The Influence of Learning Patterns and Discipline on Students' Achievement in Nautical Studies Program at the Maritime Science Polytechnic of Makassar

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Abstract: *Maritime Science Polytechnic of Makassar as an educational and training institution is required to produce competent graduates. Therefore, learning must take place effectively to improve student achievement. The aim of this study was to analyze the effect of learning patterns and learning discipline on student achievement at the Maritime Science Polytechnic of Makassar during online learning. The sample in this research is 1 (one) class in the Nautical study program with one lecturer in charge of the subject. This research is a form of quantitative research in the form of correlation. The results of this study indicate that there is an effect of learning patterns and learning discipline on learning achievement partially or simultaneously on cadets of the Nautical Study Program.*

Keywords: *Motivation, discipline, achievement, learning, cadets*

I. INTRODUCTION

The Makassar Maritime Science Polytechnic is one of the educational and training institutions in the shipping sector. Has an obligation to produce graduates who are ready to be absorbed by the world of work. To compensate for these demands, students are expected to achieve good learning achievements so that they can be absorbed in the world of work.

In improving learning achievement there are several factors that can influence them, namely learning patterns or how the cadets learn how to apply. Learning achievement is the result obtained by students after carrying out learning activities (Haryanto: 2010, and Syah: 2014). In addition, the discipline also affects learning achievement; discipline that is applied and implemented consistently will affect student learning outcomes (Senjaya, et al., 2020). With a disciplined attitude, students can adjust to the rules made by teachers and schools, can divide time well, and carry out the schedule that has been made. The function of discipline in schools is to provide assistance to students so that they are able to stand on their own / help for self-help (Mulyasa, 2003). Learning patterns are a series of procedures in learning that can help students master the subject matter (Sriyono in Roestiyah, 2000: 106). Learning patterns can have a positive effect on learning achievement.

II. METHODOLOGY

This research is a quantitative research in the form of correlation to determine the effect between variables. The variables consist of independent variables, namely learning patterns (X1) and discipline (X2) and the dependent variable is learning achievement (Y). These variables are operationalized based on the dimensions, indicators, measures, and research scale.

The learning patterns of cadets can be assessed based on. preparation for learning, how to take lessons, making schedules and notes, doing assignments, and the discipline of cadets on campus are assessed based on discipline in attending lectures, lessons, doing assignments, studying at home, and discipline in obeying the rules on campus.

Data analysis is descriptive using statistical software, namely SPSS (Statistical Package for Social Science) and inferential statistics to analyse sample data of 24 cadets from 430 existing populations who are assessed by 1 teacher.

III.   RESULTS OF DATA ANALYSIS AND DISCUSSION

Variable descriptive analysis

The data obtained on the learning achievement variable (Y), learning pattern data (X1) and learning discipline data (X1) were analyzed using descriptive analysis. These gains can be seen in Tables 1,2 and 3.

Table 1. Data description of learning patterns (X1)

Description	Statistics
Mean	4,2645
Median	4,6304
Mode	4,65
Std. Deviation	0,74780
Variance	0,559
Range	3,39
Minimum	1,57
Maximum	4,96

Source: Analysis results, 2021

Furthermore, the results of descriptive statistical tests on the learning discipline variable (X2) cadets can be seen in Table 2.

Table 2. Data description of learning discipline (X2)

Description	Statistics
Mean	4,3981
Median	4,6339
Mode	4,82
Std. Deviation	0,46941
Variance	0,220
Range	1,45
Minimum	3,43
Maximum	4,88

Source: Analysis results. 2021

The results of the descriptive statistical test of cadets' learning achievement as the Y variable in this study are presented in Table 3.

Table 3. Data description of learning achievement

Description	Statistics
Mean	90,96
Median	93,00
Mode	93
Std. Deviation	4,630
Variance	21,433
Range	16
Minimum	80
Maximum	96

Normality Test

The technique of testing the normality of the variable data in this study is using the Kolmogorov-Smirnov normality test analysis method. The results of the data normality test are in Table 4.

a)   The results of the normality test of learning pattern data

Table 4. The results of the normality test of learning pattern data

Description	Statistics
Mean	4,2645
Std. Deviation	0,74780

Kolmogorov-Smirnov Z	1,073
Asymp. Sig. (2-tailed)	0,200

Table 4 shows the results of the normality test of the data using the Kolmogorov Smirnov test method, showing the test results that for learning pattern data (X1), the KS-Z value = 1.073 with p-value (P = 0.200) so that with = 0.05 it is known that p-value>a=0.05. From these results it can be concluded that the learning pattern data is data that is normally distributed.

b) The results of the normality test of learning discipline data

Table 5. The results of the normality test of learning discipline data

Description	Statistics
Mean	4,3981
Std. Deviation	0,46941
Kolmogorov-Smirnov Z	1,135
Asymp. Sig. (2-tailed)	0,152

Based on table 4.5, it can be seen that from the results of testing the normality of the data using the Kolmogorov Smirnov test method, it shows that the test results for learning discipline data (X2), obtained the KS-Z value = 1.135 with p-value (P = 0.152) so that with = 0 0.05 it is known that p-value > a = 0.05. From these results, it can be concluded that the learning discipline data is data that is normally distributed.

c) The results of the normality test of learning achievement data

Table 6. Normality test results of learning achievement data

Description	Statistics
Mean	90,96
Std. Deviation	4,630
Kolmogorov-Smirnov Z	1,039
Asymp. Sig. (2-tailed)	0,231

Source: Data analysis results, 2021

From these results, it can be concluded that the learning discipline data is data that is normally distributed. This shows that the data on learning patterns, learning discipline, and learning achievement come from a normally distributed population.

Hypothesis testing

In accordance with the results of the normality test of the data with the variables of pattern, discipline, and learning achievement, it shows that the state of the data distribution of these variables is normally distributed. Thus it is possible to continue the analysis using SPSS (Statistical for Social Science) with the linear regression method to test the hypothesis proposed in this study. Linear regression was carried out to obtain the correlation coefficient value or the contribution of learning pattern variables and learning discipline to learning achievement.

1) Testing the null hypothesis of the research which says that there is an influence of learning patterns on cadets' learning achievement.
Statistically the hypothesis can be formulated as follows:
$H_0 : \rho X_1 Y = 0$
$H_1 : \rho X_1 Y \neq 0$
H_0 = There is no influence of learning patterns on cadets' learning achievement
H_1 = There is an influence of learning patterns on cadets' learning achievement
The hypotheses were tested using simple linear regression. The following are the results of the statistical test of learning pattern variables on learning achievement.

Table 7. Coefficients regression of learning patterns on learning achievement

Model	Unstandardized Coefficients	Sig
	B	
(Constant)	67,546	0,000
Pola belajar	5,490	0,000

Table 7 shows the results of hypothesis testing and the correlation coefficient of learning patterns on learning achievement. Existing data shows that the constant in column B is 67.546, which means that if there is no learning pattern, the learning achievement value is 67.546. In the coefficient of the direction of the regression of the learning pattern, column B shows the number 5,490 which means that for every 1% addition to the learning pattern, the learning achievement will increase by 5,490. Thus, the effect of learning patterns on learning achievement can be expressed in the regression equation $Y = 67,546 + 5,490x_1$.

From the test results, it is known that the learning pattern has a p-value = 0.000 <a = 0.05 or H0 is rejected, which means that the learning pattern has a role in learning achievement. To determine the magnitude of the influence of learning patterns on learning achievement can be seen in Table 8.

Table 8. Model Summary of learning patterns on learning achievement

R	R Square
0,887	0,786

To determine the magnitude of the influence of learning patterns on learning achievement in simple linear regression analysis, we can refer to the value of R Square or R^2 which we can see in the results of SPSS data processing in the summary model section. From the output above, it is known that the R Square value is 0.786. This value implies that the influence of learning patterns on learning achievement is 78.6% while the other 21.4% is influenced by other variables.

It can be concluded that the hypothesis states that "there is an influence of learning patterns on cadets' learning achievement." acceptable based on the results of statistical tests.

1) Testing the null hypothesis of the research which says that there is an influence of learning discipline on cadets' learning achievement.
   Statistically the hypothesis can be formulated as follows:
   $H_0 : \rho X_2Y = 0$
   $H_1 : \rho X_2Y \neq 0$
   H_0 = There is no influence of learning discipline on cadets' learning achievement
   H_1 = There is an influence of learning discipline on cadets' learning achievement

The hypotheses were tested using simple linear regression. The following are the results of the statistical test of learning discipline variables on learning achievement.

Table 9. Coefficients regression of learning discipline on learning achievement

Model	Unstandardized Coefficients	Sig
	B	
(Constant)	61,649	0,000
Learning discipline	6,664	0,000

Table 9 shows the results of hypothesis testing and the correlation coefficient of learning discipline on learning achievement. Existing data shows that the constant in column B is 61,649, which means that if there is no learning discipline, the learning achievement value is 61,649. In the regression direction coefficient of learning discipline column B shows the number 6.664, which means that for every 1% addition of learning discipline, learning achievement will increase by 6.664. Thus the effect of learning discipline on learning achievement can be expressed in the regression equation $Y = 61,649 + 6,664x_2$.

From the test results, it is known that learning discipline has a *p-value* = 0.000 < *a* = 0.05 or H_0 is rejected, which means that learning discipline has a role in learning achievement.

To determine the magnitude of the influence of learning discipline on learning achievement can be seen in Table 10.

Table 10. Model Summary of learning discipline on learning achievement

R	R Square
0,676	0,457

To find out the magnitude of the effect of learning discipline on learning achievement in simple linear regression analysis, we can refer to the value of R Square or R2 which we can see in the results of SPSS data processing in the summary model section. From the output above, it is known that the *R Square* value is 0.457. This value implies that the influence of learning discipline on learning achievement is 45.7% while the other 54.3% is influenced by other variables.

It can be concluded that the hypothesis states that "there is an influence of learning discipline on cadets' learning achievement." acceptable based on the results of statistical tests.

2) Testing the null hypothesis of the research which says that there is an effect of learning patterns and learning discipline together on cadets' learning achievement.

Statistically the hypothesis can be formulated as follows:

$H_0 : \rho X_{1,2}Y = 0$

$H_1 : \rho X_{1,2}Y \neq 0$

H_0 = There is no effect of learning patterns and learning discipline together on cadets' learning achievement

H_1 = There is an effect of learning patterns and learning discipline together on cadets' learning achievement

Just as hypothesis testing was done previously to show partial test results, simultaneous hypothesis testing was also carried out with linear regression testing. Because the effect will be seen together, the hypothesis is tested using multiple linear regressions. The following are the results of the statistical test of learning pattern variables and learning discipline on learning achievement.

Table 11. ANOVA

Model	F	Sig.
Regression	45,219	0,000

Based on table 11 it can be seen that the value of sig. or *p - value* = 0.000 and *p - value* = 0.000 < *a* = 0.05 or H_0 is rejected, which means that learning patterns and learning discipline together have a role in learning achievement. To determine the magnitude of the influence of learning patterns and learning discipline on learning achievement can be seen in Table 12.

Table 12. Model Summary of learning patterns on learning achievement

R	R Square
0,901	0,812

To determine the magnitude of the influence of learning patterns and learning discipline on learning achievement in multiple linear regression analysis based on the value of R Square or R2, the results of SPSS data processing are in the summary model section. These results show the R Square value of 0.812. This value means that the influence of learning patterns on learning achievement is 81.2% while the other 18.8% is influenced by other variables.

The results of the statistical test show acceptance of the hypothesis "there is an effect of learning patterns and learning discipline together on cadets' learning achievement"

Based on the results of partial and simultaneous hypothesis testing, it can be concluded that there is an influence of learning patterns and learning discipline on learning achievement partially and simultaneously on cadets of the Makassar PIP Nautical Study Program.

IV.   DISCUSSION

Based on the description and results of the research hypothesis testing that has been carried out, it can be explained that learning patterns and learning discipline affect cadets' learning achievement either partially or simultaneously. This is in line with several studies that have proven that learning patterns and learning discipline have an important role in learning achievement. In the theory described in chapter 2 previously, if you want to compare the pattern of learning is more influential than the discipline of learning, although both will have a

simultaneous effect. This research is different from previous research that discusses the relationship between patterns, disciplines, and also learning achievement which is carried out directly because this study was conducted to examine how patterns and disciplines can affect learning achievement during online learning. The results found did not contradict the pre-existing theory.

V. CONCLUSION

Based on the results of data analysis that has been tested, it can be concluded that "There is an influence of learning patterns and learning discipline on learning achievement partially or simultaneously on cadets of the Nautical Study Program of the Maritime Science Polytechnic of Makassar"

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