

# Teacher's Pedagogic Competence and Learning Motivation Its Effect on Student Learning Outcomes

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## ABSTRACT

This study examines the effect of teacher pedagogic competence and learning motivation on student learning outcomes. The purpose of this study was to determine whether there was a positive and significant influence on teacher pedagogic competence and learning motivation on student learning outcomes. The approach used in this research is a quantitative approach with associative research type. This study highlights three variables, namely pedagogic competence (variable X1), learning motivation and student learning outcomes (variable Y). The population of this study were all 539 public high school students in Pinrang Regency spread over 11 schools. While the research sample as much as 25% of the total population (135 people) were taken using proportional random sampling technique. Data collection techniques used are questionnaires, observation, and documentation techniques. The data obtained through the questionnaire instrument, were analyzed using descriptive statistics and inferential statistics. The results showed that: 1) The description of the teacher's pedagogic competence was in the medium category. 2) The description of students' learning motivation is in the high category. 3) The description of student learning outcomes is in the medium category; 4) There is a positive and significant influence between teacher pedagogic competence on student learning outcomes; 5) There is a positive and significant influence between learning motivation on student learning outcomes; 6) There is a positive and significant influence between pedagogic competence and learning motivation together on student learning outcomes.

**Keywords:** *Pedagogic Competence, Learning Motivation, Learning Outcomes.*

## 1. INTRODUCTION

Learning achievement is the ability obtained by individuals after the learning process takes place which can provide changes in one's cognitive, affective, and psychomotor behavior so that it becomes better than before. One of the important components in improving student learning achievement is the teacher. [1][2] Teachers in the context of education have a big role because it is the teacher who is at the forefront in the implementation of education, as well as the teacher who directly deals with students. [3][4]

Teachers are required to balance the development of science and technology that is developing in society so that teachers are required to have competencies according to scientific developments. The government has formulated four competencies that must be possessed by a teacher. One of the teacher competencies that must be mastered is pedagogic competence [5][6]. In mastering pedagogic competence by each teacher is

very important because it relates to the process of implementing learning.

Every teacher is required to master the teaching material, master the way of delivering learning material and know the characteristics of each student who receives the lesson. Most of the failures of teachers in delivering learning materials are not only because they lack mastery of teaching materials, but because teachers do not design learning well and do not know how to deliver subject matter properly and appropriately. [3]

Teachers are required to have good knowledge, attitudes and skills in carrying out their professional duties. So, if learning does not go well given the teacher can result in students not being able to learn well in a conducive and pleasant atmosphere in the learning process. In addition, students' learning motivation is also a factor that influences their learning outcomes. [7]

In terms of learning, students will succeed if within themselves there is a will to learn. Learning motivation

arises because of intrinsic factors, which are based on the theory that in humans there are drives that aim to achieve satisfaction, while extrinsic motivation is based on the theory of environmental influences or the learning process [8]. In the process of learning interaction, it is certainly necessary to encourage students to be diligent in learning, so motivation plays an important role in the learning process. [2][9].

In learning activities, motivation can be said as the overall driving force in students who grow and provide direction for learning activities. Where in learning activities, motivation is needed because students who do not have motivation in learning, will not be able to carry out learning activities. So that good learning provided by the teacher will make students eager to follow the learning process and can generate motivation to learn. [10]. Thus, if the teacher masters the pedagogical competence well and seeks to stimulate the learning motivation of students, it will have an effect on student learning outcomes, namely being able to achieve the expected learning outcomes or achievements.

**2. METHOD**

The approach used in this research is a quantitative approach with associative research type. This approach is used because the data requires instruments and analyzes the type of numerical data and interprets things that are directly related to the trends that exist in the study [11]. The locus of this research is SMA Negeri in Pinrang Regency.

The population in this study were all SMA Negeri Pinrang students, as many as 539 people spread over 11 schools. The number of samples taken in this study as many as 25% of the population as many as 135 people. The sampling technique used is Proportional Random Sampling. Data collection techniques used in this study were questionnaires, observation and documentation.

The data analysis technique used is descriptive analysis technique in the form of percentage and inferential statistics. Inferential statistical analysis technique used to test the hypothesis is multiple regression analysis. This data analysis technique was used to test the hypothesis and to determine the effect of the independent variables (X1 and X2) together on the dependent variable (Y).

To determine the relationship between two or more independent variables (teacher pedagogic competence, academic supervision and learning motivation) to the dependent variable (student learning achievement) simultaneously, multiple correlation analysis was used. Correlation coefficient analysis is used to show how big the relationship is between the independent variables simultaneously with the dependent variable.

Multiple regression analysis was used to determine the direction of the relationship between the independent variable and the dependent variable

whether each independent variable was positively or negatively related and to predict the value of the dependent variable if the value of the independent variable decreased or increased.

Meanwhile, to determine the percentage of the contribution of the influence of the independent variable on the dependent variable, the analysis of determination (R2) is used. This coefficient is to show how large the percentage of the independent variable is able to explain the dependent variable.

**3. RESULTS AND DISCUSSION**

The results showed that the description of the teacher's pedagogic competence which showed the highest percentage in the medium category was 88.15 percent. The results of descriptive statistical calculations based on the frequency of the teacher's pedagogic competence questionnaire results obtained an average value (mean) of 118.14 points in the medium category.

**Table 1.** Distribution of Teacher Pedagogic Competency Questionnaire Results

| Interval        | Category  | Frequency  | Percentage |
|-----------------|-----------|------------|------------|
| 168 < (x) ≤ 200 | Very high | 0          | 0          |
| 136 < (x) ≤ 168 | High      | 5          | 3.70       |
| 104 < (x) ≤ 136 | Moderate  | 119        | 88.15      |
| 72 < (x) ≤ 104  | Low       | 11         | 8.15       |
| 40 < (x) ≤ 72   | Very Low  | 0          | 0          |
| <b>Quantity</b> |           | <b>135</b> | <b>100</b> |

Source: Field research in 2021

Learning motivation Students show the highest percentage in the high category as much as 75.56 percent. The results of descriptive statistical calculations based on the frequency of respondents' choices in the answer category obtained an average value (mean) of 149.96, the number is in the high category. More details can be seen in the following table:

**Table 2.** Distribution of Learning Motivation Questionnaire Results

| Interval        | Category    | Frequency  | Percentage |
|-----------------|-------------|------------|------------|
| 168 < (x) ≤ 200 | Very High   | 20         | 14.81      |
| 136 < (x) ≤ 168 | High        | 102        | 75.56      |
| 104 < (x) ≤ 136 | Fairly High | 13         | 9.63       |
| 72 < (x) ≤ 104  | Low         | 0          | 0          |
| 40 < (x) ≤ 72   | Very Low    | 0          | 0          |
| <b>Quantity</b> |             | <b>135</b> | <b>100</b> |

Source: Field research in 2021

Student learning outcomes, the highest percentage in the medium category as much as 87.41 percent. The results of descriptive statistical calculations based on the frequency of respondents' choices for the answer category obtained an average value (mean) of 121.52, the number is in the medium category. More details can be seen in the following table:

**Table 3.** Distribution of Student Learning Outcomes Questionnaire Results

| Interval        | Category  | Frequency  | Percentage |
|-----------------|-----------|------------|------------|
| 168 < (x) ≤ 200 | Very High | 0          | 0          |
| 136 < (x) ≤ 168 | High      | 15         | 11.11      |
| 104 < (x) ≤ 136 | Moderate  | 118        | 87.41      |
| 72 < (x) ≤ 104  | Low       | 2          | 1.48       |
| 40 < (x) ≤ 72   | Very Low  | 0          | 0          |
| <b>Quantity</b> |           | <b>135</b> | <b>100</b> |

Source: Field research in 2021

The results of the regression analysis show that the direction of the relationship between the independent variable and the dependent variable, each independent variable is positively or negatively related and to predict the value of the dependent variable if the value of the independent variable decreases or increases. The regression equation is as follows:  $Y' = a + b_1X_1 + b_2X_2$  and  $Y' = 64,799 + 0.256 + 0.177$ . The constant of 62.679 means that if the teacher's pedagogic competence and learning motivation are 0, then the student's learning achievement is 62.679. The coefficient is positive, meaning that there is a positive relationship between the teacher's pedagogic competence and the learning motivation of students.

The results of the multiple correlation analysis obtained an R number of 0.515. This shows that there is a moderate relationship between teacher pedagogic competence and learning motivation on student achievement.

While the results of the determination analysis obtained the number  $R^2$  (R Square) of 0.164 or (18.2%). This shows that the percentage contribution of the independent variable influence of teacher pedagogic competence and learning motivation on the variable of student achievement is 18.2 percent. While the remaining 81.8 percent is influenced or explained by other variables that are not included in this research model.

The results of the analysis of the F test obtained F count of 16,756 using a 95% confidence level,  $\alpha = 5\%$ ,  $df_1$  (number of variables-1) = 1, and  $df_2$  (nk-1) or  $155-2-1 = 152$ . Results obtained for F Table of 2.90. The calculated F value  $>$  F table ( $18.755 > 2.90$ ) or  $\text{sig } 0.000 < 0.05$ . From the results of the F-test analysis above on teacher pedagogic competence and learning motivation on student learning achievement, it can be stated that there is a significant influence between teacher pedagogic competence and learning motivation together on student learning achievement. This shows that the higher the pedagogic competence and learning motivation, the learning achievement of students will increase.

The results of the t-test analysis to test the regression coefficient of the pedagogic competence variable on the learning achievement of students obtained t count of 4.455. The t distribution table is searched at  $\alpha = 5\%$ :  $2 = 2.5\%$  (2-sided test) with degrees

of freedom (df)  $nk-1$  or  $134-2-1 = 131$ . With 2-sided testing (significance = 0.025) the results are obtained t table is 2.23. because the value of t arithmetic is  $4.322 >$  t table 2.23 then  $H_0$  is rejected. From the results of the t-test above, it can be stated that partially there is a significant influence between the teacher's pedagogic competence on the learning achievement of students. While testing the regression coefficient of the learning motivation variable on the learning achievement of students, the t count is 3.526. The t distribution table is searched at  $\alpha = 5\%$ :  $2 = 2.5\%$  (2-sided test) with degrees of freedom (df)  $nk-1$  or  $134-2-1 = 131$ . With 2-sided test (significance = 0.025) the results obtained t table of 2.23. because the value of t count  $3.072 >$  t table 2.23 then  $H_0$  is rejected. From the results of the t-test above, it can be stated that partially there is a significant influence between learning motivation on student learning achievement.

Competencies that must be possessed by teachers according to Law Number 14 of 2005 concerning Teachers and Lecturers, namely: (1) personality competence, (2) pedagogic competence, (3) professional competence, and (4) social competence. [12] Pedagogic competence directs teachers to master educational theory which questions what and how to best educate and issues in education and educational activities, such as educational goals, educational tools, how to carry out education, students, educators and so on. Therefore, pedagogy is seen as a process or activity that aims to change human behavior. [13]

Pedagogic competence is the ability of a teacher to manage the learning process related to students, including understanding educational insights or foundations, understanding students, developing curriculum or syllabus, designing learning, implementing educational and dialogical learning, utilizing learning technology, evaluating learning outcomes., and the development of students to actualize their various potentials. [5]

Based on the results of data analysis, it was found that the pedagogic competence of teachers was 88.15% or was in the medium category. This shows that the pedagogic competence of the teacher has not been maximized. Teachers as educators who also have an important role in efforts to improve the quality of education in this country, must first know and understand the insights and foundations of education as basic knowledge. Initial knowledge of these educational insights and foundations can be obtained when teachers take teacher education in universities.

Pedagogic competence begins with the teacher's efforts in designing learning that will focus on the implementation of learning. Based on the identification of learning needs for the formation of student competencies, a number of competencies were identified to be used as learning materials. Identification of competence is something that students want to have and is the main component that must be formulated in

learning, which has an important role in determining the direction of learning.[6][14] Competence will provide clear instructions on the material to be studied, the determination of learning methods and media as well as assessment. Assessment of competency achievement needs to be carried out objectively based on the performance of students, with evidence of their mastery of a competency as a result of learning.

In teaching and learning activities, motivation is the driving force in students which gives rise to learning activities that encourage the continuity of learning activities and provide direction to learning activities so that goals can be achieved.

Based on the results of the study, it is known that learning motivation is in the high category (75.56%). The indicator variable used is intrinsic motivation and extrinsic motivation. Intrinsic motivation is a learning urge that comes from internal to do something, for example, students learn math subject matter because they like all things related to calculating numbers. Intrinsic motivation can be interpreted as motives that become active or functioning do not need to be stimulated from the outside, because within each individual there is an urge to do something.

While extrinsic motivation is the urge to do something that is influenced by one's external factors. In terms of student learning motivation, external motivation which is considered to have an effect on learning motivation is a factor that comes from educators or lecturers, especially regarding the competence and discipline of teaching lecturers. This relates to the ability of lecturers to carry out their responsibilities in order to be able to provide encouragement to students to be motivated to learn.

In this study, based on the results of the analysis showed that the results of the analysis of respondents' answers about motivation were in the percentage of 75.56% or were in the level category. The results of this study are in line with Sardiman's opinion that students' learning motivation is influenced by two types of motivation, namely motivation that comes from within students (intrinsic motivation) and motivation that comes from outside of students (extrinsic motivation). Intrinsic motivation is motives that are active or functioning do not need to be stimulated from the outside, because in every individual there is already an urge to do something. Extrinsic motivation is motives that are active and function because of external stimuli. This means that students learn because they want to achieve things that lie outside of what they are learning. For example, because of the demands of lecturers and so on. [15][16][17]

From the results of the determination test, the number  $R^2$  (R Square) is 0.164 or (18.2%). This shows that the percentage contribution of the independent variable influence of teacher pedagogic competence and learning motivation on the variable of student achievement is 18.2%. While the remaining 81.8% is

influenced or explained by other variables that are not included in this research model.

Taking into account the results of the data analysis above, it appears that teachers still need to make efforts to improve pedagogic competence and strive to increase students' learning motivation. In addition, teachers are required to have teaching skills and strive to continuously improve the quality of their learning by adding and trying new strategies and learning methods to students. Teachers are expected to be able to explore new ideas regarding roles and philosophies, as well as the impact of learning on changes in schools and society in order to deepen and re-establish their competence and beliefs as teachers.[18]

Therefore, it is hoped that all existing potential can be used as a forum for teacher development and development to ensure an increase in the quality of competence and professionalism. Elementary school organizations can be used by teachers as an infrastructure for fostering the professional and pedagogical abilities of education personnel, so that they are able to carry out their duties as educators.

#### 4. CONCLUSION

Based on the results of data analysis, it can be concluded that: The pedagogic competence of teachers shows the highest percentage in the medium category as much as 89.7 percent. These results indicate that the teacher's pedagogic competence has not been maximized or is in the moderate category. Students' learning motivation shows the highest percentage in the high category as much as 90.3 percent or is in the high category, and student learning achievement shows the highest percentage in the medium category as much as 95.5 percent or is in the medium category. So that it can be stated that the teacher's pedagogic competence and student learning motivation have not gone as expected.

There is a significant influence between the teacher's pedagogic competence and learning motivation together on the learning achievement of students. This shows that pedagogic competence and learning achievement need to be implemented optimally so that student learning achievement can be improved.

#### AUTHORS' CONTRIBUTIONS

1. Sirajuddin Saleh as the head of the research implementer is responsible for coordination and research ideas and Corresponding author
2. Jumadi as a member I, acted as the initial problem analysis at the research site and helping data analysis and finalizing article manuscripts
3. Muhammad Syukur as member II acts as a data collector in the field and writing report

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