

The Correlation between Teachers' Competencies and Students' Learning Outcomes in Social Science Subject

Annurul, Dadang Sundawa, Faqih Samlawi
Program Studi Pendidikan IPS

Abstract. The low level of teachers' competencies in carrying out learning activity will affect the low students' learning outcomes in social science subject (IPS). This research was conducted to investigate whether there was a correlation between the competencies that the teacher possessed and the students' learning achievements in the social science subject. The method used in this research was a correlation study by using quantitative methods. The population of this research was the 303 eighth grade students of SMP Negeri 4 Bandung. The research was employed by using a simple random sampling technique which gained 76 students as the sample. The data collection techniques in this research were questionnaire and documentation. The instrument of this research was a questionnaire with close-ended questions using Likert's Scale. The data analysis technique in this research used a Pearson Product-Moment Correlation technique. The result of the data analysis showed that the z-test score was 0.382 which meant that Null hypothesis (H_0) was rejected and Alternative hypothesis (H_a) was accepted. Meanwhile, the significance level was 3.555, thus, H_0 was rejected. It meant that the correlation between the teachers' competencies and the students' learning outcomes in social science subject was significant. The findings of the research showed that there was a positive correlation between the teachers' competencies and the students' learning outcomes in the social science subject. The correlation was categorized as low level of correlation. Therefore, the low-level of the students' learning achievements were not only determined by the teachers' competencies, but also determined by the other factors.

Keywords: Learning Outcomes, Teachers' Competencies, Social Science Subject.

Correspondence. annurulpips@gmail.com

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A. INTRODUCTION

Being developed country is an ambition of all countries in the world. One of the classifications whether a country has been developed is influenced by education. It is because through education, good quality of human resources involving knowledge, attitudes, and skills can be produced.

According to Saroni (2017), as a profession, teachers' competencies involve how the teachers manage the class, so that it creates good condition on the implementation of education and learning process. An ability to organize the class is very crucial because the learning process is related to the outcomes that the students possess (p. 96).

In the teaching learning practice, teachers are the creator of learning environment where they are responsible for students' education. Because of that, the

teachers should have high level of competencies in carrying out their duties as a teacher.

Based on the laws of the Republic Indonesia number 14 of 2005 article 10 about teachers and lecturers, the teachers' competencies as referred to article 8 include pedagogic competency, personality competency, social competency, and professional competency gained through professional education. The competence is a set of knowledge, skills, and behaviors that must be possessed, perceived and mastered by the teachers in conducting their professional responsibilities.

The teacher has a position as a professional staff at the secondary education level. The responsibility of the teacher as the professional staff is to increase the teachers' dignity and role as an agent of learning which

functions in enhancing the national education quality. A professional teacher not only has a role to teach, but also to educate, to guide, to lead, and to evaluate the students. Thus, the teachers should really master the material and have a good understanding in the field of study that is taught. The professional teacher will produce a good quality of education. It can be done by creating fun learning activities, so that it motivates and encourages the students to learn. The competent teachers will be able to implement the learning activity which attracts students' creativity through various appropriate learning strategies. Therefore, the students will not only comprehend the material, but also, they will be more active in the learning activities.

To make the students more active in learning activities can be done if the teachers' background of education is appropriate to the field of the study and equipped with knowledge based on their fields. However, evidently, not all teachers have the proper qualifications. For instance, there is a social science teacher in SMP Negeri 4 Bandung

which has no applicable education background of the study. Thus, the strategies and media used in the class are less creative and it does not make the students engaged in teaching and learning process. The monotonous lecture method makes the students bored with learning, especially the social science subject. It is because the subject contains a lot of material which makes the students easily bored and sleepy in paying attention to the teacher's talk. It also can affect the students' learning outcomes where they get the score lower than the minimum mastery criteria (KKM).

The researcher is interested in conducting the study because the students' average scores of midterm exam in the social science subject are lower than the minimum mastery criteria. Not only a student, but also almost the half of the students got the score lower than the KKM. Below is the result of the midterm exam in the social science subject in SMP Negeri 4 Bandung in school year 2017/2018 with the minimum mastery criteria score of 70.

Table 1. The result of the midterm exam in the social science subject in SMP Negeri 4 Bandung

Class	Number of students	Average Score in Social Science Subjects	Completeness	
			Complete	Incomplete
8 A	40	72	65%	35%
8 B	36	72,2	75%	25%
8 C	38	54	5%	95%
8 D	38	61	37%	63%
8 E	37	58	27%	73%
8 F	38	62	34%	66%
8 G	36	65	42%	58%
8 H	37	65,3	51%	49%

Source: teacher documentation in the eighth grade of students in social science subject

Based on the table above, there are a number of the students who have not completed the learning outcomes in the social

science subject. The researcher is interested in conducting this study because before the midterm test is done, the students had gotten

grille to be learnt. The grille consists of a number of multiple choice questions and essays which will be taken by the students and then will be discussed with the social science teacher. What makes it unique is that those questions are the same as the questions that will be examined in the midterm test. In this case, the students must get a satisfactory result of the midterm test score because the questions of the grille and the midterm tests are the same and had been discussed with the teacher. However, in fact, there are many students who got the score lower than the KKM. It makes the researcher confused with the factors which cause the low score of the students. The factors can be related to the competencies that the teachers have, the learning process managed by the teacher in the class, or the students' own problems. Therefore, the researcher focuses on investigating whether there is a correlation between the teachers' competencies and the students' learning outcomes in the social science subject in SMP Negeri 4 Bandung.

B. METHOD

According to Purwanto (2008), a correlation methodology is a study which involves the correlation between one and two or more variables (pp.177). This research used this method with the aim to investigate the correlation between one variable and another. The correlation is between teachers' competencies (X) and students' learning outcomes in social science subject (Y). The researcher attempted to consider whether there is a correlation between the two variables. The participants in this research were all the eighth grade students of SMP Negeri 4 Bandung in the school year 2017/2018 with the 303 numbers of the students. The number of samples was taken based on the Slovin's formula (Husain Umar, 2003: 141) as follows:

$$n = \frac{N}{N.d^2+1} = \frac{303}{(303). 0,1^2+1} = \frac{303}{4} = 75,75 = 76$$

This sample was carried out by using a simple random sampling technique. It was classified as simple because sampling is done randomly without considering the population level. This technique is done if the population is considered as homogeneous (Sugiyono, 2015, pp. 63). The researcher used questionnaire as the instrument for this study. The questionnaire was classified as closed-ended questions using a Likert scale. The statements used in the Likert scale were strongly agree, agree, neutral, disagree, and strongly disagree. For statistical analysis, the statements were given score involving strongly agree (5), agree (4), neutral (3), disagree (2), and strongly disagree (1). To make the instrument valid and reliable so that it could be used to measure the correlation between the teachers' competencies and the students' learning outcomes in the social science subject, the validity and the reliability of the instruments had been tested. This research used item analysis to test the validity of each item, which meant correlating the score of each item with the total score which was the total number of each item score. In this study, the instrument validity test used a Pearson Product-Moment Correlation technique by using the *IBM SPSS VERSION 23* application. The minimum requirement to be considered as qualified was if the correlation coefficient (r) = 0.3. Thus, if the correlation between the two items of questions with the total score was less than 0.3, the items in the instruments were stated as invalid. Meanwhile, testing the reliability of the instrument with internal consistency was done by trying out the instrument once. The reliability test was completed by using Cronbach's Alpha technique with help from the *IBM SPSS VERSION 23* application.

The data collection technique in this study used questionnaire and documentation. The researcher used the questionnaire to investigate to what extent the social science teachers' competencies correlated to the students' learning outcomes seen from the midterm examination. Meanwhile, the documentation was done with the aim to collect the data which were the numbers of the students and the documents such as the result of midterm assessments. Data processing and analysis in this study used statistical calculations with the following hypotheses:

- Ho : there is no correlation between teachers' competencies and students' learning outcomes in social science subject
- Ha : there is a correlation between teachers' competencies and students' learning outcomes in social science subject

The data analysis technique used in this study was Product-moment correlation technique. This correlation technique was used to investigate the correlation and to prove the hypothesis of two variables which are teachers' competencies variable and students' learning outcomes in social science subject variable (Sugiyono, 2015, p.228). The following was the formula that was used to calculate the correlation coefficient:

$$r_{xy} = \frac{n \sum x_i y_i - (\sum x_i)(\sum y_i)}{\sqrt{(n \sum x_i^2 - (\sum x_i)^2)(n \sum y_i^2 - (\sum y_i)^2)}}$$

If there was a positive correlation between the teachers' competencies and the students' learning outcomes in social science subject, therefore, the higher level of teachers' competencies could produce the better students' learning outcomes in the social science subject. To show whether the correlation coefficient of the calculation result

was significant, it was unnecessary to be compared to the r-table with a certain level of error. If the z-test was bigger than the r-table, Ho was rejected and Ha was accepted. Therefore, there was a positive correlation between the teachers' competencies and the students' learning outcomes in the social science subject. Meanwhile, for testing the significance of the correlation coefficient, it could be calculated by using t-test with the formula as follows:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

The result of the t-test was compared with the t-table (the values in the t-distribution). If the t-test was bigger than the t-table, then Ho was rejected. It meant that there was a positive correlation between X variable and Y variable. To be able to provide interpretation of the correlation coefficient found as large or small, thus the following condition could be used:

Table 2. The interpretation correlation between X variable and Y variable

Coefficient interval	Level of correlation
0,00 – 0,199	Very low
0,20 – 0,399	Low
0,40 – 0,599	Standard
0,60 – 0,799	High
0,80 – 1,000	Very high

C.RESULTS AND DISCUSSIONS

Teacher is one factor that influences students' learning achievement in the learning process. Therefore, the teacher should have an ability to create learning activities to be more contextual. As what have been discussed before, the teachers should have the competencies in doing their professional duties. The teachers must not only have cognitive aspect, but also affective and psychomotor abilities. The teachers should

not only master the subject matter that had been taught, but also, they should have a good attitude and behavior because they will be a role model for the students. Thus, the teachers' task is not only about transferring the knowledge to their students. The competencies which have to be possessed by the teacher as the educator are teachers' pedagogic competence, behavioral competence, social competence, and professional competence.

IPS learning competencies are divided into four sections with each other continuously, ie, spiritual, social, knowledge and skills. In order to achieve these competencies, efforts to do is to use a variety of learning media. Selection is based on a variety of media learning the benefits and functions as a communication tool between teachers and learners. When the communication between teachers and learners goes well then the message and purpose of learning more easily achieved.

And then learning media is indispensable in a social studies learning process, considering the competence and the material to be achieved are numerous and complex. According to Woolever, (1987, p. 18); and Banks, (1990, pp. 3), IPS learning organized so that learners have the skills in decision-making as a good citizen. More specifically, the learning IPS organized to assist learners in acquiring the three main competencies that the knowledge, skills, and attitudes. In the aspect of knowledge students are expected to master the learning content IPS consists of various disciplines of social sciences, natural sciences and humanities.

According Kurniawati and Luqman Hakim (2013, pp. 2), an educator or teacher must be clever in choosing the accuracy of media that will be used because it will be easier for students in the learning process, either in the form of a visual, audio, audio-visual and multimedia. The translation of

course, assumes that the variation in the use of instructional media provide a positive influence in order to achieve the learning objectives. But in this study using the teacher is less variation in instructional media so that the learning is not attractive and tend to be boring so that the material in less learning conveyed properly.

In connection with the social studies learning, listening skills also become as one aspect of clear communication and interaction needs to be developed in the social studies learning. In this regard, social studies learning should be able to develop listening skills of students as the capital base for itself in the social interaction in the community. The low yield social studies students are also caused by factors that are lacking in students' listening skills in the classroom, so that what is delivered by a teacher can not be understood as a whole.

Besides the low level of reading in the students themselves could also be one factor contributing to the low value of the results of social studies students. According Sukmawan (2015) responded that the public in general are familiar with the communication device and using social networking media such as facebook, twitter, LINE, Whatsapp etc. According to the data shown on www.emarketer.com (accessed October 5, 2015). Social media is not just touching the adults but children also have clever use of social media. But it is unfortunate because social media is not put to good use by students, many students are using social media not to seek information on the subject but only as entertainment. Students are more interested to read the status of a friend or love stories rather than subjects.

In this study, the competencies which have to be increased are the teachers' pedagogic and professional competencies. The pedagogic competence is where the teachers should be able to manage the

learning activity in the class, such as learning design and preparation, which are put into lesson plan, learning objectives and evaluation of the learning. Besides, the teachers also have to increase their professional competence such as mastering the subject matter that had been taught and utilizing the technology in teaching learning activity in the class.

The findings of the correlation between the teachers' competencies and the students' learning outcomes in the social science subject showed that there was a correlation between them. It can be seen from the result of the score of the correlation coefficient between teachers' competencies variable (X) and students' learning outcomes in social science subject variable (Y). To find out the score of the correlation coefficient, it could be calculated by using the following formula:

$$\begin{aligned}
 r_{xy} &= \frac{n \sum x_i y_i - (\sum x_i)(\sum y_i)}{\sqrt{(n \sum x_i^2 - (\sum x_i)^2)(n \sum y_i^2 - (\sum y_i)^2)}} \\
 &= \frac{76(436.402) - (6762)(4864)}{\sqrt{(76(614.208) - (6762)^2) \cdot (76(322.674) - (4864)^2)}} \\
 &= \frac{33.166.552 - 32.890.368}{\sqrt{(46.679.808 - 45.724.644) \cdot (24.523.224 - 23.658.496)}} \\
 &= \frac{276.184}{\sqrt{(955.164) \cdot (864.728)}} \\
 &= \frac{276.184}{\sqrt{825.957.055.392}} \\
 &= 0,382
 \end{aligned}$$

Based on the calculation above, it was known that the correlation coefficient value was equal to 0.382 which meant that there was a positive correlation between the teachers' competencies and the students' learning achievement. Thus, the higher level of teachers' competencies can affect the better students' learning outcomes in the social science subject. It could be compared with r-table, if the level of error was equal to 5% with N=76, so the r-table was 0.227. It could

be seen that z-test value was bigger than the r-table value, so, Ho was rejected and Ha was accepted. In conclusion, there was a positive correlation which could be seen from the correlation coefficient score is equal to 0.382.

To investigate whether the correlation between the teachers' competencies and the students' learning outcomes in the social science subject was significant, it could be calculated by using formula as follows:

$$\begin{aligned}
 t &= \frac{r\sqrt{n-2}}{\sqrt{1-r^2}} \\
 &= \frac{0,382\sqrt{76-2}}{\sqrt{1-0,382^2}} \\
 &= \frac{3,286088252}{\sqrt{0,854076}} \\
 &= \frac{3,286088252}{0,9241623234} \\
 &= 3,5557479122
 \end{aligned}$$

The result of t-test was 3.5557479122. Then, the t-test score was compared to the t-table score. The 5% error of the two-part test with DF= N-2 = 74, so, the t-table score was = 1.99254. It turned out that the t-test was greater than the t-table or 3.55574 > 1.99254, thus, Ho was rejected. It meant that there was a significant correlation between the teachers' competencies and the students' learning outcomes.

Therefore, the correlation coefficient value between the teachers' competencies variable (X) and the students' learning outcomes in social science subject variable (Y) was appropriate to the results of the product moment correlation technique with the calculation of the formula which was equal to 0.382. However, the correlation was categorized as low. The 0.382 of z-test value showed that z-test was greater than r-table which was 0.220. Thus, Ho was rejected which meant that there was a correlation between the two variables. Meanwhile, the significance value was 3.5557479122 where the t-test was greater than t-table or 3.55574 >

1.99254. So, H_0 was rejected and it meant that the correlation between the teachers' competencies and the students' learning outcomes in social science subject was significant.

D. CONCLUSION

Students' learning outcomes in the social science subject can be seen from cognitive, affective and psychomotor aspect. The progress of the students' learning outcomes is not only measured from the mastery of knowledge, but also from students' attitude and behavior. The learning outcomes are used as a measure of success or failure in the learning process. The correlation between the teachers' competencies and the students' learning outcomes had a positive correlation which means that the higher level of competencies that the teachers have affect the better learning outcomes of the students. However, in this study, the correlation was classified as low, thus, the low of the students' outcomes in the social science subject was not only determined by the teachers' competencies, but also it involved the other factors which whether came from within the students and from outside the students. As stated by Slameto (2003), learning outcomes can be influenced by some factors which are physical factors (health and disability), psychological factors (intelligence, attention, interest, ability, motif, maturity and readiness), family factors (the way parents educate, the relationship of family members, home atmosphere, family economic situation, parents understanding and cultural background), school factors (teaching strategies, curriculum, teacher-students relationship, students-students relationship, school discipline, learning tools), and societal factors (students' activities in the society, social media, friends, and the form of social life).

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