

The Effect of Instructional Methods and Interests to be Teachers toward Teacher Learning Skills

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Abstract

The Background of this study is the competencies that must be possessed by a teacher are pedagogic competence, personality competence, social competence, and professional competence. This research aims to examine the effect of the interaction all methods and the interest in being a teacher towards teacher learning skills. This research was conducted at the Faculty of Engineering, Universitas Negeri Jakarta. The research method used in this study was an experimental method with 2 x 2 treatment with a design level. Research findings are: first, there is a significant influence between the use of learning methods and teacher learning skills; second, there is a significant influence between interest in becoming a teacher and teacher learning skills; and third, there is an influence of the interaction between the learning methods and the interest in being a teacher towards teacher learning skills. Based on the results of this study, it was concluded that the learning method had a significant influence between groups of students who were taught using the cooperative learning method is higher than direct learning methods that had a high interest in becoming teachers in teacher learning skills. It can be concluded that cooperative learning methods are more effective in improving teacher learning skills in groups of students who have a high interest in becoming teachers.

Keywords: Learning methods, Interest in becoming a teacher, Teacher learning skills

Introduction

In Indonesian Law No. 14 of 2005 Article 1 verse 10 concerning Teachers and Lecturers, competency is a set of knowledge, skills, and behaviors that must be owned lived and mastered by the teacher or lecturer in carrying out professional duties. In article 9 of the law, the competencies that must be possessed by a teacher are pedagogic competence, personality competence, social competence, and professional competence.

In the digital era, it needs a sustainable innovation. First, professional competence is the ability to master subject matter widely and deeply by the teacher. Teacher professional competence contributes specifically to the prediction of the quality of teaching (Kunter et al., 2013).

Second, pedagogical competencies are special competencies. According to Irina and Liliana (2011), pedagogic competence is a minimum criterion that must be met by every lecturer to be able to carry out his duties as a professional teacher.

The implementation of teacher learning skills is simplified from all normal forms namely; a) learning time from 35 to 45 minutes becomes 10 to 15 minutes, b) the number of students from 30 to 40 people is limited to 10 to 12 students, c) the use of teacher learning skills is limited to one and two skills, and

d) from several sub-subjects to one or two sub-topics only. Because the number of students who follow it is large, resulting in a small part of the teacher's learning skills that students can practice. These teacher learning skills will be used by students in the implementation of the Teaching Skills Practice (PKM) held in the following semester at school.

Regarding the experience and information of the student PKM supervisors in school, not all the learning skills of the trained teachers were mastered by students. As a result, classroom learning is not conducive. Weaknesses of learning in students, especially in; 1) the sound volume is still weak; 2) students' motivating abilities; 3) lack of realization of interactions during learning, 4) explaining skills are not well organized, 5) classroom mastery, 6) body language, 7) variation skills, and 8) time usage.

The implementation of learning is done by dividing into small groups. Some learning methods use small groups which can be used for group learning skills, namely: brainstorming, cooperative learning method, learning together (Sunawan, 2018), discovery learning method, talking stick method, problem-based introduction method (Afandi et al., 2013). From the several learning methods mentioned above, the right learning method used in teacher learning skills is cooperative learning methods.

STAD type cooperative learning methods are carried out with a small number of groups (Slavin, 2015), which can consist of 10 heterogeneous students (Sharan, 2012). STAD type cooperative learning method, where students work together (help each other) and are responsible for the same in mastering learning material (Wyk, 2012), and (Richards & Rodgers, 2001), to achieve common goals.

The novelty of the research is: first, learning for teacher learning skills which usually uses lecturer-centered learning methods (direct learning methods) with a large number of students, on this occasion learning uses the STAD type cooperative learning method with heterogeneous groups; Second, the STAD type cooperative learning method is generally used for learning to see learning outcomes, on this occasion it is used to see student learning skills.

Based on problem constraints, the formulation of the problem in this study is as follows; (1) Are there differences in teacher learning skills between groups of students who are taught using STAD type cooperative learning methods and groups of students who are taught using the direct learning method? (2) Is there an influence of the interaction between the learning method and the interest in becoming a teacher towards teacher learning skills for students of vocational education study programs at the Faculty of Engineering, Universitas Negeri Jakarta? (3) Is there a difference in teacher learning skills between groups of students who are taught by the STAD type of cooperative learning method and groups of students who are taught using direct learning methods that have high interest in becoming teachers?, and (4) Is there a difference in teacher learning skills between groups of students who are taught using the STAD type cooperative learning method and groups of students who are taught using direct learning methods that have low interest in being teachers?

Method

This research was conducted at the Technical Vocational Education Study Program at the Faculty of Engineering, 2017/2018 academic year, Universitas Negeri Jakarta. The research method used in this study was an experimental method with 2×2 treatment with a design level. The dependent variable in this study is teacher learning skills. The independent variables in this study are; The learning method which consists of cooperative learning methods of the STAD type and direct learning methods, and the high interest in being a teacher and the low interest in becoming a teacher. Sampling was carried out by 33% of the total number of respondents in the experimental class and control class. With the sampling technique above, the number of students sampled was 40 respondents with a sample distribution as in table 1.

Table 1 Design and Distribution of Research Samples

Variable		Learning Method (A)		Total
		Cooperative Type STAD (A ₁)	Direct Learning (A ₂)	
Interest to be a teacher (B)	High (B ₁)	10 students	10 students	20 students
	Low (B ₂)	10 students	10 students	20 students
Total		20 students	20 students	40 students

Findings

Data from the hypothesis testing of the study was conducted using 2-way ANOVA. The results of testing hypotheses have been collected.

From the results of hypotheses test, it can be seen that the acquisition of the average score of teacher learning skills of the group of students learning using the STAD cooperative learning method ($\bar{Y}_{k1}=31,83$) is higher than the average score of the student group being taught using the direct learning method ($\bar{Y}_{k2} = 27,93$), and the acquisition of the average score of teacher learning skills of the group of students taught using the STAD type cooperative learning method ($\bar{Y}_1=35,50$) was higher than the student group who were taught using the direct learning method ($\bar{Y}_2= 23,40$) who had a high interest in being a teacher. From table 2 above, it is also seen that the teacher learning skills of groups of students who were taught using the STAD type cooperative learning method ($\bar{Y}_3= 28,17$) were lower than the group of students who were taught using the direct learning method ($\bar{Y}_4= 32,47$) for groups of students who have low interest in becoming teachers.

Before the hypothesis is tested, it is necessary to test the requirements for data analysis, namely testing for normality and homogeneity. The normality test is carried out by the Lilliefors test, and the homogeneity test for Normality Test is done by the F test (F_{account}) and Bartlett Test.

The normality test uses the Lilliefors Test, from the calculation of the six data groups fulfilling the requirements of $L_{\text{account}} < L_{\text{table}}$ at a significant level of 0.05, it can be concluded that the six groups of data are normally distributed.

The homogeneity test of variance between groups in this study used the F_{account} test, while the homogeneity test of variance between cells used the Bartlett test and the Tukey test. The data variance homogeneity test in this study was carried out in three groups of data, namely; a) From the data on learning outcomes of teaching skills of group students taught using cooperative learning methods (A1) and groups taught using direct learning methods (A2), obtained $F_{\text{account}} = 1.31$ at a significant level of 0.05 obtained $F_{\text{table}} = 2.21$ with criteria H_0 test is accepted if $F_{\text{account}} < F_{\text{table}}$ or $1.31 < 2.21$ then H_0 is accepted, so data from both groups have the same or homogeneous variant. b) Data on teaching skills learning outcomes of students who have high interest in becoming low teachers (B1) and students who have a low interest in becoming teachers (B2), obtained $F_{\text{account}} = 2.18$ at a significant level of 0.05 obtained $F_{\text{table}} = 2.21$ by testing H_0 criteria are accepted if $F_{\text{account}} < F_{\text{table}}$ or $2.18 < 2.21$ then H_0 is accepted, so data from both groups have the same or homogeneous variant. c) Data on learning outcomes of students' teaching skills for four inter-cell groups, in the study design: students taught using the STAD type cooperative method who have high interest in becoming teachers (A1B1), students taught using cooperative methods that have low interest in teachers (A1B2), students taught using the direct method and have a high interest in becoming teachers (A2B1), and students taught using direct methods that have low interest in becoming teachers (A2B2), $\chi^2_{\text{account}} = 0.581$ and $\chi^2_{\text{table}} = 7.81$ on significance level of 0.05. So $\chi^2_{\text{account}} < \chi^2_{\text{table}}$ or $0.581 < 7.81$, so the four data groups have the same variant (homogeneous).

Table 2 Summary of ANAVA Calculation Results from Two Pathways to Learning Outcomes Student Teaching Skills

Varian Resource	dk	JK	RJK	F _{account}	F _{table}	
					0.05	0.01
Between Columns	1	61.26	61.26	5.35	4.11	7.40
Interline	1	3.19	3.19	0.28	4.11	7.40
Interaction	1	450.01	450.01	40.11	4.11	7.40
In	36	412.02	11.45			
Total Reduced	39	935.48				

Based on table 2, source of variance is seen, a) between columns, $F_{\text{account}} = 5.35$ and $F_{\text{table}} (0.05: 1/36) = 4.11$, or $F_{\text{account}} (5.35) > F_{\text{table}} (4.11)$, then H_0 rejected. Thus the results of learning the teaching skills of students who are taught using cooperative learning methods are higher when compared to the group that is taught using the direct method. b) interaction effect, obtained $F_{\text{account}} = 40.11$ and $F_{\text{table}} (0.05: 1/36) = 4.11$ or $F_{\text{account}} > F_{\text{table}}$ then H_0 is rejected. Thus it can be concluded that there is a significant interaction effect between the use of learning methods and the interest in becoming a teacher of teacher learning skills. Thus the research hypothesis states that there is an interaction between the learning method and the interest in being a teacher towards teacher teaching skills.

The graphical form of the interaction between the use of cooperative learning methods and direct learning methods and interest in becoming a teacher towards the learning outcomes of student teaching skills can be seen in Figure 1.

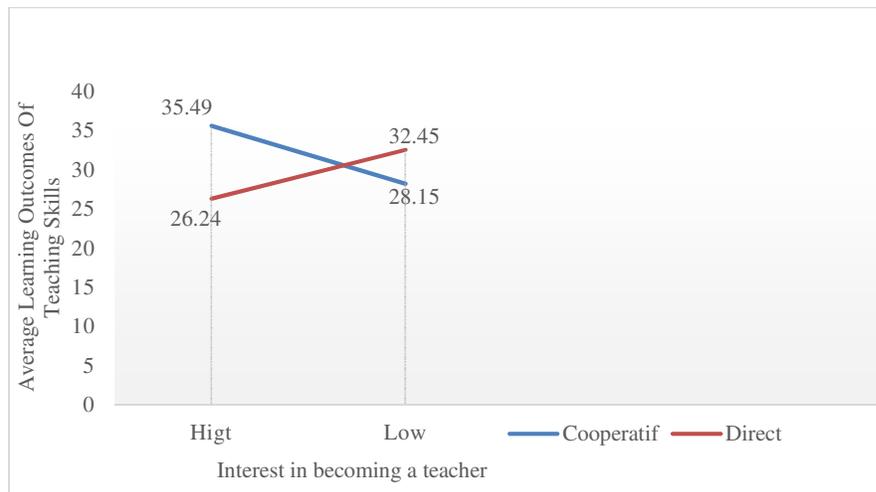


Figure 1 Graph of Interactions Between Learning Methods and Interest in Becoming Teacher

The interaction between the learning method and the interest in being a teacher towards the learning outcomes of students' teaching skills, further testing needs to be done using the Tukey test.

Based on further testing with the Tukey Test, it shows that the group of students who have a high interest in becoming teachers is obtained by $Q_{\text{account}} = 8.65 > Q_{\text{table}} (0.05: 10: 3) = 3.88$, then H_0 is rejected. These results indicate that there are significant differences between rows and groups on teacher learning skills. The group of students who are taught using the STAD type cooperative learning method is higher than the group of students who are taught using the direct learning method. In the group of students who had low interest in becoming teachers, $Q_{\text{account}} = 4.02 > Q_{\text{table}} = 3.88$ at a significant level of

5% was obtained; also indicates H_0 is rejected. It can be proven that teacher learning skills in the group of students who were taught using the STAD type cooperative learning method were lower than the group of students who were taught using the direct method.

Discussion

First, the results of testing the first hypothesis, using a two-way ANOVA calculation at a significant level of 5% obtained $F_{\text{account}} = 5.35$ and $F_{\text{table}} (0.05: 1/36) = 4.11$, or $F_{\text{account}} > F_{\text{table}}$ then H_0 was rejected. Thus overall, there is a significant difference between the learning skills of the group of students who are taught using the STAD type cooperative learning method with a group of students who use the direct learning method. The results of this study indicate that the teacher learning skills are more appropriate using the STAD type of cooperative learning method, namely 1) cooperative learning methods that can encourage student involvement during the learning process. 2) the learning methods that are: a) students work in small groups (Slavin, 2005), which have ten members (Sharan, 2012) and heterogeneous (Johnson and Johnson in Santrock, 2015). b) Each group consists of students who are smart, moderate, and less intelligent (Sharan, 2012), taking into account academic performance, gender (Slavin, 2012).

Second, Based on the results of calculations using two-way ANOVA at a significant level of 5% obtained $F_{\text{account}} = 40.11 > F_{\text{table}} (0.05: 1/36) = 4.11$, to H_0 , then it can be said that there is an influence of interaction between learning methods and interest in becoming a teacher of teacher learning skills. based on the results of statistical analysis, it is known that the two variables, namely the independent variable and the control variable affect the dependent variable, namely the teacher's learning skills. The accuracy of choosing a method in a learning will also affect student interest in learning activities. Student participation can be seen, how much participation is carried out by each student during learning. Interests that exist in students become the main influence in achieving goals (teacher learning skills). In achieving the goal, Sanjaya (2011: 7) explains that interest is the tendency of a person to carry out an action that gives rise to pleasure from the activity itself.

Third, the results of the data analysis showed that the average value of teacher learning skills of the group of students learning using the STAD type cooperative learning method that had a high interest in becoming a teacher of $\bar{Y}_{A_1B_1} = 35,50$ was higher than the group of students who were taught using the direct method of $\bar{Y}_{A_2B_1} = 24,40$. The results of this study indicate that students who have a high interest in being teachers are more appropriate to be taught to use the STAD type learning method because the method of the group can encourage members' motivation, and help each other to overcome difficulties; mutual respect (listening to each other); giving and conveying opinions or ideas; help each other in completing assignments; and attentive during learning (Sulisworo and Suryani 2014: 59). The results of this study are reinforced by research conducted by Sulisworo and Suryani (2014, 63), physics learning outcomes of groups of students who were taught using STAD type cooperative learning method were higher than the group of students who were taught using direct learning methods for groups that were highly motivated.

Fourth, based on data analysis shows the average score of teacher learning skills of groups of students who were taught using STAD type cooperative learning methods of $\bar{Y}_{A_1B_2} = 28,17$, lower than those taught using the direct method of $\bar{Y}_{A_2B_2} = 32,47$. Based on research data for the group being taught using the STAD type cooperative learning method; 83% of respondents do not like work as teachers; 2) 100% of respondents dislike learning is done in the form of discussion, because to take part in student discussions they need to; 1) prepare themselves (ready with the material), (2) get a role, (3) must actively participate, and (4) make a report (Sudjana, 2009: 81). With the high demands, causing students not interested in learning is done by discussion. In Taiwan, there has been a decline in student interest in learning at this time, including working on assignments, even though they spend more time on campus, and this is a problem for many lecturers (Lee et al., 2011: 140).

Conclusion

Based on the results of testing the hypothesis that has been explained, the study concludes the results of the study as follows; (1) There is a significant influence on the learning method used in improving teacher learning skills; (2) There is an influence of the interaction between the learning method and the interest of students to become teachers in the teacher learning skills. Based on the results of this study as a whole it can be concluded that the two learning methods have contributed to improving teacher learning skills; (3) There is a significant difference in teacher learning skills in the group of students who have a high interest in being teachers who use the STAD type of cooperative learning method, that is higher than the group of students who are taught using the direct learning method; and (4) Teacher learning skills of groups of students who have a low interest in being teachers who are taught using cooperative learning methods are lower than the group of students who are taught using the direct learning method. Referring to these findings, it can be concluded that cooperative learning methods are more effective in improving teacher learning skills in groups of students who have a high interest in becoming teachers.

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