THE RELATIONSHIP BETWEEN SELF-REGULATED LEARNING AND PARENT'S ATTENTION WITH MATHEMATICS LEARNING OUTCOMES IN STUDENTS CLASS XI

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ABSTRACT

Many factors determine student learning outcomes. Self-regulated learning and parent's attention are some of the factors suspected that relate to student learning outcomes. This study aims to determine the presence or absence of a positive relationship between and significant relationship among the self-regulated learning and parent's attention with learning achievement mathematics students class Vocational High School (SMK) 1 Bantul in the first semester of the academic year 2018/2019. The populations of this study were all students of class XI consisting of 6 classes with 188 students. Samples were taken using a random sampling technique. The data collection techniques used the non-test technique by a questionnaire and test. The test research instruments were: validity tests, different power tests, reliability tests, and independence tests. The writer uses product-moment correlation analysis and multiple linear regression analysis to analyze the data. The results of the study showed that there was a positive and significant correlation between: self-regulated learning and parent's attention to the mathematics learning outcomes with $R^2 = 0.6869$, coefficient determine 0,4718 and $F_{count} = 12.0598 > F_{table} = 3.3541$, $\hat{Y} = -4.6102 + 0.5282X_1 + 0.4434X_2$ with RCX_1=54.2231 %, RCX_2 = 45.7769% and EC X_1 = 25.5839%, EC X_2 = 21.5987%.

Keyword: Self-Regulated Learning, Parent's Attention, and Mathematics Learning Outcomes

INTRODUCTION

In this world, every human being will always need education. Education carried out seriously will educate someone. Education is important for everyone. Through education, humans are educated and nurtured, and their potentials are developed according to their talents and interests. This is done to become human beings who are qualified, responsible, and noble. As stated in the RI Law NO. 20 of 2003 concerning the following article 3 of the National Education System, National education functions to develop capabilities and shape dignified national character and civilization in order to educate the nation's life, aiming at developing potential students to become human beings who believe and fear God Almighty, noble, healthy, knowledgeable, capable, creative, independent, and a democratic and responsible citizen. The description above explains that, in essence, education in Indonesia is shown to shape Indonesian people's quality. Until now, our education quality is classified as low in national, regional, and international contexts. This is caused by various problems concerning the education system and management, including low Human Resources (HR).

Quality education is acquiring students' maximum learning outcomes, both learning outcomes in cognitive, affective, and psychomotor. Such as learning outcomes according to Susanto (2013: 5), namely changes that occur in students, both involving cognitive, affective, and psychomotor aspects as a result of learning activities. However, student success is not the same as the one with the others. Some students experience problems in learning. As a result, the learning outcomes achieved are not optimal. The factors that influence learning outcomes, according to Slameto (2013: 54-72), are two. Internal factors originate in the student include physical factors such as health, disability, and psychological factors, including intelligence (thinking ability), attention, interest in learning, talent, student learning, self-confidence, motivation, etc. External factors originate from outside the student's self, including family factors such as how parents educate, the house's atmosphere, and parents' attention—school factors such as teaching methods, school discipline, peers, etc.

Mathematics may be familiar to us in our lives. According to James and James in Suherman, Eman et al. (2003: 16-17) argued that mathematics is arithmetic about logic about the form, arrangement, magnitude, and concepts that are interconnected with one another, which is divided into three fields,

namely algebra, analysis, and geometry. Where mathematics is always studied at school and is expected to be applied in everyday life, many problems and activities must be solved using mathematical sciences such as counting, measuring, processing data, etc. Mathematics is one of the basic sciences which has grown rapidly both in material and its uses. Considering the importance of mathematics as the basis of science and technology, it should have been if the quality of education and mathematics teaching were improved. Mathematics is one lesson where the material has abstract characteristics. This abstractness is often used by students to state that mathematics is a difficult lesson to learn. This assumption is also the reason for students to state that low grades in mathematics are natural. Likewise, when they expressed their attitude to dislike mathematics, they still assumed that the mathematics lesson was hard to understand.

Based on interviews with Ms. Sri Sekar as a mathematics teacher in class XI at SMK Muhammadiyah, one of the information that student learning outcomes, especially in mathematics studies, is still unsatisfactory because most students consider mathematics to be a difficult, tedious and frightening lesson. This perception has been ingrained. The number of formulas and symbols used in formulas is one reason why mathematics is difficult to understand. The indicator of poor mathematics learning outcomes can be seen from the value of Mid-semester Deuteronomy.

Based on Table 1, it is clear that the odd semester XI scores are still low. This can be seen from the pure value of mathematics in class XI Midterm SMK Muhammadiyah 1 Bantul Odd Semester 2018/2019 Academic Year shown in Table 1.

Table 1. Middle Semester Test Number (Midterm) Grade XI Mathematics Subject at SMK Muhammadiyah 1 Bantul

Class	TP1	TP2	TP3	TKR1	TKR2	TKR3
Rate-rate	73,81	71,78	73	71,66	74	74,43
Value highest	87	82,30	85	85,17	86	87
Value lowest	46,25	45	58	51,25	30	50

(Data source: SMK Muhammadiyah 1 Bantul)

From Table 1, it can be concluded that the average value of students has not reached the Minimum Completeness Criteria (MCC). This shows that some students still experience problems in mathematics.

Based on interviews on December 4, 2017, with SMK Muhammadiyah 1 Bantul students, a very striking problem is that lack of self-regulation in learning to regulate themselves in learning can be said to be very low because when the learning process, they pay less attention to the teacher but instead engrossed alone with his friends, playing mobile phones, and responding to questions from teachers in rude language. Karunia & Mohammad (2015: 94) argues that self-regulated learning can monitor, regulate, control aspects of cognition, motivation, and self-behavior in learning. Self-regulation in learning (self-regulated learning) teaches students to be fully responsible for their learning lives, starting from learning readiness, study time, learning techniques, motivation to learn, and assessing the extent of mastery of the material they have learned. According to Slameto (2013: 2), learning is a business process carried out by a person to obtain a change in new behavior as a whole, as a result of his own experience in interaction with his environment. If students get assignments to complete assignments at home (PR), they prefer to cheat on an already working theme or not work at all. Most students do not own independence in learning because they are nails and passive in learning. For example, if the teacher is not told or ordered in reading textbooks, the books will not be opened. Therefore, students need self-regulation to manage themselves to produce graduates capable of independent learning, manage their behavior dynamically, and flexibly face various challenges in their lives.

Parents' role is crucial because education in the family is education that is first instilled in students. According to Kristiyani (2016: 97), parents are the first adults found by a child since childhood. This is explained by Sutjipto Wirowidjojo in Slameto (2013: 61) as follows: The family is the first and foremost educational institution. A healthy family means a lot for education in a small size, but it is decisive for education in large sizes, namely the nation's education, the state, and the world. The way parents educate their children will affect their learning. As with the information obtained from interviews

with class XI students at SMK Muhammadiyah 1 Bantul, students said that there were still many parents who lacked attention and lack of support for their children's learning activities. Parents of students do not supervise children in learning, do not even want to know the difficulties experienced by children. This is because parents are more busy working to make a living.

As with the teaching and learning process of mathematics, which often gets parents' attention, the research process of students' mathematics learning outcomes should also not be separated from parents' attention as the realization of parental responsibility to improve the quality of education. If the child has reached school age, parents will no longer pay attention to the development of their child's education. Parents assume that if they meet the school's needs, parents feel they have fulfilled their parents' responsibilities even though parents should pay more attention because of more time at home than at school.

Based on the description above, the researcher is interested in conducting research on The Relationship between Self-regulated Learning and Attention of Parents to Mathematics Learning Outcomes of Class XI Students of SMK Muhammadiyah 1 Bantul Odd Semester Academic Year 2018/2019.

The objectives of this study are: 1) To determine whether or not there is a relationship between self-regulated learning and the mathematics learning outcomes of class XI students of SMK Muhammadiyah 1 Bantul odd semester 2018/2019 Academic Year. 2) To determine whether or not there is a relationship between parents' attention and the mathematics learning outcomes of class XI students of SMK Muhammadiyah 1 Bantul, odd semester 2018/2019 Academic Year. 3) To determine whether there is a relationship between self-regulated learning and parents' attention with the mathematics learning outcomes of class XI students of SMK Muhammadiyah 1 Bantul, odd semester 2018/2019 Academic Year.

METHODS

This research is classified as quantitative research. This research was conducted at the Mts Muhammadiyah Gedongtengen in Yogyakarta. Time of study in October, a semester of academic year 2018/2019. According to Sugiyono (2017: 61), the population is a generalization area consisting of objects/subjects with specific qualities and characteristics determined by researchers to study and then draw conclusions. According to Arikunto (2014: 174), the sample is partially, or representative of the population studied. According to Sugiyono (2017: 3), the research variable is everything in the form determined by the researcher to be studied so that information is obtained about it, then the conclusion is drawn. This study consisted of 3 variables: independent and dependent variables, including independent variables, namely, self-regulated learning (X_1) and parental attention (X_2). In contrast, the dependent variable was mathematics learning outcomes (Y).

This study uses two data collection techniques in collecting data, namely questionnaire and test techniques. According to Arikunto (2014: 194), A questionnaire is many written questions used to obtain information from the respondent in the sense of a report about his person or things he knows. In this study, the questionnaire was used to obtain self-regulated learning data and the attention of parents. According to Arikunto (2014: 193), Tests are a series of questions or exercises and other tools used to measure skills, intelligence, knowledge, abilities, or talents possessed by individuals or groups. This study's test is used to collect data on the dependent variable, namely the learning outcomes of mathematics in class XI.

The data analysis technique in this research is descriptive data analysis. To test the analysis prerequisites using a hypothesis test with requirements to meet the normality test, linearity test, and independent test. Information on the normality test, linearity test, and independent test are as follows:

a. The normality test of the data serves to test whether the correctness of the data used comes from the normal distribution or not. The normality test is performed on the two variables used as research, namely the independent and dependent variables. The formula used is the chi-square formula as follows:

$$\chi^2 = \sum_{i=1}^{k} \frac{(O_i - E_i)^2}{E_i}$$

b. The linearity test aims to determine whether between the independent variable and the dependent variable has a linear relationship or not. To test linearity, use the following formula:

$$F_{count} = \frac{RJK_{TC}}{RJK_G}$$

c. This independent test is used to determine the relationship between self-regulated learning (X_1), and the attention of parents (X_2) are mutually independent or not. The formula used is Chi Squares as follows:

$$\chi^2 = \sum_{i=1}^{B} \sum_{i=1}^{K} \frac{\left(O_{ij} - E_{ij}\right)^2}{E_{ij}}$$

Then the simple linear analysis and multiple linear regression test steps are as follows:

1. Determine how the equations of each independent variable with the dependent variable by using a simple linear regression test as follows:

$$\hat{Y} = a + bX$$

2. Determine whether there is a correlation between each independent variable with the dependent variable using the product-moment correlation coefficient test as follows:

$$r_{xy} = \frac{n\sum_{i=1}^{n} x_i y_i - (\sum_{i=1}^{n} x_i)(\sum_{i=1}^{n} y_i)}{\sqrt{[\{n\sum_{i=1}^{n} {x_i}^2 - (x_i)^2\}\{n\sum_{i=1}^{n} {y_i}^2 - (y_i)^2\}]}}$$

3. Test the significance of the correlation coefficient (significant test) with the t-test analysis, namely:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

4. Determine how the equations between the two independent variables together with the dependent variable using the linear regression test and multiple correlations as follows:

$$\hat{Y} = a + b_1 X_1 + b_2 X_2$$

5. Determine the multiple correlation coefficient formulated:

$$R_{y(1,2)} = \sqrt{\frac{b_1 \sum_{i=1}^{n} x_1 y + b_2 \sum_{i=1}^{n} x_2 y}{\sum_{i=1}^{n} y^2}}$$

6. Test the correlation is significant or not by using the F test as follows:

$$F_h = \frac{R^2/k}{(1-R^2)/(n-k-1)}$$

RESULTS AND DISCUSSION

The normality test in this study uses statistical tests chi-quadrat (X^2), with a significant level 5% ($\alpha = 0{,}05$), degree of freedom (db) = k - 1, and the decision criteria used are $X^2_{count} \leq X^2_{table}$ then the data is usually distributed.

Table 2. Summary of Normality Test Results

No.	Variable Research	x^2_{count}	x^2_{table}	db	Information
1.	Self-regulated Learning (X_1)	2,1244	7,8147	3	Normal
2.	Parents Attention (X_2)	1,9401	7,8147	3	Normal
3.	Mathematics Learning Results (Y)	1,6289	5,9915	2	Normal

The decision criteria used $F_{count} \leq F_{table}$ with a significant level of 5 % ($\alpha = 0{,}05$) means there is a linear relationship between the independent variable (X) and the dependent variable (Y).

Table 3. Summary of Linearity Test Results

No	Variable	F_{count}	F_{table}	dk(v_1,v_2)	Information
1	X_1 and Y	2,0266	4,5339	(23, 5)	Linear
2	X_2 and Y	2,4978	3,4349	(21, 7)	Linear

To find out the independent variable, the decision criteria are used $\chi^2_{count} \leq \chi^2_{table}$ at a significant level 5% ($\alpha = 0{,}05$) and the degree of freedom (dk) = (b-1)(k-1). Where b is the number of lines, k is the number of columns.

Table 4. Summary of Independent Test Results

Variable research	x^2_{count}	x^2_{table}	dk	Information
Self-regulated Learning (X_1) with Parents Attention (X_2)	31,0730	37,6525	25	Independent

Based on the results of the research that has been obtained and then analyzed, the next step is to discuss the results of the research as follows:

The first hypothesis test results show a positive and significant relationship between self-regulated learning and mathematics learning outcomes. The results of this study were obtained t_{count} = 4,0633 and t_{table} = 2,0484 at significant level 5% with a simple correlation coefficient (r) = 0,6090 with dk=28 that is equal to 2,0484 then obtained $t_{count} > t_{table}$ or 4,0633 > 2,0484. This can be explained by linear relations $\hat{Y} = 13{,}7382 + 0{,}7658X_1$. This means that every increase of one unit of X_1 results in 0,7658 increase Y. In other words, if the self-regulated learning of students in high math learning, the result of mathematics learning will increase. This study also obtained a coefficient of determination (r^2) as big as 0,3709, which means that 37,09% of mathematics learning outcomes are related to self-regulated learning. In contrast, the rest are related to other factors. A positive relationship from the coefficient X1 is positive in a simple linear regression equation $\hat{Y} = 13{,}7382 + 0{,}7658X_1$. While significant can be seen from the t-test with the $t_{count} > t_{table}$ or 4.0633> 2.0484. In other words, the higher the student's self-regulated learning, the higher the student's learning outcomes. If students have self-regulated learning in themselves, they will always try to set learning goals, optimize learning, and plan their learning well to obtain maximum learning outcomes.

The results of the second hypothesis test showed that there was a positive and significant relationship between the attention of parents and the learning outcomes of mathematics. The results of this study were obtained t_{count} = 3,8106 and t_{table} = 2,0484 at significant level 5% with a simple correlation coefficient (r) = 0.5844 with dk = 28 which is equal to 2.0484 then obtained $t_{count} > t_{table}$ or 3,8106 > 2,0484. This can be explained by a linear relationship $\hat{Y} = 16{,}2217 + 0{,}7011X_2$. This means that every increase of one unit X_2 results in a 0.7011 increase in Y. In other words, if the attention of parents of students in learning mathematics is high, then the learning outcomes of mathematics will increase. This study also obtained a coefficient of determination (r^2) amounting to 0.3415, which means that 34.15% of mathematics learning outcomes are related to parental attention, while the rest are related to other factors. A positive relationship can be seen from the X_2 coefficient, which is positive in a simple linear regression equation $\hat{Y} = 16{,}2217 + 0{,}7011X_2$. While significant can be seen from the t-test with the $t_{count} > t_{table}$ or 3.8106> 2.0484. In other words, the higher the attention of parents, the higher the learning outcomes of these students. Especially in mathematics subjects, parents must provide more encouragement by entering the place of tutoring so that children can learn optimally. Parents must provide children's learning facilities such as books, study tables, pencils, lighting, etc. needed by children to study mathematics at home. Parents must set the learning atmosphere of children at home by providing their own space and help children when they find difficulties in working on math problems, organize and remind children to study so that their study hours are regular at home, and relax the association of children with whom children play outside.

The third hypothesis test results show a positive and significant relationship between self-regulated learning and parents' attention to mathematics's learning outcomes. The results of this study

were obtained $F_{count} = 12{,}0598$ and $F_{table} = 3{,}3541$ at 5% significance level with the degree of freedom (dk) the counter (v_1 = k = 2) and denominator (v_2 = n-k-1 = 30-2-1 = 27). with double correlation coefficient (R) of 0,6869 Till obtained $F_{count} > F_{table}$ or 12,0598 > 3,3541. This can be explained by linear relation $\hat{Y} = -4{,}6102 + 0{,}5282\,X_1 + 0{,}4434X_2$. This means that any increase in one unit of X_1 results in 0,5282 increments of Y. Every increase of one unit of X_2 results in 0.44434 increment Y. If self-regulated learning and parents' attention are high, then the learning outcomes of math will increase. In this research, the determination coefficient is obtained (R^2) as big as 0,4718, which means 47,18% Mathematics learning outcomes are related to self-regulated learning and parental attention.

In contrast, the rest are related to other factors. The relative contribution was 54.2231% of X_1 and 45.7769% of X_2, while the effective contribution was 25.5839% of X_1 and 21.5987% of X_2. Relative contributions calculate each free variable's contribution without regard to other variables not examined in this study. Effective contributions are calculated by considering other independent variables not examined in this study. It was discovered that self-regulated learning and parental attention were positively and significantly related to mathematics learning outcomes. This means that the increase and decrease in student mathematics learning outcomes are related to the high level of self-regulated learning and parents' attention. Therefore, it is expected that various students and other parties can optimize their role to achieve student learning outcomes.

CONCLUSION

From the research results and discussion, conclusions can be obtained as follows:

1. There is a positive and significant relationship between self-regulated learning and the mathematics learning outcomes of class XI students of SMK Muhammadiyah 1 Bantul in the odd semester of the 2018/2019 academic year. This is indicated by the Test (t) , that is $t_{count} > t_{table}$ or 4,0633 > 2,0484. The simple correlation coefficient (R) between self-regulated learning (X_1) with the results of learning mathematics (Y) as big as 0,6090 with linear regression equations $\hat{Y} = 13{,}7382 + 0{,}7658\,X_1$.
2. There is a positive and significant relationship between parents' attention and the mathematics learning outcomes of class XI students of SMK Muhammadiyah 1 Bantul in the odd semester 2018/2019. This is indicated by the test (t), that is $t_{count} > t_{table}$ or 3,8106 > 2,0484. The simple correlation coefficient (R) between parental attention (X_2) and mathematics learning outcomes (Y) of 0.5844 with a linear regression equation $\hat{Y} = 16{,}2217 + 0{,}7011X_2$.
3. There is a positive and significant relationship between Self-regulated Learning and Attention of Parents with mathematics learning results in class XI SMK Muhammadiyah 1 Bantul in the odd semester 2018/2019. This is indicated by the test F, that si $F_{count} > F_{table}$ or 12,0598 > 3,3541. Koefisien Simple correlation coefficient R = 0,6869 and R^2 = 0,4718 with linear regression equations $\hat{Y} = -4{,}6102 + 0{,}5282X_1 + 0{,}4434\,X_2$. The relative contribution of X_1 is 54.2231%, and X_2 is 45.7769%, and the effective contribution of X_1 is 25.5839%, and the effective contribution of X_2 is 21.5987%.

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