Effect Teacher's Competence and Student's Prior Knowledge on Improvement of Learning Outcomes

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Abstract: This study aims to determine the effect of teacher's competence and student's prior knowledge to student's learning outcomes. This research was conducted because of the low student's learning outcomes. The hypothesis of this study, namely, teacher's competence and student's prior knowledge are the determinants of learning outcomes which have a positive influence. This study uses survey method with sample in this study were taken as many as 110 students. Data were analyzed using multiple regression analysis. The results showed that the teacher's competence have no significant effect on learning outcomes and the student's prior knowledge has a significant effect on learning outcomes.

1 INTRODUCTION

One of the education issues are still become the international concern in the last decade is on student's learning outcomes. Research reveal that students are usually worried about their academic results. Concerns arise because of learning problems and demands of the school, including the management of time to study, fear of failure in exams, and bad grades (McInerney et al, 2012). If the students are capable to get the good learning outcomes at the end of the learning process, students are said to be successful. In addition, function of learning outcomes can also indicate the quality of an educational institution and the quality of teachers in it (Hamilton-Ekeke, 2013). Improved student's learning outcomes reflect an improved quality of education. Similarly, on the contrary, decreased student's learning outcomes, describe the low quality of education.

High learning results become the hope of all parties, both students, parents, and the school. But many of students who have not reached the mastery of economic learning shows indicators of less successful teaching and learning activities conducted. According to data from the Ministry of Education and Culture of the Republic of Indonesia, for the social study programs, the average value of the subjects of Economics at the National Exam of Senior High School in 2015 decreased as big as 2.18 when compared to 2014. In addition, the average value of National Exam to state high school and private high school in 2015 was 61.29 while in 2016 average of national exam was 54.78, decreasing as big as 6.51 points.

Although the codes on the National Exam are differentiated, the student's learning outcomes should be stable and even increase year by year. If the condition continues to be allowed to decline, feared the students' learning outcomes become low and the goal of education does not materialize. Furthermore, the condition will have impact on further education, future, career opportunities, social status attainment, and welfare of the students (Levpušček & Zupancic, 2009). So, this problem is very important to be solved because it is an issue that always be faced in the education scope.

According to Slameto (2010), in the learning process, there are several factors that can affect learning outcomes, namely internal factors and external factors. Internal factors are factors that affect learning that comes from within the student, which includes physical factors or health factors, psychological factors, such as intelligence, attention, interest, talent, motivation, maturity, and readiness, and fatigue factors. While external factors are factors that affect learning that comes from outside of student

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self, such as family factors, school factors, and community factors. Family environment factors are the way parents educate, relationships between family members, home atmosphere, family economic conditions, understanding of parents, and cultural background. School factors are teaching method, curriculum, teacher relation with student, student relation with student, school discipline, learning tool, school time, standard lesson above measure, building condition, learning method and home task. Environmental factors of the community are the activities of students in the community, peer group, mass media, and life forms of society.

From the many factors that influence student's learning outcomes, teacher factor becomes the dominant factor (Muzenda, 2013; Jennings & Greenberg, 2009). The teacher becomes a decisive factor the most important in classroom that play a role in improving student's learning outcomes because interacting directly with students while in school. Teacher's competence in the teaching process is a multidimensional concept that measure various aspects of inter-related with the knowledge, communication skills, mastery of the subject matter, the presence in the classroom, teaching skills and attitudes of teachers (Muzenda, Allexander, 2013). Competency dimensions of teachers consists of pedagogical competence, personal competence, social competence, and professional competence.

In addition to the competence of teachers, dominant internal factor in affecting student's learning outcomes is student's prior knowledge of students (Solihah, 2015; Duff, A, 2004; Greene, JA, Costa, LC, Robertson, J., Pan, Y., & Deekens, V 2010; Hailikari, T., Nevgi, A., & Komulainen, E, 2008). The study states that there are differences in learning outcomes between students with high prior knowledge with low prior knowledge. So, student's prior knowledge affect learning outcomes and as the strongest predictor in determining the outcome in the classroom. Prior knowledge is a collection of individual knowledge and experience that gained throughout the course of their lives and who will they bring to a new learning experience (Liliasari and Rahmatan, 2012).

Based on the background of the problem, this research is important to be examined with the title Effect Teacher's Competence and Student's Prior Knowledge on Improvement of Learning Outcomes. The hypotheses in this study are there are effect that significant positive between the level of teacher's competence and the level of students' prior knowledge to the level of improving student's learning outcomes both simultaneously and partially.

2 METHODS

The study was conducted in one of State High School in Bandung City with the unit of analysis is students in the school environment related. The independent variable in this research are teacher's competence (X1) which consists of pedagogical competence, personal competence, social competence, and professional competence, and students' prior knowledge (X2). While dependent variable in this research is student's learning outcomes (Y). This research used types of research descriptive and verification with survey method. The sample in this research is 110 students with sampling technique using simple random sampling. Data collection techniques in this study was questionnaire for teacher's competence variable and grade school exam scores of Economic Subjects for student's prior knowledge variable and Economic learning outcomes variable. Hypothesis testing using inferential statistical analysis with analysis tools using multiple regression analysis. Multiple regression analysis previously had to meet the requirements analysis test in the form of data normality assumption test, multicollinearity test, and heteroscedasticity test.

3 RESULTS AND DISCUSSION

3.1 Research Result

The analysis has fulfilled the prerequisite test. After testing the hypothesis, then obtained the following results:

Table 1: Model summary.

R	R Square	Adjusted R Square
.845	.715	.710

Source: SPSS Output

Simultaneously X1 and X2 have contributed as much as 71.5% in explaining changes in the variable Y. This means that 71.5% of student's learning outcomes can be explained by teacher's competence and student's prior knowledge. The remaining 28.5% is the influence of other variables which are not described in the model.

Table 2: ANOVA.

F	Sig.
134124	.000

Source: SPSS Output

In the Sig. column on ANOVA table, Sig. value of 0.000 or less than probability value 0.05 (sig 0.000 < 0.050). This means that multiple regression coefficients are significant. So, X1 and X2 simultaneous and significant effect on Y. In other words, teacher's competence and student's prior knowledge effect simultaneously and significant on learning outcomes.

Table 3: Coefficients.

Model	Standardized Coefficients	T	Sig.
	Beta		
(Constant)		30.204	.000
X1	-.018	-.346	.730
X2	.846	16378	.000

Source: SPSS Output

X1 beta standardized value of -0.018 and significance at 0.730 which means that teacher's competence was not significant effect on learning outcomes. The amount of the effect of teacher's competence on the learning outcomes of (-0.018)2 or at 0.03%. This study showed that the students' learning outcomes in Economic Subjects are not influenced by the teacher's competence who teach them.

While X2 beta standardized value of 0.846 and significance at 0.000 which means that students' prior knowledge was significant positive effect on learning outcomes. The amount of the effect of students' prior knowledge to the learning outcomes of (0.846) 2 or at 71.57%. This research indicated that the student's learning outcomes on Economics Subjects are greatly influenced by the student's prior knowledge. Student's prior knowledge before starting new learning in school, making student's learning outcomes also increased on Economics Subjects.

3.2 Discussion

Simultaneously, teacher's competence and student's prior knowledge influenced to learning outcomes of 71.5%. But partially, teacher's competence has no effect on learning outcomes. While student's prior knowledge was very significant effect on learning outcomes.

3.2.1 Influence of Teacher's Competence (X1) on Learning Outcomes (Y)

Teacher's competence not significant effect on learning outcomes. The amount of the effect of teacher's competence on the learning outcomes of (-0.018)2 or at 0.03%, while the remaining 99.97% influenced by other variables that were not described in the model. This means that if teacher's competence increased by 1 standard deviation, then the learning outcomes will increase by 0.03%. This means that learning outcomes was not significantly influenced by teacher's competence who teach them.

The findings of this study indicated that teacher's competence has no effect on learning outcomes due to other factors that not examined in this study were more dominant influence on learning outcomes. As according to Slameto (2010) that argue that in addition to teacher's competence, the factors that affect learning outcomes: physical factors or health factors, psychological factors, such as intelligence, attention, interest, talent, motivation, maturity, and readiness, and fatigue factors, family factors, school factors, and community factors. Family environment factors are the way parents educate, relationships between family members, home atmosphere, family economic conditions, understanding of parents, and cultural background. School factors are teaching method, curriculum, student relation with student, school discipline, learning tool, school time, standard of lesson above measure, state of building, learning method and home task. Environmental factors of the community are the activities of students in the community, peer group, mass media, and forms of society life.

Findings showed that teacher's competence has no effect on learning outcomes. According to the predictions of the author, the reason why teacher's competence has no effect on learning outcomes because teacher's competence was not sufficient to implement the learning process. If the teacher's competence was not sufficient, then the learning process will not be effective and enjoyable. If learning was not effective and fun, then student be difficult to accept, absorb, understand the lessons, then impact on learning outcomes.

3.2.2 The Influence of Student's Prior Knowledge (X2) on Learning Outcomes (Y)

Student's prior knowledge significant positive effect on learning outcomes. The amount of influence student's prior knowledge on learning outcomes of (0.846)2 or by 71.57%, while the remaining 28.43% influenced by other variables that were not described in the model. This means that if student's prior knowledge increased by 1 standard deviation, then learning outcome will increase by 71.57%. This study showed that student's learning outcomes was strongly influenced by student's prior knowledge. Student's prior knowledge before starting new learning in

school, making student's learning outcomes also increased. According to Gagne Theory (Suyono and Hariyanto, 2012), in learning occurs process of receiving information which is then processed to produce the output of learning outcomes. In learning of learning a process of receiving information and processed to produce output in the form of learning outcomes.

This finding was supported by Duff, A's research (2004) which showed that student's prior knowledge of first-year on Accounting and Business Subjects affect on learning outcomes. Corresponding with findings in other academic discipline, researcher's results reported that prior knowledge about psychology predicted results in the psychology course. Thompson and Zamboanga (2004) found that psychology's prior knowledge that measured on pre-test in the beginning semester were predicted as determinants of psychology test scores. Thus, prior knowledge of subject must help in encoding, storage, and then retrieval information when finishing course's task and take exam.

4 CONCLUSIONS

Based on the results, be concluded that teacher's competence and student's prior knowledge were significant positive effect on student's learning outcomes simultaneously. But partially, teacher's competence not significant to student's learning outcomes. While student's prior knowledge have significant positive effect on learning outcomes. Suggestion to this research are: 1. To improve student's learning outcomes, schools and the government is expected to continue implementing of teacher performance improvement programs consistently and continuously, especially with regard to teacher's competence, 2. To improve teacher's competence, the government must provide special education and training on teacher's competence in learning process. In addition, teachers must commit to themselves to improving the quality of program development and improvement of teacher performance, 3. To increase students' prior knowledge, teachers should provide meaningful learning and learning thoroughly, so students more understand the material and have good prior knowledge, and 4. As for further research, this study should be done with adding other variables such as learning motivation, learning model, etc. are carried out in the educational unit on a broader population coverage.

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