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The Effect of Teacher Professional Competence and Learning Facilities on Student Achievement

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ABSTRACT

This study aims to find out and obtain objective information about the effect of teacher professional competence and student learning facilities on learning achievement in class X SMA Negeri 1 Teluk Keramat, Sambas Regency. The method used in this research is descriptive quantitative method with the Expost Facto approach. with the form of research used in this study is a comparative causal study. The data analysis technique from the results of this study is descriptive statistics used to describe the data for each variable and regression analysis is used for hypothesis testing. The results of this study indicate that (1) the professional competence of teachers is included in the good criteria and a total score of 9770 is obtained. Student learning motivation is included in the high criteria and a total score of 5535 is obtained. The conclusion of this study is that the variable of teacher professional competence has a positive and significant influence on the results. student learning that is equal to 31.13%, and the variable of student learning motivation has a positive and significant influence on learning outcomes that is equal to 4.41%, while the variables of teacher professional competence and student learning motivation together have a positive and significant influence on learning outcomes. students, namely 56.9%.

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1. INTRODUCTION

The function of teachers as facilitators in realizing effective and efficient learning cannot be separated from the learning process in schools. To become competent in the learning process, the

instructor must make a structured lesson plan before teaching. The learning process is essentially a pattern of interaction between students and teachers (Festiawan, 2020; Mursyidi, 2020; Padmowihardjo, 2014; Library, 2019). Students can understand, can do, or take advantage of what they did not understand before through learning. Teachers, on the other hand, should assist students in exceeding expectations.

Every effort should be made by the teacher to improve the quality of student learning. It is the duty of every teacher to create superior human resources. As a result, to become an effective instructor, the teacher must meet the criteria of ability. These skills include asking, strengthening, managing classes, leading debates, and explaining. (Maria, Andayani, & Naim, 2019).

According to Article 1 of the Law of the Republic of Indonesia Number 14 of 2005 concerning Teachers and Lecturers, "Teachers are reliable teachers whose main obligations are to be cheerful, guide, guide, concentrate, train, consider, and to assess students in ECCE. formal learning, basic learning, and intermediate learning" (Law No. 14 of 2005, 2005). Based on the foregoing, professional education can be used to develop competencies in the field of pedagogy, personality, social skills, and professionalism of the teacher. Teaching is a career that requires a unique set of skills. People who do not have special skills as instructors cannot work in this area. The teacher is not a person who has special skills in a certain area. To become a teacher, you must meet certain criteria. Furthermore, as a professional teacher, you must master educational subjects as well as other scientific fields during your studies(Mustofa, 2020; Pohan, 2018; Siahaan & Taufik, 2018; Suheri, Rosmawiah, Effrata, & Wisman, 2020).

High School is a school that is ready to provide students with certain skills as capital to face the world of work. This preparation shapes attitudes, knowledge, and work abilities so that they can compete and become a professional workforce. One of the efforts to have that goal is practical learning that emphasizes employability for students. Therefore, facilities in teaching and learning and the technology used must be owned by every school so that students can be maximized in obtaining teaching (Maria et al., 2019).

In the national learning system law No. 20 of 2003, it is stated that learning facilities are regulated in Article 45 part 1 "Each section of formal and non-formal education provides facilities that meet learning needs in accordance with physical, intellectual, and intellectual development, social, emotional, and responsibility of teaching participants (Uu Sisdiknas, 2003)In PERMENPAN number 3 of 2010, Regulations Utilization of the State Reform apparatus and bureaucracy of the Republic of Indonesia, 2010) (Suherman, 2017)At this facility, testing activities, and limited outputs are tested using equipment and materials based on objective principles. For him, facilities in upgrading and technology provide a forum for practicing philosophies such as concepts, testing and analyzing existing philosophies with facilities and infrastructure that have been adapted to certain tasks or role-playing and mastered by lecturers and teachers.

The professional competence of the teacher is a blend of personality traits, scientific, technical, social, and spiritual skills. It truly sets professional standards of teacher competence, including material knowledge, student knowledge, educational learning, personal development, and professionalism. (Dudung, 2018; Sulastri, Fitria, & Martha, 2020; Wardany, 2020). Meanwhile, the professional competence of a teacher is demonstrated by his ability to carry out his responsibilities in providing educational services to the community (Kovalenko & Chernyuk, 2021; Vijay Kumar, 2013; Widodo, 2021; Ye.A. & O.M., 2021). To interact with students in the learning process, professional teachers use personal skills, scientific understanding, and technical, social, and spiritual domains(Azzahra, 2015; Darmadi, 2015; Dudung, 2018; Mustofa, 2020; Patarai, Mustari, & Azis, 2018; Saragih, 2008). A teacher must have pedagogical, personality, social, and professional skills as referred to in Law Number 14 of 2005 article 8 through professional education. (Law No. 14 of 2005, 2005).

According to Azzahra, there is a positive and significant influence between the professional competence of teachers on student Learning Achievement (Azzahra, 2015). This shows that the professional competence of the teacher is necessary in the learning process to improve the Learning Achievement of students. The positive impact of teacher professional competence on student learning

comes in means that better teacher professional competence will improve student learning achievement (Darmadi, 2015). The professional competence of the teacher simultaneously affects the Learning Achievement of students. More often the teaching competence carried out by teachers is expected to improve Learning Achievement (Astriyani, Gimin, &Hendripides, 2016).

"Learning success is a consequence of a combination of learning and teaching activities," (Gasong, 2018). Student learning achievements can be demonstrated in the understanding of the subject matter during the learning process. According to Andersen educators evaluate Learning Achievement in terms of thinking ability as follows: (1) remember: re-explain what has been learned from teachers, books, and other sources without making changes; (2) understanding; there is a process of modification of the original form, but the meaning of words, terms, writings, graphs, tables, drawings and photos does not change; (3) remembering: there is a process of modification of the original form, but the meaning of words, terms, writings, graphs, tables, figures, and photographs does not change; (3) Apply: apply previously acquired knowledge, ideas, principles, rules, and theories to new situations. (4) Analyze, identify the relationship between one set of information and another, between facts and ideas, between arguments and conclusions, and the relationship between one job and another, applying the abilities it has acquired to unknown information. (5) Evaluate: based on criteria, assess the value of an item or information; (6) Creating: creating something new from something that already exists, so that the final product is a whole that is different from the parts that compose it(Anderson & Krathwohl, 2001). It also defines the domain of knowledge for educators to evaluate Learning Achievement as follows: Factual, Conceptual, Procedural, and Metacognitive.

In the field of attitudes, Krathwohl formulated the evaluation of Learning Achievement as follows: (1) Receiving grades : willingness to accept and pay attention to grades; (2) Responding to values: willingness to respond to values and a sense of satisfaction in discussing values; (3) Value appreciation: consider good grades, like values, and commitment to values; (4) Living values: incorporated into val In this study, attitude evaluation was carried out through observation. Attitude evaluation is carried out in line with core skills and basic skills. The abstract skill component of learning ability is assessed by the educator as follows: observing, questioning, accumulating knowledge, experimenting, reasoning, connecting, and communicating. He also proposed the following evaluation of Learning Achievement by educators based on real skills: (1) Caring: demonstrating mental and physical readiness to take action; (2) Preparation: demonstrates mental and physical readiness to act; (3) Perception: showing concern for taking action; (4) Perception: shows concern for taking action; (5) Perception: demonstrating (3) Guided response: imitating mechanical movements; (4) mechanisms: carrying out mechanistic measures; (5) Complex or rapid response: perform complex and modified actions; (6) origation: became an original deed that was difficult to imitate and became its trademark(Anderson & Krathwohl, 2001).

2. METHODS

In this study, the sample was carried out at SMA Negeri 1 Teluk Keramat located in Teluk Keramat District, Sambas Regency, West Kalimantan Province. The required data includes the completeness of the instrumentation of the teacher's professional competence (X1), Facilities (X2) and Learning Achievement (Y). Data collection was obtained by questionnaires. Data collection of student Achievement through practical Learning Achievement. Furthermore, the data were analyzed with multiple regression tests to determine the effect of instrumentation of teacher professional competencies and learning facilities on student achievement. Analysis of the data in this article was carried out with the help of SPSS 21.

3. FINDINGS AND DISCUSSION

3.1. Description of Professional Competence of Teachers

The information collected in this study was reported quantitatively. Research factors such as the professional competence of teachers and student learning facilities towards student success are included in the explanation of the collected data. In the teacher's professional competency variable, 18 valid statements were used, and the results of the study based on the responses of 140 respondents related to teacher professional competence which can be seen in the appendix resulted in a total score of 9770 which belongs to the category of the range of 8571-10,587 and is considered good. The teacher's professional competence variables are on excellent criteria based on the total scores obtained, as seen in the intervals of the descriptive analysis criteria in the table below.

Table 1. Intervals of Variable Criteria of Teacher Professional Competence

Score Interval	Criterion
10.588-12.600	Excellent
8571-10.587	Good
6554-8570	Enough
4537-6553	Not Good Enough
2520-4536	Bad

3.2. Description of Student Learning Facilities

Ten valid statements are used in learning facility variables, and the study findings are based on answers from 140 respondents about student learning facilities, which can be seen in the appendix. The high requirement consists of a total score of 5535, which drops between 4763 and 5883. According to the interval of the descriptive analysis criteria in the table below, the student's completion variable is included in the high criteria based on the total score obtained.

Table 2. Interval criteria variables of Student Learning Achievement

Score Interval	Criterion
5884-7000	Very High
4763-5883	Tall
3642-4762	Enough
2521-3641	Low
1400-2520	Very Low

3.3. Description of student achievement

An overview of Learning Achievement in class X SMA Negeri 1 Teluk Keramat can be seen more clearly in the following table.

Table 3. Description of Learning Achievement

Criterion	KKM	Frequency
Complete	≥ 75	26
Incomplete	<75	114
Sum		140

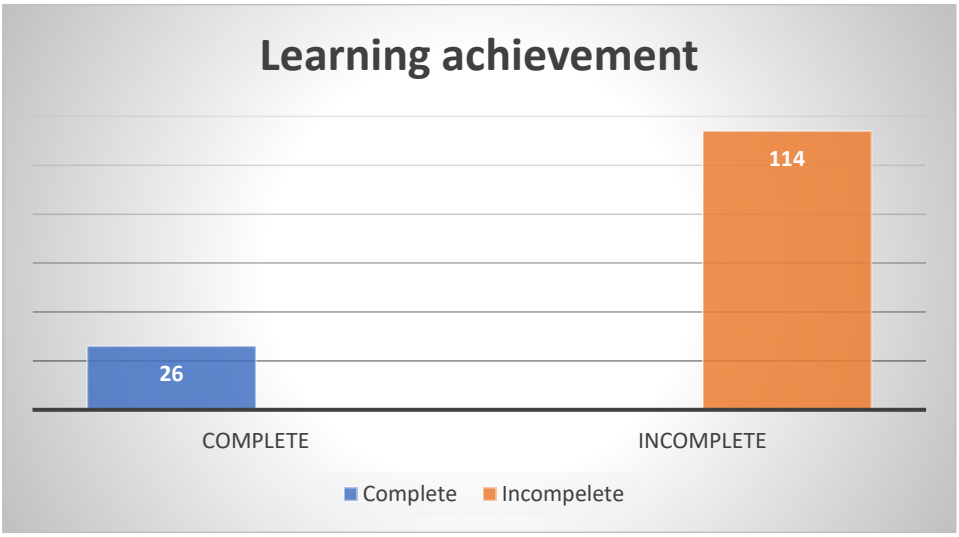

Figure 1. Learning Achievement Variable Graph

Based on figure 1 above, category X students at SMA Negeri 1 Teluk Keramat have learning achievements with a score of 75 which shows that they have met the school's minimum completion standards (KKM). On the other hand, 114 students get Learning achievements; 75 and belong to the incomplete type.

3.4. Data Analysis Results

Test of Classical Assumptions

The assumption test in this study consists of normality test, multicollinearity test, heteroskedasticity test and autocorrelation test. The results of the test are described as follows.

Normality Test

The normality test aims to test whether the sample data is normally distributed or not. If the significance value is more than α = 0.05 then the data is normally distributed, while if the significance value is less than α = 0.05 then the data is not normally distributed. In this data analysis to test the normality of the data was tested using the Kolmogorov-Smirnov table using the SPSS application version 22. the results of the normality test are:

Table 4. Dependent Variable Data Normality Table

Variable	Asymp. Sig	Information
Learning Achievements	0,071	Usual

Based on the table above, the Practice Outcome (Y) elastic significance figure of 0.071 is higher than alpha (0.05), indicating that the elastic distribution of information is even. We can use parametric statistics to calculate dependent elastic information because it is normally distributed. Experiments with multicollinearity to determine the presence or absence of accompanying free elastic bonds. We will get the values of intercorrelations and free variables using relationship analysis. With a VIF of not more than 10 and a tolerance value of not less than 0.1. As a result, the experiment of a double relationship cannot be continued if there is multicollinearity along with free variables. Does the regression form detect the presence of accompanying free elastic relationships if there is no multicollinearity, so that the experimentation of multiple relationships can be continued?

Table 5. Multicollinearity Test Results

Variable	Tolerance	VIF	Information
Professional Competence of Teachers	,762	1,313	Usual
Student Learning Achievement	,762	1,313	Usual

The results of the analysis presented above show that the tolerance value between teacher professional competency variables is 0.762 > 0.1 and the VIF (variance inflation factor) value is 1.313 < 10 so that it can be concluded that there is no multicollinearity. Meanwhile, the results of the analysis presented above show that the tolerance value between student Learning Achievement variables is 0.762 > 0.1 and the VIF (variance inflation factor) value is 1.313 < 10 so that it can be concluded that there is no multicollinearity.

Heteroskedasticity Test

The Heteroskedasticity test is carried out on dependent variables, namely Learning Achievement (Y) with the following results:

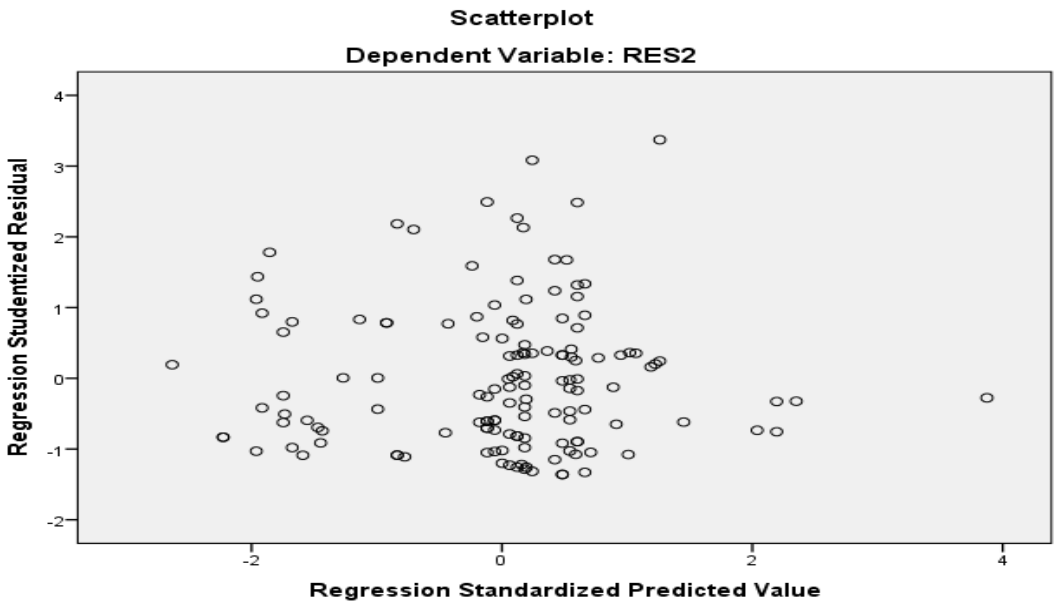

Figure 2. Scatter Plot Learning Achievements ICT Subjects

Autocorrelation Test

Table 6. Model Summary Autocorrelation Test b

Type	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,059[a]	,003	-,011	7,646	1,815

a. Predictors: (Constant), Learning Facilities, Teacher Professional Competence

b. Dependent Variable: l_Learning Achievement

Source: Primary data processed using SPSS 22, 2016.

In line with the results of information analysis, the teacher's professional competence in the learning achievement of Category X Students of SMA Negeri 1 Teluk Keramat, Sambas Regency uses quantitative descriptive analysis with the expost facto method. Based on research, teacher competence has a good and significant effect on the learning achievement of category X students of SMA Negeri 1 Teluk Keramat, Sambas Regency. positively marked from the regression coefficient B1 of 0.604 indicates that the variable number of trustworthy teacher skills continues to be high, as indicated by the large number of student exercise results. The results of the assumption test showed that the number t was 10,685 with a probability of 0.000, and the elastic competence of the teacher had an effect of 31.3% on the success of the practice. When compared to the variable learning facilities, the elastic competence of trustworthy teachers has a greater influence on the learning achievement of category X students at SMA Negeri 1 Teluk Kramat, Sambas Regency.

In class X students of SMA Negeri 1 Teluk Keramat, Sambas Regency, Student Learning Facilities have a positive and significant effect on learning achievement; Regression coefficient B1 of 0.115 is positively marked, this shows that the higher the variable value of the Student Learning Facility, the higher the value of learning achievement. The results of hypothesis testing showed that the t count was 1.916 with a probability of 0.000, and the teacher's professional competence variable had an effect of 4.41 percent on learning success. Although the student learning facility variable has a lower contribution than the teacher's professional competency variable, the learning facility will affect learning success.

This shows that the influence of teacher professional competence and student learning facilities on student learning achievement is quite large. The greater the professional competence of teachers and student learning facilities in ICT subjects, the higher the student's learning achievement, and vice versa. The effect of teacher professional competence and student learning facilities on learning success was found in this study in class X students of SMA Negeri 1 Teluk Keramat using the regression equation Y = 27.912+0.604X1+0.115X2. This indicates that any increase in the independent variable score will be followed by an increase in the dependent variable score. The F count is 90.490, with a possible error rate of 0.00 less than the mark level. is determined to be 0.05, based on the above facts. Multiple linear regression has a coefficient of determination of 0.569. This shows that the two free variables, namely the professional competence of teachers and student learning facilities, can explain 56.9% of the variation in learning achievement of class X students of SMA Negeri 1 Teluk Keramat, while the remaining 43.1 percent is explained by other variables.

In this study, the findings of application in the implementation of the study revealed that there were many obstacles in conducting research, including: some students who still did not understand the purpose of filling out the questionnaire, so many students answered perfunctorily. The variables affecting student performance are limited to the professional competence of teachers and student learning facilities, but there are many additional aspects that were not discussed by researchers in this study.

4. CONCLUSION

Based on the results of the study, it can be concluded that the influence of teacher professional competence and student learning facilities on the learning achievement of class X students of SMA Negeri 1 Teluk Keramat, Sambas Regency, both partially and simultaneously, it can be concluded several things that the professionalism of teacher competencies is included in the good criteria. and scored 9770 out of a possible 1000. The high criteria include student learning facilities, which have a total score of 5535. In terms of academic achievement, 26 students were able to meet the level of minimum completion criteria (KKM) of the school. The professional competence of teachers has a beneficial and substantial impact on performance. In class X students of SMA Negeri 1 Teluk Keramat, Sambas Regency, with a Coefficient of Determination of 0.3113 or 31.13 percent.

With a Coefficient of Determination (0.210)2 = 0.441 or 4.41 percent, the variable student learning facilities has a positive and substantial effect on the learning achievement of class X students of SMA Negeri 1 Teluk Keramat, Sambas Regency. With the regression equation Y = 27.912 + 0.604X1 + 0.115X2 obtained a multiple linear regression value of 0.569, the variables of professional competence of teachers and student learning facilities have a positive and significant effect on the learning achievement of students of class X SMA Negeri 1 Teluk Keramat, Sambas Regency. This shows that two free variables, namely the professional competence of teachers (X1) and student learning facilities (X2), can explain 56.9% of the variation in learning success in class X students of SMA Negeri 1 Teluk Keramat, while the remaining 43.1 percent is explained by other factors. factor.

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