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The Impact Of Student Learning Independence On The Learning Outcomes Of Class X Students of SMK Al-Bukhori Rantauprapat

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Abstract

The benchmark in determining the level of success of students in knowing and understanding a lesson is one of them with learning outcomes. Each student has different characteristics and learning spirit. Someone with independence learns more initiative and does not depend on others to solve the problems they face. In this study aims to examine the effect of learning independence on the learning outcomes of mathematics students in Class XI vocational school students. The study was conducted by survey method in one of the private vocational schools in Sleman Regency. This study examines the relationship between student learning independence and student learning outcomes. After testing the hypothesis shows that there is an influence between the independence of student learning on student math learning outcomes. The magnitude of the effect of student independence on student learning outcomes is 74% and 26% influenced by other variables.

Keywords: Learning Outcomes, Learning Independence, Students

INTRODUCTION

Mathematics is widely used in various disciplines so that mathematics is referred to as a universal science (Akbar et al., 2018). In line with the opinion that mathematics is the basic science for all technological developments and has an important role in various disciplines (m Bernard et al., 2018). In everyday life is also indispensable the existence of mathematics (Akbar et al., 2018). Agreeing with this, Sari & Hasibuan (2019) stated that mathematics grows and develops as a human activity and shapes human thought patterns so that it can be said that mathematics cannot be separated from life (Dewi et al., 2020).

Learning mathematics should be given to all students at every level of education from elementary school to university (Chotimah et al., 2018). Reinforcing this opinion, (Martin Bernard, 2015) in his writing states that mathematics subjects need to be given since elementary school to equip students with the ability to think logically, analytically, systematically critically, and creatively and the ability to work together. With the learning of mathematics in schools can teach students to think critically, logically, creatively, independently and solve problems (Islamiah et al., 2018). Therefore, mathematics has an important role as one of the fields of study in education (Nurfadilah & Hakim, 2019). Unfortunately, there are many negative thoughts about learning mathematics at school that learning mathematics is boring, difficult, uninteresting, and has no visible connection with everyday life (Kartini, 2016). It was also found that students perceive mathematics as a difficult and scary lesson (Dewi et al., 2020). In addition, mathematics is less preferred by students because it is associated with numbers, formulas, and other computational operations (Egok, 2016). As it has been said that mathematics is the basis for various other disciplines, the lack of response from students to mathematics lessons will affect other lessons related to mathematics. (Rahmawati & Kusuma, 2019).

The benchmark in determining the level of success of students in knowing and understanding a lesson is one of them with learning outcomes where the value in learning outcomes is usually poured in the form of letters or Numbers (Rahmawati & Kusuma, 2019). Learning outcomes are a measure to determine the level of understanding of students who have undergone the learning process both from cognitive, affective, and psychomotor aspects (Woi &

Prihatni, 2019). Another similar opinion suggests that learning outcomes are behavioral changes that are the benchmark for determining the success rate of students in knowing and understanding the subject matter (Rahmawati & Kusuma, 2019). Suhendri and Mardalena (2013: 108) stated that "mathematics learning outcomes are the culmination of learning activities in the form of changes in the form of Cognitive, Affective, and psychomotor in terms of the ability of the ability of numbers, wake-up, relationship relationships and logic concepts that are continuous and can be measured or observed.". It can be concluded that the results of learning mathematics is a measure of student success in knowing and understanding mathematical material based on changes in Cognitive, Affective, and psychomotor aspects.

One of the factors that affect learning outcomes is the independence of learning (Dewi et al., 2020). The ability of each student is not just science that is the basis of technological development, but the ability of each student is in the character of each individual (Chotimah et al., 2019). Each student has different characteristics and learning spirit (Bungsu et al., 2019). According to Suhendri (2011) independence is a positive mental attitude of an individual for the convenience of planning activities to achieve goals by positioning or conditioning himself so that he can evaluate about himself and his environment (Fadila et al., 2021). The independence of students is to foster confidence which is very important for students and faster in receiving learning materials so as to shape the character of students for the better. (Ningsih & Nurrahmah, 2016) also mentioned that someone with independent learning is more initiative and does not depend on others to solve the problems they face. So it cannot be denied that learning success is influenced by student learning independence as conveyed (Nurfadilah & Hakim, 2019) that in Independence, it is emphasized on learning activities that are full of responsibility for success in learning.

Several previous studies have shown that there is a positive effect of learning independence on students ' math learning outcomes. (Woi & Prihatni, 2019) who conducted research on students in grade VII of SMPN 3 Berbah academic year 2017/2018 get the independence of learning to contribute 2.82% to students ' math learning outcomes. Previously (Ningsih & Nurrahmah, 2016) in different places examined students of grade VIII Private Junior High School in Setiabudi District, Jakarta found that independent learning and parental attention contributed 45.3% to mathematics learning achievement. There is also a study of learning independence at the high school level, especially vocational and MA. In Class X students of SMKN 1 Cihampelas, the percentage of influence of learning independence on learning outcomes is 16% (Bungsu et al., 2019). Then in Class X students Ma Darul Ma'arif District Margaasih Bandung Regency, the percentage of the influence of learning independence on the learning outcomes of mathematics is 24% (Dewi et al., 2020). Recent research is by (Fadila et al., 2021) who conducted a study of Mathematics Education students at UIN Sunan Kalijaga Yogyakarta obtained results of 7.1% of learning outcomes influenced by learning independence in online learning. From the exposure of the previous study above, the percentage of the influence of learning independence on mathematical learning outcomes is quite varied in each study with different subjects and levels. Therefore, further research is needed on the effect of learning independence on students ' mathematical learning outcomes at different levels.

In connection with the above description, the researcher intends to conduct a similar study on the effect of learning independence on the learning outcomes of mathematics students in Class XI of SMK Al-Bukhory Rantauprapat. This study aims to determine how much the percentage of learning independence in affecting students ' math learning outcomes. With the existence of this study can also be considered by teachers in an effort to improve student math learning outcomes by trying to increase student learning independence.

RESEARCH METHODS

This study is a quantitative research with survey methods. The research was conducted in one of the private vocational high schools in Sleman Regency. The population is Class XI students in the school and the sample taken is one class with a total of 16 students. The instruments used include questionnaires and a set of written tests. Data analysis techniques using correlational analysis that examines the relationship of independent variables and dependent variables, in this study is the independence of student learning (X) and student learning outcomes (Y). Before the hypothesis test, pre-requisite test is normality test and linearity test. Hypothesis testing is done by performing a correlation test. In processing the research data was conducted with IBM SPSS Statistics 24.

RESULT AND DISCUSSION

Data processing and descriptive statistics of research data as in Table 1 below:

Tabel 1. Ringkasan Statistik Deskriptif

Statidtik	X	Y
Mean	53.75	54.625
Median	52	52.5
Mode	51	50
Varians	16.254	28.876
Simp. Baku	264.2	833.85

Based on Table 1 Above, the results of the study Indevendence questionnaire and daily repeat tests conducted on 16 students showed that the students ' math learning outcomes and math learning outcomes tended to be less.

Test Data Analysis Prerequisites Normality Test. Normality test is done as a condition if the test is done with non-parametric statistics. Researchers used Kolmogrov Smirnov test in conducting normality test. The normality test itself was conducted to determine whether the data came from a normally distributed population or not.

Tabel 2. *One-Sample Kolmogrov-Smirnov Test*

		Unstandarized Residual
N		16
Normal Parameters[a,b]	*Mean*	.0000000
	Std. Deviation	14.69604163
Most Extreme Differences	*Absolute*	.209
	Positive	.209
	Negative	-.184
Test Statistic		.209
Asymp. Sig (2 tailed)		.059[c]

a. Test distribution is Normal
b. Calculated from data

c. Liliefors Significance Correction

Linearity Test

Linearity test in this study was conducted to determine whether there is a linear relationship between the Variabl independence of student learning and student math learning outcomes.

Table 3. ANOVA TABLE

			Sum of Squares	*df*	*Mean Squares*	*F*	*Sig.*
Learning Outcomes * *Indevendence Learning*	*Between Groups*	*Combined*	*11695.250*	*13*	*899.635*	*2.214*	*.354*
		Linearity	*9268.145*	*1*	*9268.145*	*22.814*	*.041*
		Deviation from Linearity	*2427.105*	*12*	*202.259*	*.498*	*.823*
	Within Groups		*812.500*	*2*	*406.250*		
	Total		*12507.750*	*15*			

Based on Table 3 above, the GIS value is known. Deviation from Linearity of 0.823 > 0.05 so it can be concluded that there is a linear relationship between student learning independence and student math learning outcomes.

Hypothesis Testing

Regression Test

Table 4. Coefficients

Model		*Unstadarized coefficients*		*Standarized Coefficients*	*t*	*Sig.*
		B	*Std. Error*	*Beta*		*061*
1	*(Constant)*	*-27.573*	*13.533*		*-2.037*	
	Indevendence Learning	*1.529*	*.242*	*.861*	*6.239*	*.000*

a. Dependent variable: learning outcomes

Based on Table 4 above, obtained regression coefficient value b is 1.529 which means each addition of 1 point of learning independence (X), then students ' math learning outcomes (Y) increased by 1.529.

Correlation Test

$H0$: there is no effect between learning independence (X) on students 'mathematics learning outcomes (Y) $H1$: there is an effect between learning independence (X) on students' mathematics learning outcomes (Y) $H0$: $r = 0$, $H1$: $r \neq 0$, significant level (α) = 0.05. If the probability (Sig) $\geq \alpha$, then $H0$ is accepted and vice versa.

Talel 4. Correlations

		Indevendence Learning	***Learning Outcomes***
Indevendence Learning	*Pearson Correlation*	*1*	*.861***
	Sig. (2-tailed)		*.000*
	N	*16*	*16*
Learning Outcomes	*Pearson Correlation*	*.861***	*1*

	Sig. (2-tailed)	*.000*	
	N	*16*	*16*

Table 4 shows that the relationship between student learning independence and high student math learning outcomes is 0.861. This means that the higher the value of Student Learning Independence, the higher the student's math learning outcomes. Major contributions to student independence student learning outcomes are $KP = r\ 2 \times 100\% = (0{,}861)\ 2 \times 100\% =$ 74%. This means that the effect of Student Learning independence on student math learning outcomes is 74% and 26% is determined by other variables. From Table 4 obtained that the value of GIS value correlations of 0.00, then the value $s\ i\ g = 0.00 < \alpha = 0.01$ so that the decision $H0$ rejected. Thus $H1$ is accepted so that the conclusion is that there is a significant relationship between student learning independence (X) and student math learning outcomes (Y).

CONCLUSION

Based on hypothesis testing of data from research conducted on students of Class XI of one of the private vocational schools in Sleman showed that there is an influence between the independence of student learning on student math learning outcomes. Each addition of 1 point of learning independence (X), the student's math learning outcomes (Y) increased by 1.529. The magnitude of the effect of student independence on student learning outcomes is 74% and 26% influenced by other variables

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