The Impact of Students' Learning Interests on Learning Outcomes in a Linear Algebra Course

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ABSTRACT

Keywords:
Learning interest;
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Interest is a motivation source that appears in someone on something they like. Learning interest is an interest or more sense to an activity or something from oneself without someone asking. Learning interest existence can impact the quality of learning outcome achievement that is obtained. The type of research used in this research is a survey with correlation analysis. The research problem in this research was to analyze the impact of students' learning interests on learning outcomes. This research aimed to describe the impact of students' learning interests on learning outcomes in a linear algebra course. The data source in this research came from students' learning interest questionnaires and students' final grades on a linear algebra course. The research method used in this research was correlation analysis. Data analysis was conducted by descriptive analysis and a simple linear regression test using SPSS. The results of data analysis obtained indicated that t_{count} was 3.778 and t_{table} was 2.008. Therefore, $t_{count} > t_{table}$ or it can be concluded that students' learning interests impact learning outcomes in a Linear Algebra course.

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A. INTRODUCTION

Mathematics is a field that is learned in all circles, including university. In the Informatics Engineering study program at Universitas Islam Lamongan, several mathematics courses are also provided, including calculus, discrete mathematics, linear algebra, and statistics. However, it is not infrequently to consider that those courses are less desirable and even feared by students. Interest is a motivation that is sourced from someone on something they like (Falah & Fatimah, 2019). Learning interest is an interest or a more sense of activity or something from oneself without anyone asking (Ricardo, R., & Meilani, 2017). There are several indicators of a person's learning interest emergence such as a sense of interest and pleasure when learning, a tendency to pay attention and concentrate, high participation when learning, a positive attitude, and a willingness to improve the learning process that is performed (Yunitasari & Hanifah, 2020). Learning interest has an extremely important role in learning (Charli et al., 2019). Someone will pay more attention and be active when learning takes place in the field that they are interested in. On the contrary, students will be lazy and bored when learning goes on in a field that they are not interested in. because there is no attraction for students. Students become dissatisfied with fields that are not of interest. In addition to being lazy and bored, the lack of student interest in fields that are not of interest to this has resulted in a tendency for students to avoid the

assignments given, students are happy when educator are not present in learning, even students are often not present in the ongoing learning. Therefore, educator are also very influential in encouraging this learning so that it can foster student interest and can give more attention to learning. In accordance with what was stated by (Flora Siagian, 2015), someone will pay more attention to something that they are interested in and will study it well. In this case, each individual's interest is different. With the existence of this high interest is a booster for someone to show their attention to something they like or are interesting in (Hilaliyah, 2015). With this interest, a person becomes motivated to learn and can show high performance on things of interest (Ina Ledun et al., 2020). Learning interest has a close relationship with the learning outcome.

In learning, someone will explore the material they are interested in so that they can achieve a satisfactory outcome (Sirait, 2016). To encourage one's passion interest in learning, it is needed a healthy environment for something that they are interested in. Moreover, an educator must have the ability to raise their students' interest so it can generate learning interest that has a positive impact (Ratnasari, 2017). Therefore, learning interest has an essential role in learning because, with a high interest in learning, the learning outcome obtained is also high (Nurhasanah & Sobandi, 2016).

From the background stated, the researcher wants to comprehend whether learning interest affected students' learning outcomes. In addition, the researcher wanted to understand how much learning interest impact students' learning outcome. Some researchers have discussed the relationship between learning interest and learning achievement, including Charli et al. (2019), Rozikin et al. (2018), and Islamiah (2019). The three research revealed a positive impact between learning interest and learning achievement. In addition, Aprijal, et al (2020) also revealed that there was a positive and significant influence between learning interest and learning outcomes. In Hasrati's (2021) research, the results of interest that are quite good can affect student learning outcomes. Prastika's research (2020) describes that there is a significant correlation between interest in learning and learning outcomes in mathematics. Therefore, the researchers conducted this study with the objective of describing the impact of learning interest on students' learning outcomes in a Linear Algebra course.

B. METHODS

In this research, the type of research used was a survey with correlation analysis. Correlation research is research that involves data collection action that is beneficial for comprehending whether there is a relationship or impact and the relationship level between two or more variables (Sukardi, 2003). In this research, the independent variable was learning interest (X) and the dependent variable was students' learning outcome (Y). This research was conducted at Islamic University of Lamongan. The research subject was Informatics Engineering students, which were 53 students who had completed Linear Algebra material. The data source in this research came from students' learning interest questionnaires and students' final grades in a Linear Algebra course. The analysis of students' learning interest questionnaire data was adapted to the indicators created by the researchers. From the data obtained, a simple linear regression test was conducted so that it was found whether there was learning interest and student learning outcome impacts. The data analysis in this research used an SPSS program.

C. RESULT AND DISCUSSION

1. Data Descriptive Analysis

According to data processing, the data obtained using SPSS can be seen in the following Table 1.

Table 1. Descriptive Analysis using SPSS

		Learning Interest	Learning Outcomes
N	Valid	53	53
	Missing	0	0
Mean		57,5849	81,5792
Median		57,0000	82,8000
Mode		58,00	84,90
Std. Deviation		7,88971	5,04466
Variance		62,247	25,449
Minimum		42,00	56,00
Maximum		80,00	87,90

In Table 1, it can be seen that the mean for students learning interest variable in linear algebra course was 57.584; the median was 57.00; the mode was 58.00; the standard deviation was 7.88971; the variance was 62.247; the minimum score was 42.00, and the maximum score was 80.00. From the descriptive analysis, it can be concluded that students' learning interest in a linear algebra course is in the medium category because the mean score was more significant than the median score. Similarly, the mode and median had a score comparison that was not too significant. It was indicated that students' learning interest data score in a linear algebra course was quite influential.

The variable score of students' learning outcomes in a linear algebra subject resulted in a mean of 81.5792; a median of 82.80; a mode of 84,90; a standard deviation of 5.04466; a variance of 25,449; a minimum score of 56.00; and a maximum score of 87.90. From the descriptive analysis above, it can be concluded that students' learning outcomes in a linear algebra course are in the medium category. It is because the difference between the mean and median scores was not highly significant. Likewise, for the difference between the mode and median scores. It indicated that the score data of students' learning outcomes in a linear algebra course was quite influential on students' learning interests.

2. Simple Linear Regression Test

From the data that has been obtained, a simple linear regression test using SPSS is represented as shown in Table 2.

Table 2. Model Summary Calculation Result using SPSS

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,468[a]	,219	,203	4,50271
a. Predictors: (Constant), Learning Interest				

The Table above explained the number learning interest correlation value of 0.468. In addition, the impact of learning interest (independent variable) on learning outcome (dependent variable) was 0.219 or 21.9%, as shown in Table 3.

Table 3. ANOVA[a] Calculation Result using SPSS

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	289,331	1	289,331	14,271	,000[b]
	Residual	1033,996	51	20,274		
	Total	1323,327	52			
a. Dependent Variable: Learning Outcome						
b. Predictors: (Constant), Learning Interest						

In the ANOVA output, it was known that the Fcount value was 14.271 with a significance level of 0.000 <0.05. Therefore, the regression model could be used to predict the learning outcome variable, or in other words, there was an impact of the learning interest variable (X) on the learning outcome variable (Y).

Table 4. Coefficient[a] Calculation Result using SPSS

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	64,363	4,599		13,994	,000
	Minat Belajar	,299	,079	,468	3,778	,000
a. Dependent Variable: Learning Outcome						

From Table 4, it can be seen that the Constant value (a) was 64,363 while the learning interest value (b/ regression coefficient) was 0.299. From the values obtained, the regression equation could be written as the following, such as Y=a+bX or Y=64,363+0,299X, or could be translated as a) the 64,363 constant, which meant that the consistent value of the learning outcomes variable was 64,363; b) The X regression coefficient was 0.299, stating that for every 1% addition to the learning interest value, so learning outcome value increased by 0.299. The regression coefficient was positive, so it could be stated that the impact of the variable X on Y, or learning interest on learning outcome, was positive.

For decision-making in a simple regression test, it can also be observed in Table 4. From the Coefficients table, it was obtained a significant value of 0.000 <0.05. From the result, it can be concluded that the learning interest variable (X) impacts the learning outcome variable (Y). Based on the t value, it was found that the t_{count} value of 3.778 > t_{table} of 2.008. From the result, it can be concluded that the learning interest variable (X) impacts the learning outcome variable (Y).

D. CONCLUSION AND SUGGESTIONS

According to the analysis result and hypothesis test, it can be concluded that students' learning interests impact learning outcomes in a linear algebra course. The results of the simple regression test calculation resulted in a t_{count} of 3.778 > t_{table} of 2.008, or it can be concluded that the learning interest variable impacts students' learning outcome variable in a linear algebra course.

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