



CORRELATION BETWEEN SOFT SKILLS AND HARD SKILLS (ACHIEVEMENT OF HIGH COMPETENCY) WITH PREPARATION TO BE TEACHER OF MECHANICAL ENGINEERING EDUCATION STUDENTS

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KEYWORDS

soft skills, vocational competency achievement (hard skills), readiness become a teachers

ABSTRACT

This study aims to acquire a good knowledge of (1) influence of soft skills with the readiness to be a teacher education student of Mechanical Engineering, 2015; (2) influence achievement of vocational competencies (hard skills) with the readiness of a teacher education student of Mechanical Engineering, 2015; (3) influence of soft skills and vocational competence achievement (hard skills) with the readiness of a teacher education student of Mechanical Engineering in 2015. This type of research is correlational research. The population of this research is the students of Mechanical Engineering Education FKIP UNS of 2015 class, which amounted to 62 students. The sample size was determined by simple random sampling technique, and the totalled 55 students. I am collecting data using the method of documentation for performance variables vocational competencies (hard skills) and a questionnaire to the variable soft skills and readiness to be a teacher. Validity test of item using Pearson Product Moment formula and reliability test instrument using Alpha Cronbach formula. Gain validity test and instrument reliability test using SPSS Version 19 program. The prerequisite analysis test consists of a normality test, linearity test, and multicollinearity test. Data analysis techniques use partial correlation and multiple linear regression. The level of significance of the analysis is 5%. The results are as follows. First, there is a positive and significant relationship between soft skills with the readiness of a teacher education student of Mechanical Engineering in 2015 ($r_{count} = 0,806 > r_{table} = 0.2681$; $p\text{-value} = 0.000 < 0.05$). If soft skills increase, the readiness to become a teacher is also increasing. Secondly, there is no positive correlation between the achievement of vocational competencies (hard skills) with the readiness of a teacher ($r_{count} = 0.187 < r_{table} = 0.2681$; $p\text{-value} = 0.177 > 0.05$). Scientifically proven that when the achievements of vocational competencies (hard skills) increase, so do not affect the readiness to become a teacher. Third, there is a positive and significant relationship between soft skills and vocational competence achievement (hard skills) together with a readiness to be a teacher ($f_{count} = 48.357 > f_{table} = 3.18$).

INTRODUCTION

Mechanical Engineering Education Study Program FKIP UNS is a study program producing engineers in the field of Mechanical Engineering which is currently widely required by Vocational High School that the number is very much. The primary competence of Mechanical Engineering Education graduate program is as a teacher of Mechanical Engineering study at Vocational High School (SMK). A teacher's readiness is not solely determined by hard skills or knowledge but is also determined by self-managing skills and others (soft skills). The soft skills education is based on character building so that the student of the teacher candidate can adjust to the reality of life.

According to Indonesian education experts quoted in education.com(20/4/2016), Arief Rahman said that "So far, only students are asked to study to graduate to be a bachelor. Finally, they do not have any understanding of the educational process that has gone through ". Whereas in the world of work requires candidates who have the academic ability and masterwork skills and have soft skills such as high motivation, adaptation skills with the change, interpersonal communication and integrity, thereby increasing the competence of soft skills based graduates urgently done to meet the needs of the work world, an educator.

The readiness of students to be teachers is the maturity of prospective teachers in mastering four teacher competencies, such as the success of mastering paedagogic competence, social competence, personal competence, and professional competence. Besides, Murtiningsih (2014: 16) argues that the readiness to become a teacher is the readiness of students judging from the competence they have. Readiness to become teachers is measured through three aspects, namely cognitive, affective, and psychomotor aspects.

The purposes of this study are:

1. Gain the relationship of soft skills knowledge with the readiness to become a teacher the student of Mechanical Engineering Education FKIP UNS 2015.
2. Gain the relationship of knowledge of the achievement of vocational competence (hard skills) with the readiness to become a teacher the student of Mechanical Engineering Education FKIP UNS 2015
3. Gaining the relationship of soft skills and the achievement of vocational competence (hard skills) on the readiness to become a teacher the student of Mechanical Engineering Education FKIP UNS 2015.

RESEARCH METHODS

This research was conducted at Faculty of Teacher Training and Education (FKIP) Sebelas Maret University (UNS), Campus V UNS A.Yani Street No. 200 Pabelan, Kartasura, Sukoharjo. The time of implementation of research activities conducted from January to June 2017. The population used is a student of Mechanical Engineering Education Study Program class of 2015 as many as 62 people. The sampling technique used simple random sampling technique using Isaac and Michael table with 5% error level so that the sample and the population are 55 people.

Data collection techniques and instruments using documentation method used to obtain data of vocational competence achievement and questionnaire method in the form of a statement to obtain soft skills data and readiness to be a teacher. In this questionnaire instrument using measurement technique with a Likert scale. The instrument of soft skills questionnaire and readiness to be tested on the students of Mechanical Engineering Education Program FKIP UNS class of 2015 as many as 35 students. The test results were analyzed using grain validity test with Product Moment formula from Pearson. The statement item is said to be valid if the value is $r_{count} > r_{table}$. At r_{table} for respondent (N) 35 student is 0,334 so that $r_{count} > 0,334$. So from 57 points statement of soft skills variables tested try, 23 items declared invalid (fall), and 34 items declared valid. As for the readiness variable to be a teacher of 54 items statement, 16 items declared invalid (fall), and 37 items declared valid. Reliability test in this research use Alpha Cronbach coefficient formula with result 0,901.

Data analysis technique using partial correlation and double linear regression with a significance level of analysis of 5%. For the analysis, a prerequisite preliminary analysis test consisted of normality, linearity, and multicollinearity tests.

RESULTS AND DISCUSSION

Test requirements analysis is done with the help of SPSS Version 19 program. This test is done before testing the hypothesis. Test requirements analysis in this study using a normality test, linearity test, and multicollinearity test. The results of the test requirements analysis as follows:

Normality test

Normality test using the Kolmogorov-Smirnov Z formula. The residual distribution is said to be normal if the significance value is > 0.05 . Normality test results are presented in Table 1.

Table 1. Normality Test Results

	P value	Criteria	Conclusion
Normality test	0,604	p value > 0,05	Data is normally distributed

Linearity Test

Relationships are said to be linear when values of significance > 0.05 on deviation from linearity. The summary of the linearity test results is presented in Table 2.

Table 2. Linearity Test Result

Variable	Significance	Conclusion
Soft skills with readiness to become teachers	0,133	Linier
Achievement of vocational competency (hard skills) with readiness to become a teacher	0,817	Linier

Multicollinearity Test

The test results are said to be multicollinearity-free if the value of the variant inflation factor (VIF) <10.00 and or tolerance value > 0.10. Multicollinearity test results of variables in this study showed a VIF value of 1.005 and tolerance value of 0.995. So it can be concluded that the research variable is free multicollinearity.

In the research, a prerequisite analysis test has been fulfilled that is normal distributed data, independent variable, and dependent variable correlate linear and free multicollinearity. The next step is to test the research hypothesis by using SPSS 19 program. The relationship is said to be significant if the significance value <0.05.

First Hypothesis

The first hypothesis calculation uses a partial correlation test. Relationships are positive if $r_{calculate} > r_{table}$. From the analysis result obtained correlation value $r_{calculate} > r_{table}$ (0,806 > 0,2681) with significance value 0,000 (0,000 < 0,005). This shows that the relationship of soft skills with the readiness to become a teacher is stated positive and significant. That is, the first hypothesis H_a accepted that there is a positive relationship with soft skills with the readiness to be a teacher in Mechanical Engineering Education students class of 2015.

Second Hypothesis

The second hypothesis calculation uses a partial correlation test. Relationships are said to be positive if $r_{count} > r_{table}$. From the analysis results obtained correlation value $r_{count} < r_{table}$ (0,187 > 0,2681) with significance value 0,177 (0,177 > 0,005). This shows that the relationship of achievement of vocational competency (hard skills) with readiness to become a teacher is not significant. This means that the first hypothesis H_a rejected that there are a positive relationship and significant achievement of vocational competence (hard skills) with the readiness to be a teacher in Mechanical Engineering Education students class of 2015.

Third Hypothesis

The calculation of the third hypothesis using multiple linear regression analysis. Relationships are said to be positive when $F_{count} > F_{table}$. From the analysis, a result obtained correlation value $F_{count} > F_{table}$. From the analysis results obtained a multiple correlation value R of 0.806 with a significance value of 0.000 (0.000 < 0.005). The analysis result also shows the value of F arithmetic equal to 48,357 with price F_{table} 3,18. Thus F_{count} (48,357) > F_{table} (3.18). This indicates that the relationship between soft skills and the achievement of vocational competence, together with the readiness to become a teacher, is stated positive and significant. That is, the third hypothesis H_a accepted that there is a positive relationship of soft skills and achievement of vocational competence (hard skills) together with the readiness to become a teacher in Mechanical Engineering Education students class

of 2015. The regression model is $Y = -27.968 + 0.975X_1 + 11,508X_2$. The coefficient of determination (R^2) value is 0.650.

Discussion of the results of this study indicates that the soft skills associated with the readiness to become teachers. This means that if soft skills increase, then the readiness to become teachers will also increase. Conversely, the lower the soft skills the readiness to become a teacher of a student also declined.

The statement of soft skills influencing the readiness of prospective teachers is also supported by the alignment of the main competencies teachers must possess. Soft skills include the teacher's competence altogether. Ali Mudhofir (2012: 153) states that including soft skills in the competence of teachers is the competence of personality and social competence, but if observed indicators of pedagogical competence and professional competence are also aligned with interpersonal skills in the form of communication skills. So it can be concluded that the higher the soft skills of the students the higher the readiness to become a teacher, otherwise the lower the soft skills possessed the lower the readiness to become a teacher.

However, after the analysis results obtained that the value of correlation or r arithmetic 0.187 then seen r table 0.2681 which means r arithmetic $< r$ table and significant value $0.177 > 0.05$. This means that the variables of achievement of vocational competency (hard skills) do not positively affect the readiness to become teachers, so if the achievement of competence increases then the readiness to become a teacher is not necessarily increased. Result of data analysis which has been done by using a program of SPSS version 19.0 obtained result of double correlation $R = 0,806$ with significance equal to 0,000 ($p < 0,05$). The analysis result also shows the price of F_{count} equal to 48,357 while from table F is 3,18, so $F_{count} > F_{tabel}$. So it can be proved that the variables of soft skills and achievement variables of vocational skills (hard skills) together have a positive and significant influence on the readiness to become teachers. That is, if the soft skills and achievement of vocational competence (hard skills) increase simultaneously, then the readiness to become a teacher also increases. Thus it can be concluded that students who have high soft skills and have high hard skills will have a high readiness to become teachers.

CONCLUSION

Based on the results of research and discussion can be concluded that: (1) There is a positive and significant relationship between soft skills to readiness to become teachers. (2) There is no positive correlation between the achievement of vocational competence (hard skills) with the willingness to become a teacher. (3) There is a positive and significant relationship between soft skills and the achievement of vocational competency (hard skills) with the readiness to become a teacher.

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