

THE EFFECT OF TEACHER'S PEDAGOGICAL AND PROFESSIONAL COMPETENCIES AND STUDENT SATISFACTION LEVEL ON STUDENT LEARNING OUTCOMES

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Abstract: Pre-research data showed the results of Teacher Pedagogical Competence Assessment: 87%, Teacher Professional Competence Assessment: 87%, and Student Satisfaction Level: 43.3% while Student Learning Outcome: 79.3, it indicated the ineffectiveness of the results of Teacher Competence Assessment and Student Satisfaction Level on Student Learning Outcome. Descriptive research with total sample of 120 students of State Senior High School 9 of Tangerang, research data were collected through questionnaires. Data were processed using multiple linear regression. Results of partial hypothesis test showed that variables of teacher pedagogical competence, teacher professional competence, and student learning satisfaction level had significant influence on student learning outcome. Simultaneously, these three independent variables of teacher pedagogical competence, teacher professional competence, and student learning satisfaction level had positive and significant influences on student learning outcome. To support student learning outcome improvement, the school is expected to provide facilities, infrastructures, and develop teacher's pedagogical and professional competencies.

Keywords: Pedagogical competence, professional competence, learning satisfaction, learning outcome.

INTRODUCTION

Education is a foundation to build competitive Human Resources in winning global competition. Good-quality education becomes one of the benchmarks of excellent Human Resources. Human Resources quality can be enhanced by strengthening educational actors such as principal and teacher, as well as the fulfillment of facilities, infrastructure, and other supporting factors of learning process. Education quality improvement should start from teacher and end* to teacher. A teacher is required to have the ability to carry out his work and have extensive experience because teacher functions as agent of change and helps student deal with ongoing transformation. Pre-research data showed the results of Teacher Pedagogical Competence Assessment of 87% which was in good category, Teacher Professional Competence Assessment of 87% which was in good category, and Student Satisfaction Level of 43.3% that fell into poor category. This was not comparable with Student Learning Outcome of 79.3% that fell into fair category. Based upon pre-research data, Teacher Pedagogical Competence Assessment was 87%, Teacher Professional Competence Assessment was 87%, and Student Satisfaction Level was 43.3% while Student Learning Outcome was 79.3%, this

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indicated the ineffectiveness of the results of Teacher Competence Assessment and Student Satisfaction Level to Student Learning Outcome. Pre-research results exhibited that Teacher Competence Assessment, Student Learning Satisfaction Level, and Student Learning Outcome had impact on the emergence of assumption that teacher had high competence, student satisfaction level was not maximized while student learning outcome exceeded the Minimum Mastery Standard (MMS). So the problems on factors influencing teacher pedagogical competence, teacher professional competence, and student satisfaction level to the student learning outcome were solved. This research aims to test and analyze the influence of Teacher Pedagogical Competence (X_1), Teacher Professional Competence (X_2), and Student Satisfaction Level (X_3) on Student Learning Outcome (Y).

Formulation of problems are as follows:

1. Does teacher pedagogical competence has an influence on student learning outcome?
2. Does teacher professional competence has an influence on student learning outcome?
3. Does student satisfaction level has an influence on student learning outcome?
4. Do teacher pedagogical competence, teacher professional competence, and student satisfaction level have an influence on student learning outcome?

The research aimed to analyze:

1. The influence of teacher pedagogical competence on student learning outcome.
2. The influence of teacher professional competence on student learning outcome.
3. The influence of student satisfaction level on student learning outcome.
4. The influences of teacher pedagogical competence, teacher professional competence, and student satisfaction level on student learning outcome.

THEORETICAL REVIEW

According to Shulman (1987) in Sonia Guerriero, basic knowledge of teacher pedagogy may cover all cognitive knowledge needed to create effective learning process and matery of the learning process by understanding student behaviors in class or in other words, the teaching performance quality that becomes teacher's main focus in teaching. Student-centered pedagogy offers opportunity for teachers and students to get involved and share ideas (Ahn & Class, 2011); (Harris & Cullen, 2008); (Ridlon, 2009); (Threeton, 2007). According to Duncan & Buskirk-Cohen (2011); Hmelo-Silver, Duncan, & Chin (2007), student-centered pedagogy is more useful while teacher-centered pedagogy does not give many opportunities for students to think critically (Tamashiro, 2011: 97-104). Student-centered, learner-centered, or child-centered lesson is type of learning/teaching method that

is centered on student first in the teaching and learning process. This pedagogical method takes students to higher thinking level through active involvement and learning (Hockings, 2009).

According to Bajardi and Rodríguez (2012: 73-77), a professional teacher should have professional qualification and must continue developing his professional expertise. For teaching implementation, it is necessary to take into account of the teachers position personally and professionally in their relationship to themselves but also with the student and the institution. This refers to action that leads to identify and deal with the limitation and possibility that may happen (Lisimberti, 2006: 284) and building identity during learning process. Using this method, school projection to other institution such as students are those who are responsible for initial formation, and who should also take more active role in sustainable formation that supports cooperation between institutions (Sayago and Beatriz, 2006). Teacher professional development is increasingly noticed through practical experience-based learning (Dewey, 2007). Teacher professional competence involves more than just knowledge. Skill, attitude, and motivational variables also contribute to the mastery of teaching and learning. Blömeke and Delaney (2012: 223-247) proposed a model that identifies cognitive ability and affective-motivational characteristic as two main components of teacher professional competence.

Student learning needs include: ego satisfaction, class achievement, self-esteem, and high school. This must be supported by critical thinking ability and personal skill (Douglas et. al., 2008), with the help of effective learning system individually and must involve experience, skill, and good-quality learning (Sun et. al., 2008) if these things are fulfilled then student learning satisfaction will increase (Hamilton and Tee, 2010). School as a third institution for student must consider optimal learning strategy that involves students in learning process using various approaches, methods, and learning strategies supported by adequate facilities. With the fulfillment of all these things, student satisfaction will improve (Hamilton, 2016: 21-39). Davis and Wong, (2007: 97-126) stated that such approach raises student satisfaction and can improve student learning outcome. According to Chang & Chang (2012), learning satisfaction is coherence level between individual expectation and actual experience. If a person's actual experience is same with his expectation then he will be satisfied, but if his experience is below his expectation then he will be dissatisfied. Learning satisfaction and interest have strong relationship with what teacher does in class (Ioana Topala, 2014: 227 - 234).

In Seminar.net - International journal of media, (2010: 316) learning outcome is a description of what a student should have after fulfilling particular course. That's what student need to know, understand, and be able to show in completing the course. Learning outcome is about learning, while the goal is about teaching. This method shows that learning outcome reflects a transition from teacher-centered teaching to student-centered learning. In early 1956, Benjamin Bloom at the University of Chicago published a list of learning outcomes. This list is known as "Bloom's

taxonomy” which classifies learning outcome that can be created by teacher for student. Bloom expressed that there are three learning domains: cognitive, affective, and psychomotor. Each domain is divided into several levels from basic (level) to complex (Seminar.net - International journal of media, 2010: 316). Learning outcome is statement that explains what student should know, understand and can do after the completion of research period. Learning outcome is reference for standard and quality as well as curriculum development in terms of teaching and learning.

RESEARCH METHOD

Conceptual Framework

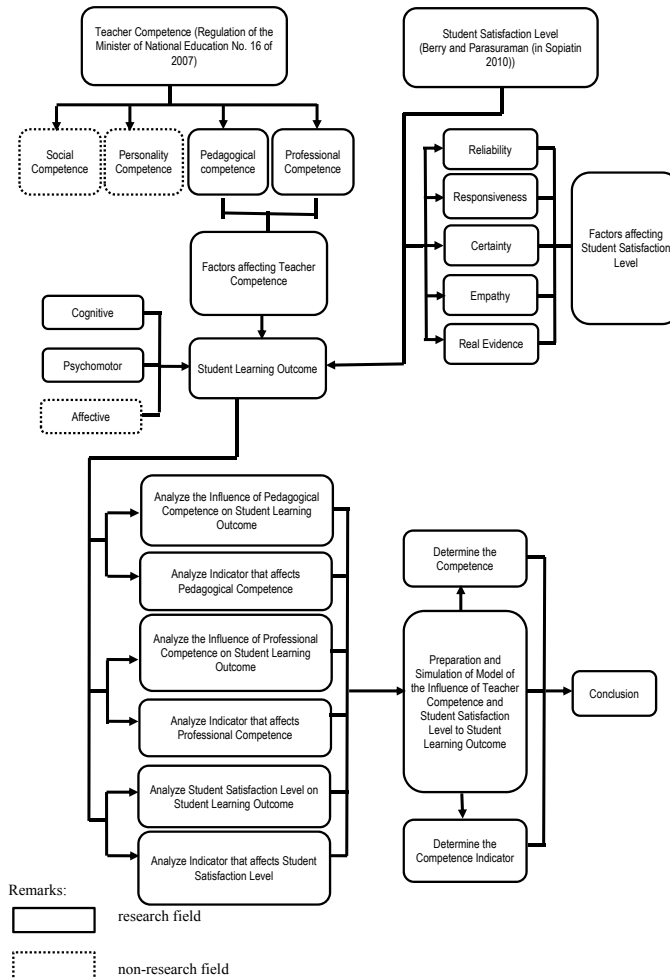


Figure 1: Conceptual Framework

Research Model

Figure 2 presents the research model as follows:

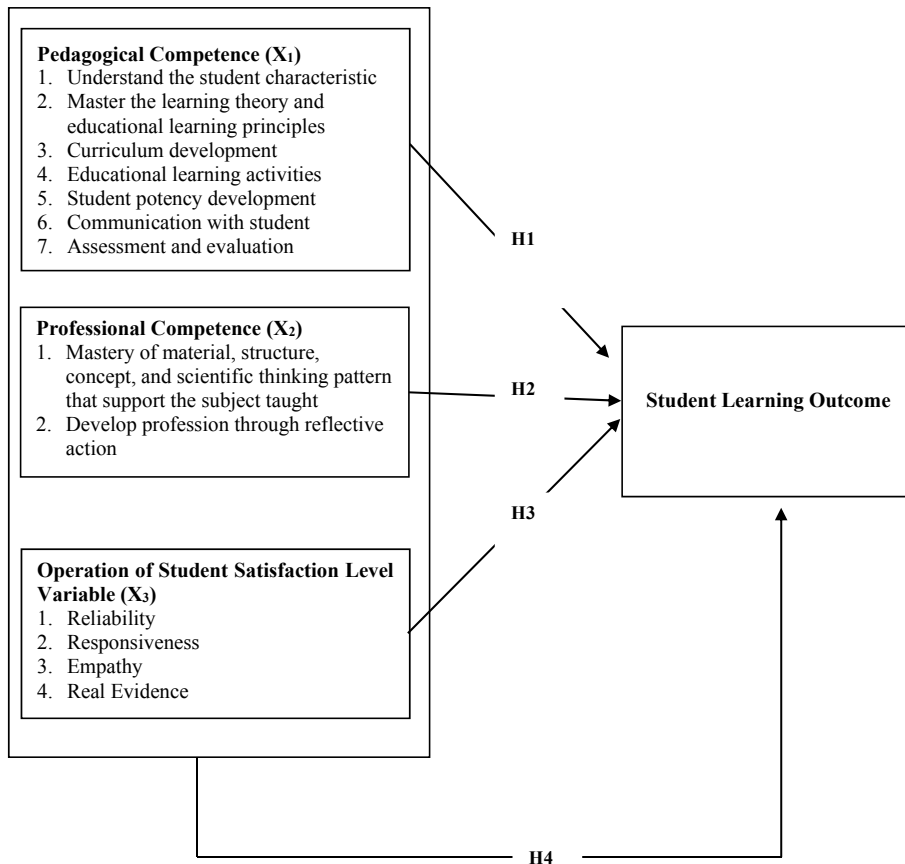


Figure 2: Research Model

Hypotheses:

H1: Pedagogic Competence has influence on Student Learning Outcome

H2: Professional Competence has influence on Student Learning Outcome

H3: Student Satisfaction Level has influence on Student Learning Outcome

H4: Pedagogical Competence, Professional Competence, and Student Satisfaction Level simultaneously have influence on Student Learning Outcome

RESEARCH METHOD

The research used quantitative method with descriptive analysis. The research was carried out in 2016 at State Senior High School 9 of Tangerang City

located in Jalan H. Jali No. 9, Kunciran Jaya Urban Village, Pinang Subdistrict, Tangerang City, Banten Province. Data were collected from questionnaires distributed to respondents. The number of samples was taken based on Slovin's formula with population of 922 participants and the number of respondents obtained were 120 students of State Senior High School 9 of Tangerang. Sample of this research was determined using proportionate stratified random sampling.

Based on instrument test namely validity and reliability tests, the research result showed that questionnaire used was valid and reliable. Hypothesis tests (F-test and t-test) were done after successfully through classical assumption tests such as normality, linearity, homogeneity, multicollinearity, and heteroscedasticity tests. Analytical method used multiple linear. Calculation of correlation coefficient and testing technique were done by using computer with SPSS 22 application program.

RESEARCH RESULTS

Respondent Characteristics

Table 1 presents respondent characteristics as follows:

TABLE 1: NUMBER OF RESPONDENTS BY SEX

<i>S.No.</i>	<i>Demographic Type</i>	<i>Amount</i>	<i>Percentage</i>
Sex			
1.	Male	45	37 %
2.	Female	75	63 %
	Total	120	100 %
Class Level			
1.	Class X	44	37 %
2.	Class XI	37	31 %
3.	Class XII	39	32 %
	Total	120	100 %
Study Program			
1.	Mathematics and Natural Sciences	75	63 %
2.	Social Sciences	45	37 %
	Total	120	100 %

Hypothesis Testing

Simultaneous Test (F-Test)

Table 2 presents F-test results as follows:

**TABLE 2: ANOVA TABLE (F-TEST)
ANOVA (A)**

	<i>Model</i>	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
1	Regression	628,065	3	209.355	207.610	.000 ^b
	Residual	116.975	116	1,008		
	Total	745.040	119			

^aPredictors: (Constant), X_3 , X_2 , X_1

^bDependent Variable: Y

Source: Processed by SPSS 22 version.

From the data presented in table 2 above, F-count value of 207.610 is obtained while significant value (p -value of 0.05) in F-test $0.000 < p$ -value of 0.05. If F-count value is compared with F-table, then $F\text{-count} > F\text{-table}$ of $207.610 > 2.68$ and sig value (p -value of 0.00) < 0.05 will be obtained. Therefore H_0 is rejected and H_a is accepted. Based on F-test results above, pedagogical competence (X_1), profesional competence (X_2), student learning satisfaction (X_3) have significant influences on student learning outcome (Y) simultaneously.

Coefficient of Determination

Table 3 presents the results of the coefficient of determination as follows:

**TABLE 3: COEFFICIENT OF DETERMINATION
MODEL SUMMARY**

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
1	.918 ^a	.843	.839	1.00419

^aPredictors: (Constant), X_3 , X_2 , X_1

^bDependent Variable: Y

Source: Processed by SPSS 22 version

Based on Table 3, the number of coefficient of determination (R Square/ r^2) is 0.843 (0.843 value is squaring of correlation coefficient or R, namely $0.918 \times 0.918 = 0.843$). The number of coefficient of determination (R Square) is 0.843 = 84.3%. This number implies that the influence of Teacher's Pedagogical and Professional Competencies as well as Student Learning Satisfaction on Student Learning Outcome is 8.43% while the remaining ($100\% - 84.3\% = 15.7\%$) is influenced by other variables outside this regression model. So if the value of R Square (coefficient of determination) is closer to 1, then the influence of Teacher's Pedagogical and Professional Competencies as well as Student Learning Satisfaction on Student Learning Outcome is stronger. Result of $R = 0.918$ means that the relationship of independent variables to dependent variable is very strong.

Multiple Linear Regression Analysis

To find out whether independent variables have positive or negative influence on dependent variable, then Multiple Linear Regression Analysis was used. Results of the calculation of regression equation that represents the influence of independent variables of Pedagogical Competence (X_1), Professional Competence (X_2), and Student Learning Satisfaction (X_3) on dependent variable of Student Learning Outcome (Y) can be seen in the table below:

TABLE 4: RESULTS OF REGRESSION OR T-TEST COEFFICIENTS^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	57384	.915		62703	.000		
X ₁	.054	.006	.405	8.629	.000	.615	1.625
X ₂	.171	.023	.328	7.423	.000	.695	1.438
X ₃	.077	.009	.384	8.342	.000	.640	1.563

^aDependent Variable: Y

Source: Processed by SPSS 22 version

Based on Table 4 above, the values of α (significance/probability): 57,384, β_1 : 0.054, β_2 : 0.171, β_3 : 0.077 were obtained. Therefore based on α , β_1 , β_2 , β_3 values for independent variables of X_1 , X_2 , and X_3 , linear model equation obtained was as follows:

$$Y = \alpha + b_1X_1 + b_2X_2 + b_3X_3$$

$$\hat{Y} = 57,384 + 0.054 (X_1) + 0.171 (X_2) + 0.077 (X_3)$$

Y = Student learning outcome

X_1 = Teacher pedagogical competence

X_2 = Teacher professional competence

X_3 = Student satisfaction level

The above equation can be interpreted as follows:

1. 57,384 point reveals a constant, the constant describes that pedagogical competence, professional competence, and student satisfaction level have zero point, so the point for student learning outcome is 57,384.
2. 0.054 point reveals regression coefficient of pedagogical competence variable. This regression coefficient reveals that every increase in pedagogical competence variable will be able to increase student learning outcome as high as its regression coefficient with assumption that teacher professional competence variable and student satisfaction level are remain unchanged.

3. 0.171 point reveals regression coefficient point of teacher professional competence variable. This regression coefficient point reveals that every increase in teacher professional competence variable will be able to increase student learning outcome as high as its regression coefficient with assumption that pedagogical competence variable and student satisfaction level are remain unchanged.
4. 0.077 point reveals regression coefficient point of student learning satisfaction level variable. This regression coefficient point reveals that every increase in career development variable will be able to increase student learning outcome as high as its regression coefficient with assumption that pedagogical competence and professional competence variables are remain unchanged.

Partial Test (t-test)

Influence of Teacher Pedagogical Competence (X_1) on Student Learning Outcome (Y): Based on the data presented in Table 4, t -count value (X_1) of 8.629 > 1.98 of t -table and sig. value in t -test (p -value) of 0.000 < 0.05. This means that H_0 is rejected and H_a is accepted. Then based on the above-mentioned t -test, Teacher Pedagogical Competence variable (X_1) has significant influence on Student Learning Outcome (Y).

Influence of Teacher Professional Competence (X_2) on Student Learning Outcome (Y): Based on the data presented in Table 4, t -count value (X_2) of 7.423 > 1.98 of t -table and sig. value (p -value) of 0.000 < 0.05. This means that H_0 is rejected and H_a is accepted. Then based on partial t -test mentioned above, Teacher Professional Competence variable (X_2) has significant influence on Student Learning Outcome (Y).

Influence of Student Satisfaction Level (X_3) on Student Learning Outcome (Y): Based on the data presented in Table 4, t -count value (X_3) of 8.342 > 1.98 of t -table and sig. value (p -value) of 0.000 < 0.05. This means that H_0 is rejected and H_a is accepted. Then based on partial t -test mentioned above, Student Satisfaction Level variable (X_3) has significant influence on Student Learning Outcome (Y).

RESEARCH RESULT DISCUSSIONS

"Influence of Teacher Pedagogical Competence on Student Learning Outcome"

Based on the description of research result data, there is significant influence of Teacher Pedagogical Competence variable on Student Learning Outcome in State Senior High School 9 of Tangerang. This supports the results of research carried out by Manjani, *et. al.*, (2015) which stated that there is strong positive relationship between Pedagogical Content Knowledge (PCK) and student learning motivation as well as the results of research conducted by Wicaksono, *et. al.*, (2014) which

declared that if teacher has good pedagogical competence then learning outcome obtained by student is also good. The research results are also in line with theoretical review of Trianto (2006: 63) which stated that pedagogical competence is teacher ability in managing student learning process. This ability can be seen from teacher ability in managing the teaching and learning process, the ability to understand educational foundation, student cooperation potential, able to develop student's talent and interest, able to carry out dialogical and interactive learning. These will give influence on Student Learning Outcome.

Influence of Teacher Professional Competence on Student Learning Outcome: Based on the description of research result data, there is significant influence of Teacher Professional Competence variable on Student Learning Outcome in State Senior High School 9 of Tangerang. This supports the results of research carried out by Zaidan *et. al.*, (2014) which stated that the higher the professional competence of a tutor, the higher his writing and composing skills, this implies that a tutor must choose the professional competence in accordance with his scientific field and able to formulate the teaching and learning process activities. The research results are also in line with theoretical review of Kunandar (2007: 75) which declared that professional competence is the ability of learning material mastery broadly and deeply including the mastery of subject curriculum material in school and scientific substance that overshadows the material, as well as mastery of scientific structure and methodology.

Influence of Student Satisfaction Level on Student Learning Outcome: Based on the description of research result data, there is significant influence of Student Satisfaction Level variable on Student Learning Outcome in State Senior High School 9 of Tangerang. This is in line with theoretical review based on Berry and Parasuraman (in Sopiadin 2010: 33) which stated that satisfaction is function of service received by expectation, student satisfaction is directly proportional to expectation and service. Student satisfaction is influenced by intrinsic and extrinsic factors. Intrinsic factors are factors inside student ego that can lead to satisfaction such as high achievement, expectation, and talent while extrinsic factors are factors outside student ego namely teacher teaching quality, school culture, facilities and infrastructure, and school climate. Sudjana (2010: 22) expressed that learning outcome is the ability that student has after receiving the learning experience. Changes resulting from teaching and learning process are influenced by teacher competence and student satisfaction level.

CONCLUSIONS

Based upon analysis and discussion results, the Influence of Pedagogical Competence, Professional Competence, and Student Learning Satisfaction Level on Student Learning Outcome can be concluded as follows:

1. Teacher Pedagogical Competence has significant influence on Student Learning Outcome in State Senior High School 9 of Tangerang and is included in strong category based on correlation coefficient value. This indicates that if Teacher Pedagogical Competence is better then Student Learning Outcome will improve.
2. Teacher Professional Competence has significant influence on Student Learning Outcome in State Senior High School 9 of Tangerang and is categorized as strong based on correlation coefficient value. This shows that if Teacher Professional Competence is better then Student Learning Outcome will increase.
3. Student Satisfaction level has significant influence on Student Learning Outcome in State Senior High School 9 of Tangerang and is included in strong category based on correlation coefficient value. This exhibits that the better the Student Satisfaction Level, Student Learning Outcome will improve.
4. Teacher's Pedagogical and Professional Competencies as well as Student Learning Satisfaction Level simultaneously have significant influences on Student Learning Outcome and have very strong correlation. Therefore if Teacher's Pedagogical and Professional Competencies as well as Student Satisfaction Level are better then Student Learning Outcome will increase.

Suggestions

1. Teacher as learning designer and implemented should understand, improve, and apply pedagogical and professional competencies appropriately. With pedagogical competence mastery, then the conducive, effective, and active learning atmosphere, as well as learning atmosphere that prioritizes student as learning main center and uses various learning media, supporting facilities and infrastructures, various learning methods supported by professional competence such as the mastery of subject taught, will create learning atmosphere expected by student therefore it can raise student learning satisfaction which will have impact on learning outcome in accordance with predetermined learning objectives. To support the pedagogical competence, teacher is expected to be more proactive in developing the pedagogical competence by attending workshops and seminars on the development of pedagogical and professional competencies.
2. School as an institution that forms, develops, explores the students should provide facilities and infrastructure that support learning process so it runs

according to predetermined learning objectives. School also must develop teacher's pedagogical and professional competencies by carrying out training and seminar, as well as provide books that support such competencies and give opportunity for teachers to develop subject taught by them freely by attending higher educational level.

3. Further research is suggested to involve variables and indicators that have not been covered in this research such as the teacher's social competence, personality competence, intelligence, talent, habit, diligence, discipline, motivation, and physical so new findings will be generated. Further research shall also involve many schools as research sites or other education-related offices.

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