Relationship of the Application of Block System Learning and Motivation to Learning with Learning Outcomes of Productive Vocational Light Vehicle Engineering Subjects

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Abstracts. This study is a descriptive correlative study that aims to determine: (1) the relationship between the application of block system learning and learning achievement in productive subjects, (2) the relationship between learning motivation and learning achievement on productive subjects, (3) the relationship between the application of learning block system and learning motivation with learning achievement on productive subjects. The research sample was taken by random sampling technique as many as 90 students. The data collection technique uses a questionnaire for the variable implementation of block system learning and learning motivation and documentation for learning achievement variables. Test the validity of the instrument using product moment correlation and reliability using Cronbach's alpha. For the research hypothesis tested by product moment analysis techniques and double predictor multiple regression analysis. The results showed that: 1) there is a positive and significant relationship between the application of system block learning (x1) and learning outcomes (y) as evidenced by the correlation index of 0.914 and the relationship between the two can be shown in the regression line equation $y = 33.849 + 0.633x1$, 2) there is a positive and significant relationship between learning motivation (x2) and learning outcomes (y) as evidenced by a correlation index of 0.948 and the relationship between the two can be shown in the regression line equation $y = 31,552 + 0,685x2$, 3) there is a positive relationship and significant between the application of block system learning (x1) and learning motivation (x2) with learning outcomes (y) proved by the correlation index of 0.752 and the relationship between the two can be shown in the regression line equation $y = 30.906 + 0.156x1 + 0.533x2$.

Keywords: learning, motivation, results

Introduction

Vocational education has a strategic role in directly supporting the orientation of national development, especially in the preparation of skilled and educated workers needed by the world of work. Vocational Education is an education system that requires students to master certain competencies in accordance with the direction taken. The quality of graduates of an education is very closely related to the process of implementing learning applied in an educational institution. This is influenced by several factors including goals, educators, students, the learning process, facilities and infrastructure or learning aids, as well as the school or community environment.

The objectives of the Vocational School are: (1) Preparing students to continue their education more and / or expand basic education. (2) Increasing the ability of students as members of the community to conduct reciprocal relations with the social, cultural and surrounding environment. (3) Improving the ability of students to develop themselves in line with the development of science, technology and art. (4) Prepare students to enter employment and develop professional attitudes. (Law No. 20 of 2003 concerning National Education).

But now, many complaints about the low absorption of graduates of vocational schools and graduates who work not on the part that suits their expertise. While from industry, not a few who complained about the low quality of graduates of Vocational High Schools. This condition shows that the goal of implementing vocational schools is not yet achieved.

Learning achievement is the result of the learning process characterized by changes in behavior, attitudes, knowledge, skills, skills and expressed in the form of numbers or statements

Method

Data Collection Techniques and Research Instruments

Data collection techniques pertain to the accuracy of the methods used to collect data. Data collection techniques used in this study were questionnaire methods and documentation methods.

1. Questionnaire Method

Questionnaire is a number of written questions that are used to obtain information from the respondents (Suharsimi Arikunto, 1993: 124). This method is used to find out and obtain data about the application of block system learning and learning motivation.

2. Documentation Method

Documentation methods are used to obtain data on learning achievement for productive subjects. The results of research data collection are good for independent variables.

Research Instrument

In order to formulate the questions in the questionnaire that will be used by the research instrument more systematically and in accordance with the objectives to be achieved, then the research instrument grid should be arranged so that later it will be easier to make questions that are in accordance with the objectives to be achieved.

The grid of research instruments for the instrument implementation of block systems and learning motivation can be seen in Table 1 below

Table 1. Grid of Instruments for the Application of Block System Learning

Variable Research	Indicator	Item Statement	Total
Application Block System Learning	Time Learning	1,2,3,4,5,6	6
	Method Learning	7,8,9,10	4
	Mastery Material	11,12,13,14,15	5
	Impact of Block System Learning Implementation	16,17,18,19,20	5
Number of items Question			2

Table 2. Grid of Learning Motivation Instruments

Variable Research	Indicator	Item Statement	Total
Motivation learn	Feeling Happy	1,2,3,4,5	5
	Centering Attention	6,7,8,9,10	5
	Interest	11,12,13,14,15	5
	Will	16,17,18,19,20	5
Number of items Question			20

The questionnaire used is a closed questionnaire so that the student / respondent only needs to choose the answer. Determination of scores for research instruments in the form of questionnaires in this study using a linkert scale with 4 alternative answers. Alternative answers and scores for each question can be shown as in the table below.

Table 3. Alternative Answers and Answers to Research Instruments

Alternative Answers	Score Positive	Negative
Strongly agree	4	1
Agree	3	2
Doubtful	2	3
Disagree	1	4

Data analysis technique

The data analysis technique used in this study is descriptive statistical testing techniques and also uses analysis requirements test consisting of normality test, linearity test and multicollinearity test. To test the hypothesis using the product moment correlation test, the double analysis technique is two predictors and the partial correlation analysis technique.

Descriptive statistics

Descriptive statistics are statistics that function to describe or give description of the object under study through sample or population data as it is without doing analysis and making conclusions that apply to the public (Sugiyono, 2008: 29). Every research is always concerned with a group of data. A group of data is that one person has a data set or a group of people has one type of data. In this research, a group of data from a particular group of respondents or the object under study will be obtained.

Test analysis requirements

a. Normality test

The normality test is used to find out whether the data in the study are normally distributed or not. In this normality test, Chi-square analysis is used.

$$X^2 = \sum \frac{(fo - fe)^2}{fe}$$

This technique is used to test the significance of the frequency difference. This technique can also be used to make estimates.

Data distribution criteria are not normal if the Chi-squared price is smaller or the same Chi-square table, if the Chi-square price count is greater or the same Chi-square table then the data is normal.

b. Linearity Test

This test is conducted to see whether each independent variable as a preditor has a linear relationship with the dependent variable. The linearity test used is the analysis of the form of regression performed with the form of a statistical approach to analysis of variance or F test. The F test formula is shown as follows (Sugiyono, 2005: 136):

$$F = \frac{S_1{}^2}{S_2{}^2}$$

The criteria in this test are if F count is smaller than F table, it can be said that between the dependent variable and the independent variable there is no linear relationship, and vice versa if F count is greater than F Table, then there is linearity between the independent variable and the dependent variable.

c. Multicollinearity Test

This test is carried out as a condition for the use of multiple linear regression. The analysis technique used is the product moment correlation technique which is obtained from the partial analysis technique of zero level.

In this multicollinearity test the decision-making criteria are based on the opinion of Norman H Nie as quoted by Basuki Rahmat (1993; 57) who says that if the price of inclusion is between variables smaller or equal to 0.80 means that there is collaborationism between the independent variables. Multicollinearity can interfere with regression analysis because the presence of multicollinearity can increase the determination rate and can reduce the price of the correlation coefficient if the other variables are not controlled.

Test the Research Hypothesis

Testing the research hypothesis takes a significant level of 5% berate the risk of errors in making conclusions later is equal to 5% of the 100% truth. The hypothesis tested is a null hypothesis (Ho) while the hypothesis used is the alternative hypothesis (Ha). The hypotheses proposed in this study are as follows: Ho; $f0 \leq ft$ Stating that there is no positive and significant relationship between the application of the learning process and the learning outcomes of class XII students of the Karang/20jo Development Vocational School for 2017/2018 Academic Year for productive subjects.

Stating that there is no positive and significant relationship between student learning motivation and learning outcomes of class XII students of Karangmojo Development School 2017/2018 Academic Year for productive subjects.

Stating that there is no positive and significant relationship between the application of the learning process and students' learning motivation with the learning outcomes of students of class XII of Development Vocational School Karangmojo 2017/2018 Academic Year for productive subjects

Ha; $f0 \geq ft$ Stating that there is a positive and significant relationship between the application of the learning process and the learning outcomes of class XII students of Karangmojo Vocational High School in the

Academic Year 2017/2018 for productive subjects.

Stating that there is a positive and significant relationship between student learning motivation and learning outcomes of class XII students of Karangmojo Development School 2017/2018 Academic Year for productive subjects.

Stating that there is a positive and significant relationship between the application of the learning process and student learning motivation with the learning outcomes of class XII students of Karangmojo Development School 2017/2018 Academic Year for productive subjects.

Submission of research hypotheses uses the following techniques

a. Product Moment Correlation Technique

Product moment correlation techniques are used to test the first hypothesis and the second hypothesis. Criteria for decision making are if r obtained from the results of calculations is smaller or equal to r table, the null hypothesis is accepted and means to reject the alternated dekimian hypothesis and vice versa. To find out how the relationship between independent variables and dependent variables is estimated using equations one predictor linear regression line that is y = a + bx

b. Double Double Regression Analysis Technique Predictor

This analysis technique is used to test the third hypothesis, namely to find out the correlation coefficient of the independent variables together on the dependent variable.

c. Partial Correlation Analysis Techniques

Partial correlation analysis techniques are used to determine the pure relationship between independent variables and dependent variables while the other independent variables are controlled. Thus there will be a relationship between independent variables on the dependent variable without any influence from other independent variables.

Results And Discussion

Research Results

1. Description of Data

Data were obtained from 90 class students XII Light Vehicle Engineering Skills Competency in Karangmojo Development Vocational School. Each variable is analyzed using statistical descriptions so that the characteristics of each variable can be easily identified.

To make it easier to describe the data carried out, a declaration of mean mean, standard deviation, frequency distribution and graph for each of the research variables will be described. a. Application of Block System Learning In this variable data is obtained which is a minimum score of 70 and a maximum score of 78, so that a range of 78 - 70 = 8 is obtained, the average value is 74.07, the standard deviation is 2,248. The frequency distribution list for the implementation of block system learning variables can be seen in the table below

Table 4. Score frequency distribution Application of Block System Learning

Score	Frequency	Percent	Valid Percent	Cumulative
7	1	11.1	11.1	1
7	8	8.9	8.9	20
7	1	13.3	13.3	3
7	2	22.2	22.2	5
7	1	16.7	16.7	7
7	1	12.2	12.2	8
7	1	12.2	12.2	9
7	3	3.3	3.3	1
Total	9	100	100	

Based on the table Table 4. Frequency distribution of scores for the Application of Block System Learning above can be found that the highest frequency is found in the score of 74 as many as 20 students. This can be proven through the histogram graph in the image below.
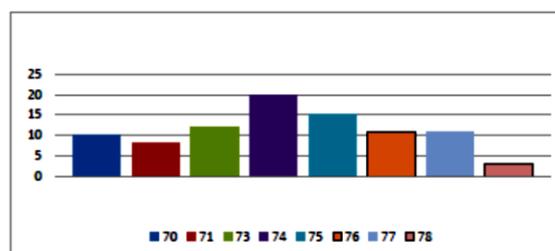
Picture 1. Histogram of Frequency of

Application of Class XII Student Blocking Learning System for Light Vehicle Engineering Skills Program at Karangmojo Development Vocational School 2017/2018 Academic Year.

b. Motivation to learn

In this variable the data obtained is a minimum score of 68 and a maximum score of 76, so that a range of 76 - 68 = v8 is obtained, the average value is 71.79, the standard is 2,154. The frequency distribution list for learning motivation variables can be seen in the table below

Table 5. Frequency distribution of Learning Motivation scores

Nilai	Frequency	Percent	Valid Per	Cumulative Percent
68	6	6.7	6	6.7
69	10	11.1	11.1	17.8
70	12	13.3	13.3	31.1
71	10	11.1	11.1	42.2
72	18	20	20	62.2
73	13	14.4	14.4	76.7
74	10	11.1	11.1	87.8
75	8	8.9	8	96.7
76	3	3.3	3	100
Total	90	100	100	

Based on Table 5. Frequency distribution of Learning Motivation scores above can be found that the highest frequency is found in the Value 72, which is as many as 18 students. This can be proven through the histogram graph in the image below.
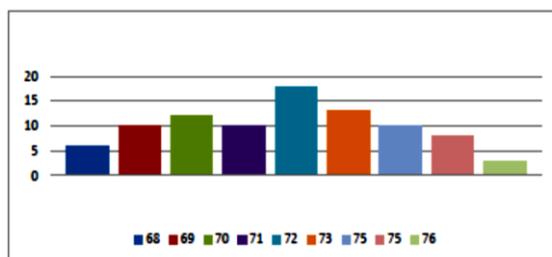
Picture 2. Histogram Frequency of Student Achievement in Class XII Expertise Program

Light Vehicle Engineering Development Vocational School

a. Application of System Learning Block

The calculation results can be summarized in the table below

Table 6. Frequency Distribution of Levels of Application of Block System Learning

No	Criteria	Amount	Percent	Category
1	77,5 to top	3	3.33	Very Good
2	73,5 – 77,5	57	63.33	Good
3	70,5 - 73,5	20	22.22	Enough
4	70,5 to down	10	11.11	Less

Application of Block System Learning above can be seen that the results of the questionnaire for the Learning Implementation variable

The Block System is in the good category as many as 57 students or 63.33%. Thus it can be concluded that the application of block system learning carried out in Karangmojo Development Vocational School is felt by students of level XII Light Vehicle Engineering Skills Competence in the category of both in meaning that students of level XII Light Vehicle Engineering Expertise Competence are happy in the learning process using block system learning.

b. Student's motivation to study

The calculation results can be summarized in the table below:

Table 7. Frequency Distribution of Student Learning Motivation Levels

No	Criteria	Amount	Percent	Category
1	75,5 to top	3	3.33	Very Good
2	72,5 – 75,5	31	34.44	Good
3	70,5 - 72,5	28	31.11	Enough
4	70,5 to down	28	31.11	Less

Based on table 7 the Frequency Distribution of Student Learning Motivation Levels above, it can be seen that the questionnaire results for students' learning motivation variables are in the good category as many as 31 students or 34.44%. Thus it can be concluded that the learning motivation of students at Karangmojo Development Vocational School at level XII.

The Competence of Light Vehicle Engineering Expertise is in the good category, namely students of class XII Expertise in Light Vehicle Engineering Competence have good learning motivation so that in the process of implementing learning students will be eager to gain knowledge and skills.

c. Learning achievement

The calculation results can be summarized in the table below:

Table 8 Frequency Distribution of Learning Achievement Levels

No	Criteria	Amount	Percent	Category
1	81,5 to up	26	28.89	Very Good
2	78,5 – 81,5	58	64.44	Good
3	75 – 78,5	6	6.67	Enough
4	75 to down	0	0.00	Less

Based on table 8 the Frequency Distribution of Learning Achievement Levels above can be seen that for the variable student achievement is in the good category as many as 58 students or 64.44%. Thus it can be concluded that student learning achievement for productive subjects especially maintaining ignition systems at Karangmojo Development Vocational School at level XII Light Vehicle Engineering Competency Skills is in the good category.

Discussion of Research Results

Relationship between Block System Learning Application and Class XII Student Achievement for productive subjects in the 2017/2018 Karangmojo Development Vocational School Based on the results of the analysis the results of rx1y are 0.914, the determination coefficient is 0.836 through the regression line equation y = 33.849 + 0.633x1. The regression line equation above shows that if the value of the application of system block learning (x1) increases by 1 point, the value of the subjects maintaining the ignition system will increase by 0.633. In other words, subject achievement in maintaining an ignition system can be predicted through the application of block system learning.

Based on the criteria for implementing block system learning described in the results of the data description above, it was found that there were 57 students or 63.33% in the good category, indicating that students could receive well and be able to take advantage of time to deepen their knowledge and skills the application of block system learning to subjects maintains the ignition system. Based on the above, the application of Block system learning is concluded to be able to improve the performance of subjects to maintain the ignition system. This reinforces the theoretical description that the purpose of implementing block system learning is to improve student learning achievement.

According to the LAB of Governer, block scheduling or block systems manage the class period to be small, but longer, allowing learning activities to be more flexible. The purpose of this block system is to improve student academic achievement. Another benefit of this system is that the morale of teachers and students is higher, encouragement to use innovative learning methods with several learning styles, and to make the school atmosphere better.

Based on the description above, it can be concluded that there is a positive and significant relationship between the application of block system learning and learning achievement of subjects maintaining an ignition system, so that if students can take advantage of the time provided and are serious in learning both theory and practice their abilities will increase .

1. Relationship between Motivation and Learning Achievement for productive subjects of Class XII Students of Karangmojo Development Vocational School 2017/2018 Academic Year

Based on the results of the analysis, the results of rx1y are 0.948, the determination coefficient is 0.899 through the regression line equation y = 31.552 + 0.685x1 Based on the regression line equation above shows if the learning motivation value (x2) has increased by 1 point then the value in the subjects maintaining the ignition system will increase by 0.685.

Based on the students' learning motivation criteria described in the results of the data description above, the results show that as many as 31 students or 34.44% in the good category, this shows that students of class XII Karangmojo Development Vocational Light Vehicle Competency Skills have good motivation towards maintaining subjects ignition system. The application of good learning motivation, the

students will be more serious in learning so that learning achievements will also increase as well. This reinforces the theoretical description as written by Muhibin Syah (2012) that students who have motivation for a lesson will pay attention to and concentrate their concentration on students.

Based on the above, it can be said that there is a positive and significant relationship between student motivation and subject achievement to maintain the pengapia system of class XII students of the Karangmojo Vocational High School development competence in technical expertise in light vehicles in the school year 2017/2018.

2. Relationship between the Application of Block System Learning and Motivation with Achievement Learning productive subjects for Class XII Students at Karangmojo Development Vocational Light Vehicle Competency Skill Light Vehicle Engineering 2017/2018 Academic Year.

Based on the results of the analysis, the results of rx1y are 0.752, the coefficient of determination is 0.706 through the regression line equation y = 30.906 + 0.156x1 + 0.533x2. Testing the significance of multiple correlations is done by using the F test which obtained F count of 417,133.

From these results, the F value calculated is greater than F table so that it can be said that there is a positive and significant relationship between the Application of Block System Learning and Motivation with Class XII Student Achievement in productive subjects at the Vocational Development Block system learning and student learning motivation. The addition of 1 point for the application of block system learning and student motivation then the learning achievement of productive learning eyes will increase by 0.156 + 0.533 or 0.689 points.

This reinforces the theoretical description that learning achievement is influenced by internal and external factors. In this case the learning achievement is influenced by internal factors, namely student learning motivation and external factors, namely the application of block system learning. It can be said that there is a positive and significant relationship between the Application of Block System Learning and Motivation with Class XII Student Achievement in productive subjects.

Conclusion

1. There is a positive and significant relationship between the application of block system learning with productive learning achievement in the XII level students of Karangmojo Development Vocational Light Vehicle Competency Skill in 2017/2018 Academic Year.

2. There is a positive and significant relationship between student motivation with learning achievement in subjects productive level XII students of Karangmojo Development Vocational Light Vehicle Competency Expertise in 2017/2018 Academic Year.

3. There is a positive and significant relationship between the application of block system learning and student motivation with learning achievement in subjects productive level XII students of Karangmojo Development Vocational Light Vehicle Competency Expertise in 2017/2018 Academic Year.

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