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Correlation Between Interest in Becoming a Teacher and Educational Subject Learning Outcomes for Automotive Engineering Education Students

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Abstract

The student's desire to become a teacher is a factor that influences attitudes and motivation to attend lectures. High levels of interest in becoming a teacher will speed up the lecture process and influence student learning outcomes. The purpose of this correlational study is to determine the relationship between student learning outcomes in education courses and interest in becoming a teacher. The study was conducted on students from the FT UNP Automotive Engineering Education study program's 2018 class. The study was conducted on students from the FT UNP Automotive Engineering Education study program's 2018 class. The Pearson product moment correlation formula was used to analyze the data, and the t test was used to determine the significance of the correlation coefficient r. Based on the analysis of the research data, it was determined that there is a positive and significant relationship between desire to become a teacher and learning outcomes in student education courses.

Keywords
Correlation, interest in becoming a teacher, learning outcomes and education courses.

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INTRODUCTION

Student interest in becoming a teacher plays an important role in determining student success in learning. Positive self-response, experience and teacher work can generate interest in becoming a teacher in each individual [1]. Students who have low interest in becoming teachers will be less serious about studying theoretical and practical education courses. As a result, students do not have an understanding of education and teaching and do not want to go deep into it. The courses in the field of education that are studied and lived should be an asset and a way to improve the quality of graduates as prospective teachers in line with the demands of the times which are always developing and changing for the better [2] [3]. In fact, there is a gap between educational outcomes and university goals. This can be seen from the level of knowledge, mastery, understanding and skills of students who are prospective teachers are not commensurate with what is expected. This problem is reflected in student learning outcomes that have not been maximized, because there are still students who have not completed the course [4].

Data obtained from the Technical Implementation Unit for the Development of Information and Communication Technology at Padang State University (UPT PTIK UNP), the percentage of grades in the education field of students of the Automotive Engineering Education Study Program in 2018, Faculty of Engineering, Padang State University (FT UNP) has not been maximized and varies widely. In the Statistics course, 49% of students get a C, 4% get a D and 10% get an E. In the Research Methods course, 1% of students get a C and 12% get an E. In the Educational Media course, 7% of students get a C, 7% get a D and 20% get an E. In the Technology and Vocational Education Curriculum course, 7% of students get a C and 6% get an E. In the Pedagogic course, 9% of students get an E and in other courses Special Teaching Methods, 17% get an E. Based on these problems, it is necessary to conduct research to discuss and further study the correlation or relationship between interest in becoming a teacher and learning outcomes in education courses for students of the Automotive Engineering Education Study Program class of 2018 FT UNP. The purpose of this study is to determine the relationship between desire to become a teacher and learning outcomes in education courses. It is hoped that the results of this research can be used as material for consideration that can provide improvements in the world of education, especially in educational subjects in the Automotive Engineering Education Study Program, FT UNP.

METHOD

This is a descriptive study in the form of a correlation. Descriptive research seeks to describe a variable, symptom, or situation [5]. The research population was all students of class 2018 in the Automotive Engineering Education Study Program, FT UNP, who had taken educational courses totaling 72 people and the sample was 42 people who were determined using the Taro Yamane formula [6]. Data on students' interest in becoming teachers were obtained from questionnaires that were declared valid and reliable. Instrument trials were conducted to determine the level of validity and reliability of research instruments. An instrument trial was carried out in this study to determine the level of validity and reliability of the research instrument. The trial included 30 respondents from the Automotive Engineering Education Study Program class of 2018 FT UNP who had taken education courses but did not include a research sample. Retrieval of trial data under the assumption that they all have the same characteristics as the research sample. The validity test is performed to ensure that the research data accurately describes the situation, specifically using the Pearson product moment formula [6]. The reliability test was performed to determine the instrument's reliability level after it had been tested using the Alpha coefficient formula [6].

Data description, data analysis requirements test, and statistical hypothesis testing were used as data analysis techniques. Data description is performed to present the state of the data for each research variable, namely: mean, median, mode, standard deviation, frequency distribution table, and data frequency distribution histogram to provide an overview of the distribution of data and the level of attainment. Descriptive statistical analysis techniques were used to describe the data. Class intervals are performed from each value of the research variable to equalize/uniformize the values of the respondents' achievements regarding student learning outcomes of the Automotive Engineering Education Study Program who take education courses with an interest in becoming teachers. After the interval is completed, a frequency distribution table is created, and the mean, median, mode, and standard deviation are calculated [7] [8].

Through the normality and linearity tests, the data analysis requirements test was performed to determine whether the research data already had a normal distribution and whether the independent variable data was linear with respect to the dependent variable data. Using the chi square formula, the data normality test was performed to determine whether the data distribution came from a normally distributed population or not [7]. The linearity test was

used to determine whether the relationship between variable X and variable Y was linear or not. After obtaining a simple regression equation, the ANOVA formula can be used to perform a linearity test [6]. The product moment correlation formula is used to analyze the relationship between the independent variable and the dependent variable, and the t test formula is used to test the significance of the correlation coefficient [6].

RESULT AND DISCUSSION

Result

Variable data on students' interest in becoming teachers was gathered using a questionnaire comprised of 35 statements tested for validity and reliability and distributed to 42 respondents. It is known from the research data that the distribution of the answer scores ranges from 99 to 151. The average score is 126.357, the median score is 125.5, the mode score is 123.421, the standard deviation is 10.147, the range is 52, the diversity is 102.967, and the total score is 5317. Table 1 and Figure 1 provide a clear description of the data regarding the variable scores of students' interest in becoming teachers (X).

Table 1. Frequency distribution of scores of students' interest in becoming teachers (X)

No.	Class Intervals	F Absolute	F Relative (%)
1	99 – 107	1	2,38
2	108 – 116	5	11,90
3	117 – 125	15	35,71
4	126 – 134	12	28,57
5	135 – 143	7	16,67
6	144 – 152	2	4,76
Total		**42**	**100**

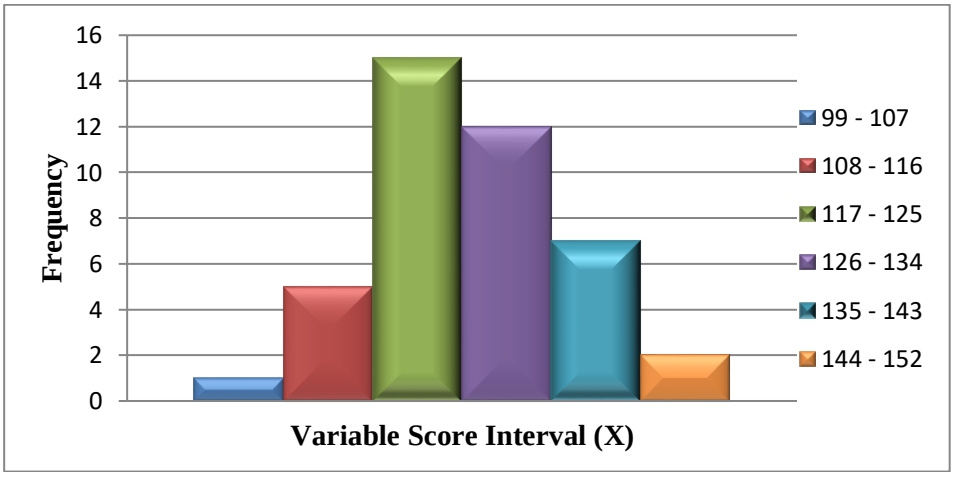

Figure 1. Histogram of students' interest in becoming teachers (X)

The data analysis revealed that the average level of achievement of students' interest in becoming teachers was 72.20% and was in the moderate category, implying that overall, the interest in becoming a teacher for students of the Automotive Engineering Education Study Program, FT UNP, was in the moderate category. The distribution of scores in the research data on learning outcomes in education courses ranges from 2.50 to 3.87. Average = 3.169, median = 3.152, scores that appear frequently = 3.122, standard deviation = 0.297, range = 1.37, diversity = 0.088, and total score = 133.49 were obtained from these scores. Table 2 and Figure 2 provide a clear description of the data regarding the distribution of learning outcomes.

Table 2. Frequency distribution of learning outcomes in education courses (Y)

No.	Class Intervals	F Absolute	F Relative (%)
1	2,50 – 2,72	3	7,14
2	2,73 – 2.95	6	14,29
3	2,96 – 3,18	14	33,34
4	3,19 – 3,41	11	26,19
5	3,42 – 3,64	5	11,90
6	3,65 – 3,87	3	7,14
Total		**42**	**100**

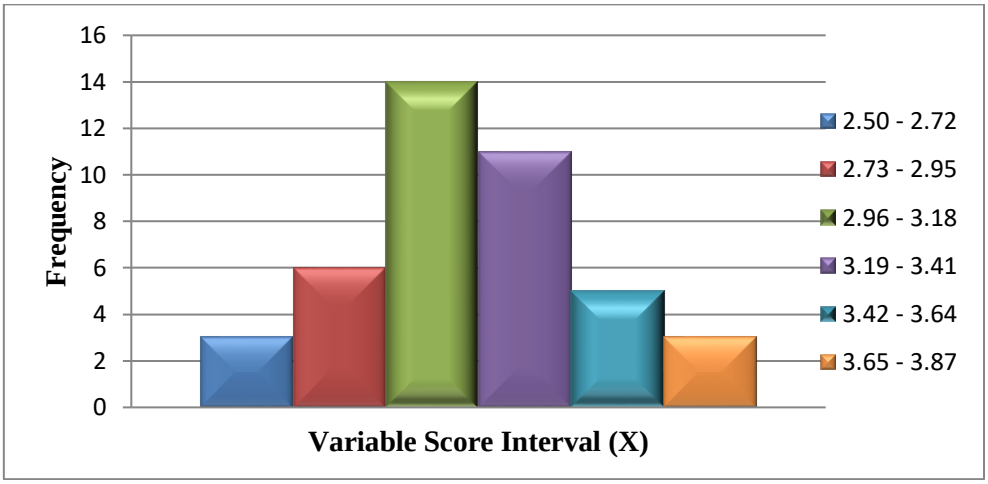

Figure 2. Histogram of learning outcomes in education courses (Y)

The results of data analysis revealed that the average level of achievement of the learning outcomes obtained by students was 79.22% and was classified as medium, implying that the learning outcomes of student education courses in the Automotive Engineering Education Study Program, FT UNP, were classified as medium overall. Normality and linearity tests are used to validate the data analysis requirements. Tables 3 and 4 show the results of the normality and linearity tests.

Table 3. Normality test results

No.	Variable	χ^2 count	χ^2 table	Information
1	Variable (X)	0,599	11,070	Normal
2	Variable (Y)	1,539	11,070	Normal

Table 4. Linearity test results

Source of Variation	Degrees of Freedom	Total of Squares	Average Total of Squares	F count	F table
Total	42	427,9759	-	0,6049	2,20
Regression (a)	1	424,27	424,27	Conclusion: the regression method Y over X is linear because F count < F table (0,6049 < 2,20)	
Regression (b/a)	1	1,0855	1,0855		
Residue	40	2,6204	0.0655		
Incompatibility	23	1,1788	0.0513		
Error	17	1,4416	0.0848		

Table 3 shows that the chi squared value for the variable (X) is 0.599 and the variable (Y) is 1.539 with a significant level of 0.05, indicating that the student interest variable in becoming a teacher (X) and the learning outcomes variable in education courses (Y) are normally distributed. Table 4 shows that F count < F table (0,6049 < 2,20) with an alpha value of 0.05,

implying that the distribution of independent variable data (X) forms a straight line with the dependent variable (Y). Product moment correlation analysis and the correlation significance test were used by statistical hypothesis testers. Table 5 shows the results of the hypothesis analysis and the significance of this correlation.

Table 5. Correlation test results and correlation significance

Hypothesis test	Scores		Information
Correlation test	r_{count} 0,5409	r_{table} 0,304	Significant at α = 0.05 and n = 42.
Correlation significance test	t_{count} 4,8346	t_{table} 1,648	

The calculated coefficient of correlation between student interest in becoming teachers (X) and learning outcomes in education courses (Y) is 0.5409 with = 0.05. The product moment r_{table} is greater than the correlation coefficient r_{count} (0.5409 > 0.304). The level of relationship between variable X and variable Y is quite strong, with a value of r = 0.5409 after consulting the r value with the correlation coefficient interpretation r table. In the correlation significance test, $t_{count} > t_{table}$ (4.8346 > 1.648) with = 0.05 was obtained. It is possible to conclude that students' desire to become teachers (X) has a positive and significant relationship with learning outcomes in education courses.

Discussion

The results of data analysis and hypothesis testing show that the hypothesis tested in this study is empirically accepted. It is believed that students' interest in becoming teachers has a positive relationship with educational course outcomes. Learning outcomes will be well achieved if the factors that support learning objectives can interact and complement one another. It takes a strong interest in becoming a teacher to lecture courses in the field of education. This is in line with previous research which states that interest is influenced by encouragement or motivation, knowledge, skills, information about education/teaching, environment, and experience [9]. This enthusiasm can boost student motivation and attendance at lectures. Without this interest, students' motivation and enthusiasm for the lecture process will dwindle, resulting in a lack of knowledge, experience, and skills in the field of education and poor learning outcomes.

Students will be more interested and motivated in education lectures if they have a strong desire to become teachers; on the other hand, students will be unmotivated and uninterested in education lecture activities if they have a weak desire to become teachers. This is in accordance with previous research which explains that students who have a high interest in becoming teachers also obtain high learning outcomes in educational courses [10] [11]. It can be concluded that students' desire to become teachers has an impact on the learning outcomes of student education courses. Having a strong desire to become a teacher will help to speed up the lecture process and, as a result, improve learning outcomes in student education courses.

Based on the discussion, it was determined that the findings of this study were compatible with and mutually supportive of theoretical studies that generally stated that there was a positive and meaningful relationship between students' interest in becoming teachers and learning outcomes in education courses. This means that the higher the student's interest in becoming a teacher, the better the learning outcomes of educational subjects, and the lower the learning outcomes of students who have a low interest in becoming teachers. This study found similar results to previous studies, concluding that interest is one of the factors that determine learning outcomes, and that interest has a fairly strong and positive correlation with student learning outcomes.

CONCLUSION AND RECOMMENDATION

Conclusion

The correlation coefficients r count (0.5409) > r table (0.304) and t count (4.8346) > t table (0.304) indicate a positive and significant relationship between interest in becoming a teacher and learning outcomes of student education courses in the Automotive Engineering Education Study Program class of 2018 FT UNP. Interest in becoming a teacher affects the learning outcomes of student education courses. Having a high interest in becoming a teacher will have a positive impact in expediting the lecture process so that it will improve learning outcomes in student education courses. This means that the higher the student's interest in becoming a teacher, the better the learning outcomes of educational subjects and students who have a low interest in becoming teachers will obtain low learning outcomes.

Recommendation

Students in the Automotive Engineering Education Study Program are expected to continually improve their interest in becoming teachers as well as their learning outcomes, particularly in education subjects. To improve learning outcomes in education courses, lecturers in education courses are expected to foster students' interest in becoming teachers. Future researchers are expected to be able to broaden their investigation of the factors that influence student learning outcomes, including both internal and external factors.

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