CORRELATION OF ACTIVITIES LEARNING WITH LEARNING OUTCOMES STUDENT IN VOCATIONAL HIGH SCHOOL

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ABSTRACT
This research is correlational aimed at revealing the correlation between learning activeness with learning outcomes of Vocational High School students. The method used is a correlational method that aims to find the correlation between one variable with another variable so that it can find out the correlation of variations between variables in the form of correlation coefficients. Analysis of research data using Pearson product moment correlation. The results obtained $r_{count} = 0.4487 > r_{table} = 0.279$, meaning that there is a correlation between learning activeness with learning outcomes that is quite strong. While $t_{count} = 3.4785 > t_{table} = 1.676$ with a significant level used is 5%, meaning that the correlation between variable X and Y is significant. This means that the better the activeness of learning, the learning outcomes obtained will be better too.

Keywords: Learning Activeness, Learning Outcomes, Correlation

INTRODUCTION

Student-centered learning activities will ultimately bring students more active in the learning process. The success of a teacher in implementing a student-centered learning process is one of the factors these teachers in the learning process takes place (Saputro & Rohman, 2017). Learning that is centered on students at school is a learning method that focuses on students and not on the teacher (Buditama, 2017). Active learning strategy is a strategy that is considered the most effective in learning (Peters, 2011). With the activeness of students when learning, a safer, morelively and not watching environment will be created. The emergence of student learning activeness is also inseparable from the role of the teacher to stimulate students to actively learn so that students can succeed well. For this to be achieved, there must be a solid nature, where there is good collaboration between the student himself and the teacher. To find out whether learning is successful or not, one of them is indicated by the existence of good learning outcomes.

The value at the end of the learning process and the final results obtained by students at school after participating in the learning are called learning outcomes. Learning outcomes can be described as written statements that are easier for students to understand and can usually be done at the end of learning (Taurina, 2015). The results obtained after following the learning process are in the form of science and skills in both the cognitive and affective and psychomotor domains (Nugraha & Ambiyar, 2018). Students who want high learning outcomes of course they will try even harder so that the learning process can achieve the expected goals. Learning outcomes are also a guiding tool that can guide students to the desired results of the planned course (Mahajan & Singh, 2017). The learning outcomes achieved can be in the form of abilities possessed by students themselves (Saputra, Ismet, & Andrizal, 2018). What is meant here is the ability obtained by students during the learning process. To improve good learning outcomes there is a need for student effort. The intended effort is consciously, both systematically and in other ways that will make changes to students positively called the learning process (Effendi, Hastuti, & Ganesha, 2017). Learning outcomes need to get more attention from education managers. One of the learning factors that influence is student learning activeness.

The learning activeness of the students needs to get the attention of the teacher or the principal and in the learning process is a very important and most basic issue that must be understood together (Ramlah, Firmansyah, & Zubair, 2014). There is an awareness in students and also teachers who take an important role to achieve the objectives of learning. Active students are part of student motivation in learning (Shahzadi, Javed, Pirzada, Nasreen, & Khanam, 2014). Students who have high curiosity, usually are people who are super

active in learning and they will do a variety of ways to get high learning outcomes.

Through the pre-survey data that researchers conducted at one of the Vocational Schools in Padang, West Sumatra and interviews with the relevant productive teachers, it was found the learning outcomes of technical drawing training with a value below the Minimum Mastery Criteria, which is around 7.50. The summary of learning outcomes can be seen in Table 1 below.

Table 1. Recapitulation of the even semester learning outcomes of class I students in technical drawings

No.	Class	Total Students	Average Value	Students Graduated	Students Not Graduating
1	X 01	34	6,76	16	18
2	X 02	34	6,47	15	19
3	X 03	30	6,5	16	14

Judging from table 1, the researcher can conclude that the average grade of grade X in technical training drawing in one of the vocational schools in Padang is still low. So that this does not happen again, we need a change in the students themselves who can later improve their learning outcomes. On the other hand, in addition to the average value in table 1 above, the researcher also interviewed the training teacher and several students to find out the causes of the lack of active learning in the learning process. From the results of interviews conducted by researchers, teachers and students claimed that the learning process of students who took place using methods and media that are less varied, so that in the learning process students experience boredom and laziness in

following learning. Lack of interaction between students and teachers is also one of the reasons students are less motivated in achieving the learning process.

The results of a number of relevant previous studies regarding learning activeness affect learning outcomes so that learning outcomes are better. Student learning activeness obtained using the results of observations and questionnaires distributed has a high and good category so that student learning outcomes can reach a value of 87.5% (Suseno, Yuwono, & Muhsetyo, 2017). An increase in one variable X which will result in an increase in variable Y so that indicates that the higher the activeness of student learning in the learning process, the learning outcomes obtained will increase (Fadjrin, 2017). This means that learning activeness greatly affects student learning outcomes. So that the final goal of this study is to determine the correlation of student learning activities with student learning outcomes in Vocational High Schools.

1. Learning Outcomes

Learning outcomes are skills that are owned or obtained by students after they go through various processes of learning (Sudjana, 2010). These learning outcomes focus more on what students have achieved than what has been taught to students themselves (Kennedy, Hyland, & Ryan, n.d.). In order for the individual to get an assessment, relevant information is needed. This is obtained by measuring using a

measuring instrument called a test. The test is used as a tool to measure students 'abilities after the learning process and is also used for students' success or failure in learning at school (Putra, 2013).

After going through various learning processes and getting high learning outcomes, this states that the student has mastered the material given by the teacher (Kurniawan, Wiharna, & Permana, 2018). With this learning outcome, the teacher can know the success or failure of the teacher's education to students in learning. It can be concluded that learning outcomes are something that are obtained by students after they start then finish and also through the learning process by getting grades or other abilities according to the field of knowledge, field of understanding and so forth.

2. Active Learning

The learning process in schools, especially in the classroom is an activity to transfer the knowledge, attitudes and skills of teachers to students. This process really requires students to be active because students are the subjects who will carry out activities while the teacher is more towards guiding or facilitators. The activeness that is owned by students will make learning according to the planning that has been made by the teacher, the form of this activity can be in the form of the activities of the students independently or in groups (Wibowo, 2016). With the activity of learning, students look more busy in activities at school because they have better activities in the school

environment and outside the school environment which will ultimately support their success in learning (Aulia & Fatichatul, n.d.).

The results of the students' learning activeness will lead to more positive interactions between the teacher and the students themselves both in class and in general school. This more positive interaction will make the classroom atmosphere more conducive and more enjoyable. The effect of learning activeness will also change students' attitudes and thoughts towards a better direction (Suarni, 2017). An active attitude towards students will show visible learning activities in the class and make the teacher more enthusiastic in teaching.

3. Correlation of Learning Activity with Learning Outcomes

Judging from the general understanding, if found students who are actively involved in learning, usually learning outcomes that are the initial goal will be good, in other words the activity of learning here will affect student learning outcomes themselves, especially in the classroom (Kurniawati & Farhan, 2017). This will make the quality of learning will be better too because there is a correlation of student learning activities in school with student learning outcomes themselves. Nowadays, with the development of methodology that is applied to students, a program called unit activity is made, in which learning activities carried out by students have become the basis for achieving the objectives of adequate

learning and learning outcomes towards better conditions (Hamalik, 2014). We can use methodology so that students are more active in learning both in school and outside the school environment, because students should learn according to their times. On the other hand, with an increasingly learning experience between students and teachers, it can also improve student learning outcomes themselves at school because there are many senses that play a role in the ongoing learning process (Setiawan & Hidayat, 2016).

So that learning outcomes can be achieved, there needs to be good cooperation between teachers and students. If the cooperation correlation is more towards the good, then the learning process of students in the school environment or outside the school will be fairly good too. A conclusion can be drawn that with the active learning of students in their learning, the learning outcomes to be addressed by these students will be achieved in accordance with what is desired.

RESEARCH METHODS

This research is descriptive by using the correlational method whose aim is to find out the correlation between two variables or three even more than that. This method the researchers took because this study has two variables, namely student learning activeness (variable X) and student learning outcomes (variable Y). This study is a study with the aim that researchers can find out whether or not there is a correlation between two or more variables with correlation techniques (Arikunto, 2016). The size or height of a correlation to be examined can be expressed in the form of a correlation coefficient.

This correlation study was conducted at SMKN 5 Padang. The location is determined based on where the research data was collected. Then the time of the research to obtain research data is the range between October 2018 to December 2018.

This study uses population as objects or subjects used by researchers and has certain qualities or characteristics so that conclusions can be drawn whose purpose is useful for collecting research data (Sugiyono, 2015). The population taken was all students in grade 1 of the light vehicle engineering expertise program at SMKN 5 Padang. For more details on how many populations the researchers took at the school can be seen in table 2.

Table 2. Class 1 research population

No.	Class	Total students
1.	X OKR 1	34 People
2.	X OKR 2	34 People
3.	X OKR 3	30 People

After the population is found, the next step the researcher takes is the search for research samples, to get more specific data, the researcher uses a sample that is part of the total population that has been used (Sugiyono, 2015). To determine the value of sample size, the formula the researcher uses is the Slovin formula (Hamalik, 2014).

$$n = \frac{N}{1 + Ne^2}$$

In order to better understand how to determine the population size and to determine the sample to be examined based on the population number, it can be seen in table 3.

Table 3. Determination of population and number of samples

No.	Class	Population	Samples
1.	X O1	34 People	17 People
2.	X O2	34 People	17 People
3.	X O3	30 People	16 People
	Total	**98 People**	**50 People**

The instrument used was a questionnaire / questionnaire distributed to students who became the study sample. This questionnaire contains a statement regarding the activeness of student learning at school. Rating scores will be arranged based on the highest value using a Likert scale. This scale the researchers took to measure attitudes or opinions about events or social phenomena that have been made in such a way (Hamalik, 2014). Before the questionnaire is made, the instrument lattice needs to be made first, see table 4.

Table 4. Lattice research instrument of student learning activities

Variable	Item Number (+)	Item Number (-)	Total Items
learning activeness	1,2,5,6 9,10	3,4,7,8 11,12	12
	13,14	15,16	4
	17,18, 21,22	19,20 23,24	8
	25,26, 29,30,31	27,28 32,33	9
	34,35, 36	37,38	5
	39,40	41,43	4
	44,45	46,47	4
	48,49, 52,53,54	50,51, 55,56	5
	57,58	59,60	4
Total	**31**	**29**	**60**

1. Validity Test

To get the value of the validity test in this study, the researchers used the Pearson product moment correlation formula (Hamalik, 2014). The results of the research data are said to be valid if found $r_{count} > r_{table}$ at a significance level of 0.05. The results of this instrument trial analysis data obtained as many as 45 items valid statements and as many as 15 items invalid. For more details, see table 5.

Table 5. Instrument grid after trial

Variable X	Item (+)	Item (-)	Invalid Item	Total Item
Active Learning	1,2,5,6 9,10	3,4,7,8 11,12	3,12	10
	13,14	15,16	15	3
	17,18, 21,22	19,20 23,24	19,24	6
	25,26, 29,30,31	27,28 32,33	27,30	7
	34,35, 36	37,38	34,36	3
	39,40	41,43	39,42	2
	44,45	46,47	47	3
	48,49, 52,53,54	50,51, 55,56	55,56	3
	57,58	59,60	58	3
Total	**31**	**29**	**15**	**45**

2. Reliability Test

Testing instrument reliability was calculated using the alpha method. the formula is as follows (Hamalik, 2014):

$$r_{11} = \left[\frac{k}{k-1}\right]\left[1 - \frac{\sum s_i}{s_t}\right]$$

After getting the value of r_{11}, do a comparison between the value of r_{11} with r_{table}. r_{table} value can be found in r_{table} the

pearson product moment with a significance level of 0.05.

After obtaining the instrument trial value on the final results of the analysis, the value of r $_{11}$ = 0.880936. Because the value at r $_{11}$ is greater than r $_{table}$ = 0.880936 > 0.361, it can be stated that the instrument used in the instrument test is reliable and has a very high reliability index.

3. Normality Test

In order to get the value of the normality test the ultimate goal is to find out the size of the distribution of the data under study, whether or not it is distributed horizontally, the researcher uses the chi square formula (Sugiyono, 2015):

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

4. Linearity Test

The researcher uses a linearity test in order to be able to test the correlation coefficient of research data between the activeness of student learning (variable X) with student learning outcomes (variable Y) whose conditions are to be linear. To get the value of the linearity test, researchers used a regression test where the linearity test is as follows (Hamalik, 2014):

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

After the regression value is obtained, the linearity test can only be done using the following formula (Hamalik, 2014):

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

5. Hypothesis Test

The hypothesis to be tested is "there is a correlation between learning activeness with productive subjects learning outcomes in students at SMKN 5 Padang".

6. Correlation Coefficient Test

To get the value of the correlation coefficient test researchers used the Pearson product moment formula, as below (Hamalik, 2014):

$$r_{xy} = \frac{N.\sum XY - (\sum X)(\sum Y)}{\sqrt{\{(N.\sum X^2 - (\sum X)^2)\}\{N.\sum Y^2 - (\sum Y)^2\}}}$$

The symbol of the Pearson product moment correlation is symbol r. If the pearson product moment correlation value -1, it means that the correlation value is perfectly negative, whereas if the Pearson product moment correlation value is 0, it means that the research has no correlation. If the Pearson product moment correlation value is 1, this indicates a very strong correlation.

7. Correlation Significance Test

Significance test of the correlation of variable X to variable Y used the t-test formula (Hamalik, 2014).

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

The decision rule obtained after finding the results of the t test is if t $_{count}$ > t $_{table}$, then H$_0$ is rejected. This means that there is a fairly

close correlation between vocational student learning activeness with vocational student learning outcomes at a significant level of around 5%.

RESULT AND DISCUSSION

The results of data processing for student learning activeness variables need to be analyzed in order to obtain a distribution of scores from the lowest value to the highest value. The frequency distribution of student learning activity scores in Vocational High Schools (Variable X), see table 6.

Table 6. Frequency distribution of student learning activeness scores (variable X)

No.	Interval Class	F Value	Relative F Value in Percent
1.	110-119	2	4
2.	120-129	6	12
3.	130-139	7	14
4.	140-149	7	14
5.	150-159	12	24
6.	160-169	9	18
7.	170-179	7	14
	Total	**50**	**100**

The results of data analysis obtained the distribution of scores from the low to the highest score of 110 to 179, see table 6. Based on the distribution of these scores obtained 149.7 for the mean value, 152 for the median score, 155.75 for the mode score, 17.29 for the standard deviation score and 69 for the range score. After the researchers did the data processing, it was found that the average value of learning activeness was 66.53% in the sufficient category. For more details, see Figure 1 about the histogram of student learning activeness based on the frequency distribution
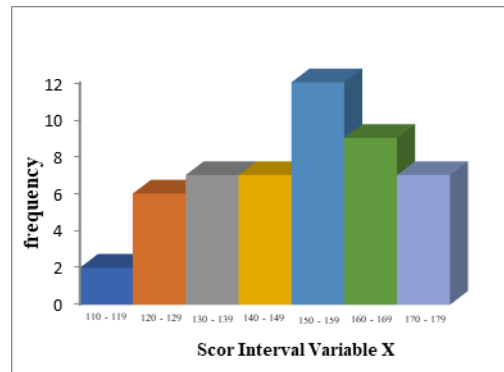

Figure 1. Histogram of student learning activeness

Based on the histogram picture of learning activeness, it is clear how the frequency of each class interval on the X variable.

For the distribution of student learning outcome scores after going through the data processing, the lowest value obtained is 6 and the highest score is 9. Look at table 7 on student learning outcomes:

Table 7. Scores of student learning outcomes (variable y) in the frequency distribution

No.	Class Interval	F Count	Relative F Value in Percent
1.	6-6,4	2	4
2.	6,5-6,9	5	10
3.	7-7,4	11	22
4.	7,5-7,9	6	12
5.	8-8,4	15	30
6.	8,5-8,9	6	12
7.	9-9,4	5	10
	Total	**50**	**100**

7.85 for the mean value, 8.016 for the median score, 8.277 for the fashion score, 0.778 for the standard deviation score and 3 for the stretch score. The histogram of student learning outcomes can be seen in Figure 2.
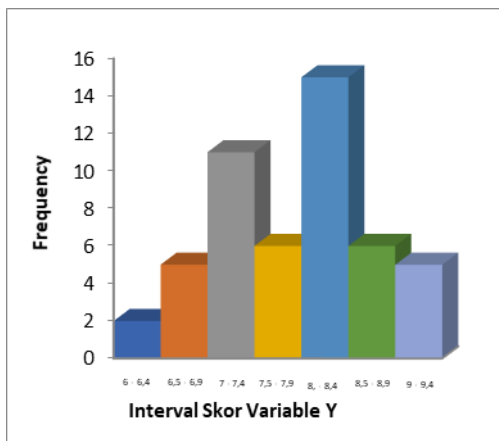
Figure 2. Histogram of student learning outcomes

Histogram picture of student learning outcomes, it is clear how the frequency of each class interval on the Y variable.

1. Normality Test

This test is conducted to determine the distribution of data taken from populations that are normally distributed or not. It is said to be normal if $\chi2_{count} < \chi2_{tables}$. The summary results of the normality test that researchers have obtained see in table 8.

Table 8. Summary of normality testing

No.	Variable	$\chi2$ Count	$\chi2$ Table	Information
1.	Variable X	5	12,592	Normal
2.	Variable Y	6,823	12,592	Normal

According to table 8, for the value of chi squared on student learning activeness (X) is equal to 5 and student learning outcomes (Y) is 6.823 with a significant level of 0.05. It can be concluded that the activeness of learning and learning outcomes are normally distributed.

2. Linearity Test

The next step is the linearity test used to test the correlation coefficient between the tested variables. Through a simple regression obtained a constant price of 5.2455 and the direction coefficient of 0.0174, the regression equation is Y = 5.2455 + 0.0174X. Correlation regression line between student learning activeness on variable X with student learning outcomes on variable Y can be seen in Figure 3.
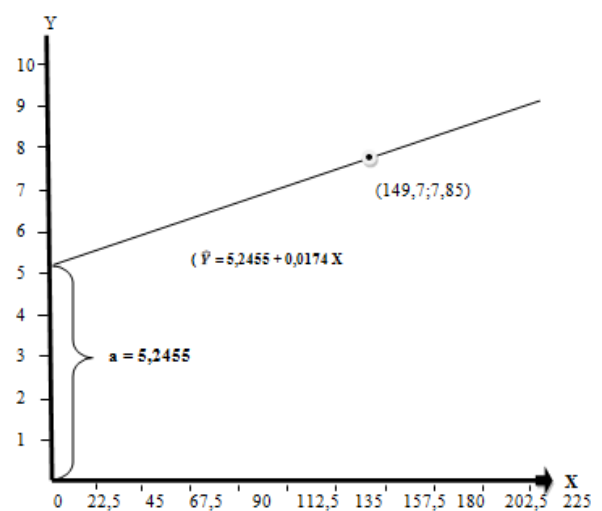

Figure 3. The results of the correlation regression line between student learning activeness (variable X) with student learning outcomes (variable Y)

Based on Figure 3, it can be explained that the constant is 5.2455 and the direction coefficient is positive at 0.0174X. This means that if the score of variable X is increased by one scale, the score of variable Y will increase by 0.0174 scale. So anova summary on the linearity test of this study, can be seen in table 9.

Table 9. Summary of ANOVA when testing linearity

Source	Number of Squares	Average Number of Squares	F count	F table
Total	3111,14	-	1,8611	2,08
Regression (a)	3082,69	3082,69	**Conclussion:** becouse F count < F table so 1,8611 < 2,08	
Regression (b/a)	5,75295	5,75295		
Tuna Match	16,788	0,5788		
Error	5,909	0,311		

Based on the anova summary in table 9, it can be concluded that between student learning activeness, namely variable X and student learning outcomes, namely variable Y is linear patterned.

3. Hypothesis Test

The hypothesis to be tested is whether there is a correlation between learning activeness with student learning outcomes at SMKN 5 Padang. The thing to do is to do a correlation coefficient test. The correlation coefficient is the first test step to get a hypothesis test. From this test calculation the researcher gets the value of r_{count} = 0.4487 > r_{table} = 0.279. Based on the results of the correlation coefficient, researchers can draw the conclusion that there is a fairly strong correlation between student learning activeness with learning outcomes at SMK 5 Padang of 0.4487 (quite strong).

The next test is the correlation significance test after the correlation coefficient step. This test is useful for finding meaning from the correlation of learning activeness with learning outcomes. Based on the results of research analysis, obtained t $_{count}$ = 3.4785> t $_{table}$ = 1.676. Researchers

concluded that the correlation between student learning activeness (X) learning outcomes (Y) was significant. The results of the correlation can be seen in table 10.

Table 10. Summary of the results of the correlation of learning activities with learning outcomes

Hypothesis Test	Score		Information
Correlation Test Data	r count = 0,4487	r table = 0,279	Significant (α = 0,05 and N= 50)
Significance Test Data	t count = 3,4785	t table = 1,676	

The calculation results in table 10 show that the correlation coefficient between learning activeness with learning outcomes is equal to 0.4487, while the significance of the test results is 3.4487. This indicates that the data obtained indicates a positive correlation between one variable and another. Based on the previous hypothesis test, a conclusion can be drawn between student learning activeness (Variable X) with student learning activeness (Variable Y) which has a strong enough correlation.

4. Discussion

The hypothesis that has been tested after going through data analysis shows that research data has been received empirically so that learning activeness can be believed to have a positive correlation with learning outcomes. Learning outcomes will not be achieved properly if the factors that support it do not interact and complement each other. Students will feel more interested again and more active in learning if the learning outcomes obtained are better. So that the

activity of learning can affect student learning outcomes at SMKN 5 Padang.

CONCLUSION

After passing the normality test, the learning activity data and learning outcomes are normally distributed. Then when linearity test it was found that the research data between learning activeness with linear learning outcomes. There is a positive and significant correlation between students' learning activeness (variable X) with student learning outcomes (variable Y) in SMKN 5 Padang with $r_{count} = 0.4487 > r_{table} = 0.279$ and $t_{count} = 3.4785 > r_{table} = 1,676$. The results of the research conducted stated support each other with the study of theory in general that there is a positive and significant correlation between learning activeness with learning outcomes. This means that the better the activeness of student learning, the learning results obtained or achieved will be better too.

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