learning will also affect student learning outcomes. Independence is one of the internal factors that come from within students. Learning independence is very important for every student to have in an effort to improve learning outcomes. Student success in learning is determined by himself. A student who has good learning independence will be able to face all the difficulties he will face in learning activities. In addition, students with good learning independence will be able to solve the problems they face themselves without asking for help from others.

In addition to the internal factors above, there are also external factors that will affect student learning outcomes. One of these external factors is the attention of parents. Parents as the first educators for the education and development of children's personalities play a huge role in achieving student mathematics learning outcomes. Parents must be able to monitor the learning process of their children well. Support from parents must also be there because most of the time students are done more at home.

The problems in this study are: 1) Is there a positive and significant relationship between mathematics learning independence and mathematics learning outcomes of students of class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 Academic Year? 2) Is there a positive and significant relationship between parents' attention and the mathematics learning outcomes of students of class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 Academic Year? 3) Is there a positive and significant relationship between the interaction of students and teachers with mathematics learning outcomes of students of class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 Academic Year? 4) Is there a positive and significant relationship between learning independence and parental attention with the mathematics learning outcomes of students of class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 Academic Year? 5) Is there a positive and significant relationship between learning independence and the interaction of students and teachers with mathematics learning outcomes of students of class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 Academic Year? 6) Is there a positive and significant relationship between parents' attention and student-teacher interaction with mathematics learning outcomes of students of class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 Academic Year? 7) Is there a positive and significant relationship between learning independence, parental attention and student-teacher interaction with mathematics learning outcomes of students of class XI TITL of SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 Academic Year?

The purpose of this study is to find out: 1) The presence and absence of a positive and significant relationship between learning independence and mathematics learning outcomes of students of class XI TITL of State Vocational School 1 Pleret Bantul Regency odd semester 2016/2017 Academic Year, 2) The presence and absence of positive and significant relationships between the attention of parents to the learning outcomes of students of class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017, 3) The presence and absence of a positive and significant relationship between student and teacher interaction with mathematics learning outcomes of students of class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 Academic Year, 4) There is and whether there is a positive and significant relationship between learning independence and parents' attention with the mathematics learning outcomes of students of class XI TITL SMK Negeri 1 Pleret Bantul Regency Odd Semester 2016/2017 Academic Year) The presence and absence of a positive and significant relationship between learning independence and student interaction with teachers with student learning outcomes in class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017, 6) There is and whether there is a positive and significant relationship between parents' attention and student interaction with teachers with mathematics learning outcomes of students in class XI TITL State Vocational School 1 Pleret Bantul Regency odd semester 2016/2017 Academic Year, 7) The presence and absence of a positive and significant relationship between learning independence, parents' attention and student interaction with teachers with mathematics learning outcomes of students of class XI TITL SMK Negeri ool 1 Pleret Bantul Regency semester odd 2016/2017 Academic Year.

THEORY

According to Nurhayati, Eti (2011: 132), "independence is a condition in which a person has a desire to compete for his own good, is able to make decisions, take the initiative to overcome the problems encountered, has confidence in carrying out tasks, and is responsible for what it does ". According to Kozma, Belle, and Williams, learning independence is a form of learning that gives learners the opportunity to determine their goals, resources, and learning activities according to their own needs.

Attention according to Slameto (2010: 105) is an activity carried out by someone in relation to the selection of stimuli that come from their environment. The attention that parents can give to children according to Walgito, Bimo (2005: 154-155) is to provide a good place to learn and learning tools, create a good learning atmosphere, pay attention to learning time, pay attention to children's relationships, and assist children when study.

According to Winkel (1987: 79) during the teaching-learning process takes place, there was an interaction between the teacher and students, but this interaction is specifically characterized because students face the task of learning and the teacher must accompany students in their learning ". According to Djamarah, Syaiful Bahri (2010: 11), the interactions that occur between students and teachers are educational interactions, that is interactions that consciously lay the goal to change one's behavior and actions.

METHODS

This research is classified as quantitative research. The place of research was conducted at SMK Negeri 1 Pleret, Bantul Regency, with the subject of class XI TITL odd school research in the 2016/2017 school year. The population in this study were students of Class XI TITL SMK Negeri 1 Pleret Bantul Regency 2016/2017 academic year with a total of 94 students divided into 3 classes. While the sample in this study was a randomly determined sample of class, namely by lottery class. The class taken as a sample class is XI TITL A with 33 students. The variables used in this study include the independent variables and the dependent variable. The independent variable (independent) consists of learning independence (X_1), parental attention (X_2), and student interaction with the teacher (X_3), while the dependent variable (dependent) is the result of learning mathematics (Y). In this study, the data collection techniques used were questionnaires and tests. The questionnaire technique is to obtain data on learning independence, parental attention and student interaction with the teacher, while the test technique is to obtain data about student mathematics learning outcomes. The questionnaire test uses the content validity test by the reviewers and the instrument reliability test with the alpha formula, while the test instrument questions use the content validity test by the reviewers and product-moment correlation techniques, different power tests, and the reliability test with the KR-20 formula.

The analysis prerequisite test is the normality test with the Chi-squared formula, the linearity test of the F-test formula and the Chi-squared formula independence test. Research hypothesis testing uses a simple correlation test, multiple regression analysis test and multiple linear regression test with three independent variables. Research hypothesis testing using a simple correlation test is performed to determine the presence or absence of positive and significant relationships between 1) learning independence with student mathematics learning outcomes, 2) parents' attention to student mathematics learning outcomes, 3) student interaction with teachers with results learn mathematics students. Furthermore, the research hypothesis test uses a multiple regression analysis tests conducted to determine the presence or absence of a positive and significant relationship between 1) learning independence and parental attention with student mathematics learning outcomes, 2) learning independence and student interaction with teachers with mathematics learning outcomes students, 3) parent's attention and student interaction with the teacher with student mathematics learning outcomes. While the multiple linear regression test with three independent variables was conducted to determine the presence or absence of a positive and significant relationship between learning independence, parental attention and student-teacher interaction with student mathematics learning outcomes.

RESULTS

1. Test Prerequisite Regression Analysis

The summary of normality test results can be seen in Table 1.

Table 1. Summary of Normality Test Results

Variable	χ^2_{countt}	χ^2_{table}	dk	Ket
X$_1$	4,6685	9,4877	4	Normal
X$_2$	6,6867	9,4877	4	Normal
X$_3$	3,9129	9,4877	4	Normal
Y	3,9799	9,4877	4	Normal

From the normality test at a significant level of 5% seen $\chi^2_{count} \leq \chi^2_{table}$, this means that the distribution of data obtained on each variable is normally distributed.

The summary of linearity test results can be seen in Table 2.

Table 2. Summary of Linearity Test Results

Variable	F_{count}	F_{table}	Info.
X$_1$ and Y	0,8016	2,38	Linear
X$_2$ and Y	0,8646	2,35	Linear
X$_3$ and Y	1,5078	2,76	Linear

From the linearity test at a significant level of 5% (α = 0.05) and the degree of freedom of the numerator $(v_1) = k - 2$ and denominator $(v_2) = n - k$ seen $F_{count} \leq F_{table}(1-\alpha)(k-2,n-k))$, this means that there is a linear relationship between the independent variable (X) and the dependent variable (Y).

The summary of independence test results can be seen in Table 2.

Table 3. Summary of Independence Test Results

Variable	χ^2_{count}	χ^2_{table}	df	Info.
X$_1$ and X$_2$	33,286	37,652	25	Independent
X$_1$ and X$_3$	19,330	37,652	25	Independent
X$_2$ and X$_3$	21,832	37,652	25	Independent

From the independence test at a significant level of 5% (α = 0.05) and degrees of freedom (df) = k-1) (b-1) seen $\chi^2_{count} \leq \chi^2_{table}$, this means that the distribution of data obtained on each variable is mutually independent.

2. **Hypothesis Test**

The summary of the results of the first hypothesis test can be seen in

Table 4. Summary of First Hypothesis Test Results

t_{count}	t_{table}	dk	Info.
5,6931	1,6955	31	H$_0$ rejected, H$_1$ accepted

From the second hypothesis test at a significant level of 5% and df = 31, it can be seen that $t_{count} = 5,6931$ and $t_{table} = 1,6955$ so that $t_{count} > t_{table}$ This means that there is a positive and significant relationship between learning independence and mathematics learning outcomes of students of class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 school year.

The summary of the results of the second hypothesis test can be seen in Table 5.

Table 5. Summary of Second Hypothesis Test Results

t_{count}	t_{table}	df	Info.
6,1725	1,6955	31	H$_0$ rejected, H$_1$ accepted

From the second hypothesis test at a significant level of 5% and df = 31, it can be seen that $t_{count} = 6,1725$ dan $t_{table} = 1,6955$ so that $t_{count} > t_{table}$ This means that there is a positive and significant relationship between parents' attention and the mathematics learning outcomes of

students of class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 school year.

The summary of the results of the third hypothesis test can be seen in Table 6.

Table 6. Summary of Third Hypothesis Test Results

t_{count}	t_{table}	df	Info.
3,2757	1,6955	31	H$_0$ rejected, H$_1$ accepted

From the third hypothesis test at a significant level of 5% and df = 31, it can be seen that $t_{count} = 3,2757$ and $t_{table} = 1,6955$ so that $t_{count} > t_{table}$ This means there is a positive and significant relationship between the interaction of students and teachers with mathematics learning outcomes of students of class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 school year.

The summary of the results of the fourth hypothesis test can be seen in Table 7.

Table 7. Summary of Fourth Hypothesis Test Results

From the

F_{count}	F_{table}	df	Info
27,0463	3,32	$v_1 = 2$ $v_2 = 30$	H$_0$ rejected, H$_1$ accepted

fourth hypothesis test at a significant

level of 5%, v_1 numerator= 2 and v_2 denominator= 30 so it can be obtained $F_{count} = 27,0463$ and $F_{table} = 3,32$ so that $F_{count} \geq F_{table}$ This means there is a positive and significant relationship between learning independence and parental attention with mathematics learning outcomes of students of class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 school year.

The summary of the results of the fifth hypothesis test can be seen in Table 8.

Table 8. Summary of the Fifth Hypothesis Test Results

F_{count}	F_{table}	df	Info
18,0771	3,32	$v_1 = 2$ $v_2 = 30$	H$_0$ rejected, H$_1$ accepted

From the fifth hypothesis test at a significant level of 5%, v_1 numerator= 2 and v_2 denominator = 30 so it can be obtained $F_{count} = 18,0771$ and $F_{table} = 3,32$ so that $F_{stat} \geq F_{table}$ This means that there is a positive and significant relationship between learning independence and student-teacher interaction with mathematics learning outcomes of students of class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 school year.

The summary of the results of the sixth hypothesis test can be seen in Table 9.

Table 9. Summary of the Results of the Sixth Hypothesis Test

F_{count}	F_{table}	df	Info
26,8315	3,32	$v_1 = 2$ $v_2 = 30$	H$_0$ rejected, H$_1$ accepted

From the sixth hypothesis test at a significant level of 5%, v_1 numerator= 2 and v_2 denominator = 30 so it can be obtained $F_{count} = 26,8315$ and $F_{table} = 3,32$ so that $F_{count} \geq F_{table}$ This means that there is a positive and significant relationship between parents' attention and student-teacher interaction with mathematics learning outcomes of students of class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 school year.

The summary of the results of the seventh hypothesis test can be seen in Table 10.

Table 10. Summary of Seventh Hypothesis Test Results

F_{count}	F_{table}	df	Info
20,7284	2,93	$v_1 = 3$	H_0 rejected,
		$v_2 = 29$	H_1 accepted

From the seventh hypothesis test at a 5% significance level, v_1 numerator= 2 and v_2 denominator =29 so it can be obtained $F_{count} = 20,7284$ and $F_{tabel} = 2,93$ so that $F_{count} \geq F_{table}$ This means there is a positive and significant relationship between learning independence, parents' attention and student-teacher interaction with mathematics learning outcomes of students of class XI TITL of SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 school year.

CONCLUSION

Based on the analysis of the experimental data and its discussion, this activity concludes the following:

1. There is a positive and significant relationship between learning independence and mathematics learning outcomes of students of class XI TITL of SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 school year. This is indicated by the t-test is $t_{count} > t_{table}$ or $5,6931 > 1,6955$. Simple correlation coefficient (r) between learning independence and mathematics learning outcomes is 0.7149. And the simple regression equation Y for X_1 is $\hat{Y} = -25,5623 + 0,9136X_1$

2. There is a positive and significant relationship between parents' attention and the mathematics learning outcomes of students of class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 school year. This is indicated by the t-test is $t_{count} > t_{table}$ or $6,1725 > 1,6955$. Simple correlation coefficient (r) between the attention of parents with mathematics learning outcomes of 0.7425. In addition, we also obtain a simple regression equation for Y over X_2 is $\hat{Y} = -26,1533 + 0,8638X_2$.

3. There is a positive and significant relationship between the interaction of students and teachers with mathematics learning outcomes of students of class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 school year. This is indicated by the t-test is $t_{count} > t_{table}$ or $3,2757 > 1,6955$. Simple correlation coefficient (r) between the interaction of students and teachers with mathematics learning outcomes of 0.5071. In addition, a simple regression equation of Y for X_3 is also obtained $\hat{Y} = -6,1381 + 0,7099X_3$.

4. There is a positive and significant relationship between learning independence and parents' attention with the mathematics learning outcomes of students of class XI SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 school year. This is indicated by the F test is $F_{count} > F_{table}$ or $27,0463 > 3,32$. The multiple correlation coefficient (R) between learning independence and parents' attention with mathematics learning outcomes is 0.8020 and the coefficient of determination (R^2) is 0.6433 with linear line equations $\hat{Y} = -41,5439 + 0,5120X_1 + 0,5590X_2$. The relative contribution of X_1 is 44,5335% dan X_2 is 55,4665% and an effective contribution of X_1 28,6462% and X_2 is 35,6788%.

5. There is a positive and significant relationship between learning independence and student-teacher interaction with mathematics learning outcomes of students of class XI TITL SMK Negeri 1 Pleret Bantul Regency odd semester 2016/2017 school year. This is indicated by the F test is $F_{count} > F_{table}$ or $18,0771 > 3,32$. The correlation coefficient (R) between learning independence and the interaction of students and teachers with mathematics learning outcomes is 0.7393 and the coefficient of determination (R^2) is 0.5465 with linear line equations $\hat{Y} = -38,3372 + 0,7827X_1 + 0,2999X_3$. Relative contribution X_1 is 80,1270% and X_3 is 19,8730% and effective contribution X_1 of 43.7905% and X_3 of 10.8608%.

6. There is a positive and significant relationship between parents' attention and student-teacher interaction with mathematics learning outcomes of students of class XI TITL of SMK Negeri 1 Pleret

Bantul Regency in the odd semester of the 2016/2017 school year. This is indicated by the F test is $F_{count} > F_{table}$ or $26,8315 > 3,32$. The correlation coefficient (R) between parents' attention and student-teacher interaction with mathematics learning outcomes is 0.8009 and the coefficient of determination (R^2) is 0.6414 with linear line equations $\hat{Y} = -56,2910 + 0,7552\,X_2 + 0,4400\,X_3$. The relative contribution of X_2 amounted to 75.1559% and X_3 amounted to 24.8441% and the effective contribution of X_2 amounted to 48.2064% and X_3 amounted to 15.9354%.

7. There is a positive and significant relationship between learning independence, parents' attention and student-teacher interaction with mathematics learning outcomes of students of class XI TITL of SMK Negeri 1 Pleret Bantul Regency in the odd semester of the 2016/2017 school year. This is indicated by the F test is $F_{count} > F_{table}$ or $20,7284 > 2,93$. The correlation coefficient (R) between learning independence, parental attention and student-teacher interaction with mathematics learning outcomes is 0.8258 and the coefficient of determination (R^2) is 0.6820 with linear line equations $\hat{Y} = (-55,1154) + 0,3699\,X_1 + 0,5661\,X_2 + 0,3137\,X_3$. The relative contribution of X_1 is 30.33483%, X_2 is 52.9882% and X_3 is 16.66635% and effective contribution X_1 is 20.6965%, X_2 is 36.1361% and X_3 is 11.3639%.

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