

The Relationship Between School Principal Leadership and Teachers' Pedagogical Competence in Public Senior High Schools in Pariaman City

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ABSTRACT

Teachers' pedagogical competence is influenced by various factors, one of which is the leadership of the school principal. The purpose of this study is to determine whether there is a positive and significant relationship between school principal leadership and teachers' pedagogical competence. This research uses a quantitative method with a correlational approach, aiming to explore the relationship between school principal leadership and teachers' pedagogical competence in public senior high schools across Pariaman City. The study population included all teachers teaching at public senior high schools in the city, totaling 262 individuals. The sample was determined using stratified proportional random sampling, resulting in 78 participants. The research instrument used was a Likert scale questionnaire with five answer options. The instrument had been tested for validity and reliability before use. The findings revealed that school principal leadership has a positive and significant relationship with teachers' pedagogical competence in public senior high schools in Pariaman City.

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1. INTRODUCTION

Quality education is the fundamental foundation for developing excellent human resources in Indonesia. According to the National Education System Law (Law No. 20 of 2003), education is a process of creating a learning environment and learning experiences that enable students to actively develop their potential in order to possess spiritual strength, religious values, self-control, personality, intelligence, noble character, and the skills needed for themselves and society (Salsabila, 2022). According to Rifma (2016), "In the context of education in Indonesia, the success of achieving educational goals is determined by several key factors, including the curriculum, facilities and infrastructure, students, teachers, management, and the relationship between the school and the community. The success of this process is largely determined by the quality of the teachers, "According to Suryana & Widiawati (2020), Teachers serve as the key agents in the implementation of learning and the achievement of student learning outcomes.

In accordance with Law No. 14 of 2005 on Teachers and Lecturers, as well as Regulation of the Minister of National Education No. 16 of 2007, teachers are required to possess four core competencies: pedagogical, personal, professional, and social. Among these, Daryanto and Rachmawati (as cited in Prihatini, 2022) emphasize that pedagogical competence is particularly crucial, as it includes the teacher's ability to design, implement, and evaluate learning, and to optimally develop students' potential.

Handini (as cited in Wakidi dan Aristiati, 2022) states that pedagogical competence is one of the essential competencies that must be mastered by teachers. Fundamentally, pedagogical competence

refers to the teacher's ability to manage student learning. It is a distinctive competence that differentiates teachers from other professions and plays a decisive role in the success of the teaching and learning process.

However, in practice, many teachers still struggle with pedagogical competence. Some of the challenges include difficulties in developing lesson plans (RPP) tailored to student needs, limited use of varied teaching methods, and low ability to understand student characteristics (Hidayat et al., 2021).

One of the factors that influences teachers' pedagogical competence is school principal leadership. According to Al-Mahdy et al. (2018), Liu & Hallinger, and Ingersoll et al. (2017) (as cited in Nellitawati et al., 2024) principal leadership affects various aspects of the educational environment, including teachers, the learning process, the overall school climate, and ultimately, students' academic achievement. Similarly, Setiawati et al. (2024) argue that school principals with strong leadership qualities are able to influence, motivate, direct, and mobilize staff effectively in pursuit of the school's vision and mission. This is supported by Junaidi et al. (2023), who state that principal leadership plays a role in mobilizing, guiding, and developing all educational resources, including teacher competence.

Research by Nellitawati (2017) found a positive correlation between the principal's role and teachers' pedagogical competence, where improved leadership quality led to enhanced teacher competence. Likewise, Febria dan Nivolina (2022) concluded that intensive supervision from school principals is essential to help teachers understand and develop their pedagogical competence.

Based on these phenomena and previous findings, this study aims to investigate the relationship between school principal leadership and teachers' pedagogical competence at public senior high schools in Pariaman City. The objective of this research is to gather relevant data and information to determine the extent to which principal leadership is significantly associated with the pedagogical competence of teachers.

2. METHOD, DATA, ANALYSIS

This study is a correlational research employing a quantitative approach. Correlational research aims to determine whether or not there is a relationship between two or more variables, while the quantitative approach is used to test hypotheses formulated for a specific population or sample. Data collection is carried out using research instruments and analyzed statistically (Sugiyono, 2016). This research specifically aims to examine the relationship between school principal leadership as the independent variable and teachers' pedagogical competence as the dependent variable in public senior high schools across Pariaman City. According to Sugiyono (2016), a population is the generalization area consisting of objects or subjects that possess certain characteristics determined by the researcher to be studied and from which conclusions are drawn. The population in this study consists of all teachers at public senior high schools in Pariaman City, totaling 268 individuals. The sample is a subset of the population that serves as the source of data in the research. The sampling technique used is proportionate stratified random sampling, which takes into account the proportional representation of each stratum within the population. The sample size was determined using Cochran's formula (Margono, 2005), with a 10% margin of error, resulting in a total of 78 teachers from various levels of work experience across the public senior high schools in Pariaman City.

3. RESULTS AND DISCUSSION

a. Descriptive Statistical Analysis

1. Teachers' Pedagogical Competence

Data on teachers' pedagogical competence were collected through the distribution of a questionnaire consisting of 40 statement items to 78 teacher respondents. Based on the responses, the highest score obtained by a respondent was 200. Based on the data processed using SPSS version 26, the mean score of teachers' pedagogical competence was 171.92, while the median score was 171. The standard deviation was 14.568, with a variance of 212.228. The range of the scores was 62, and the total accumulated score from all respondents was 13,410.

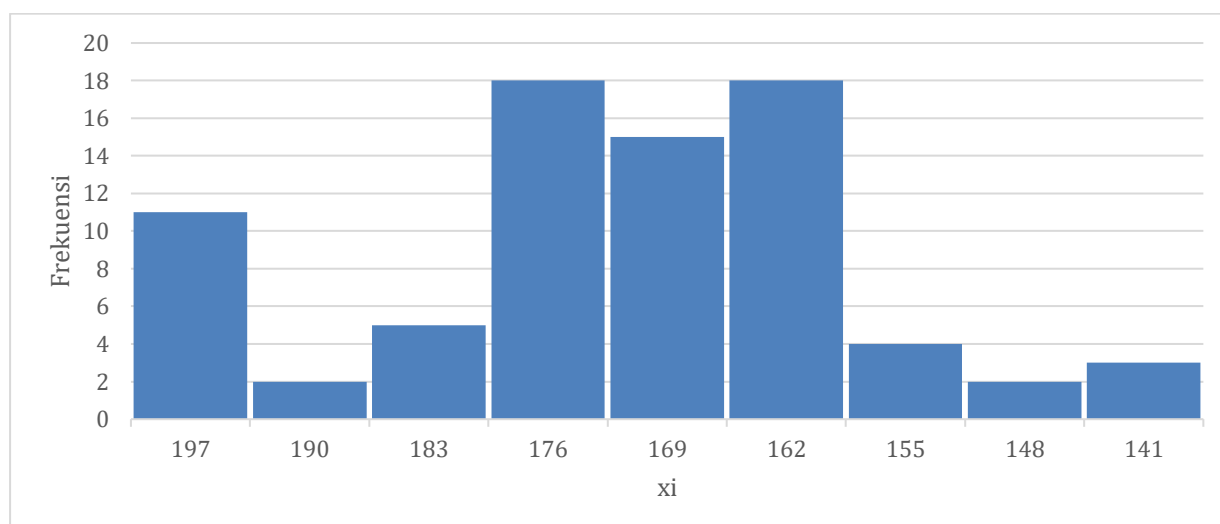


Figure 1. Histogram of Teachers' Pedagogical Competence

Next, based on the data processing of teachers' pedagogical competence by comparing the average score with the highest score multiplied by 100%, the calculation is as follows: 171.92 divided by 200, then multiplied by 100%, resulting in a score of 85.96%. This score indicates that the teachers' pedagogical competence is categorized as "good" based on the ideal score. For more detailed information on the teachers' pedagogical competence variable, please refer to the table below:

Table 1. Results of Teachers' Pedagogical Competence Indicator Achievement

(Y)	Indicator	Number of Items	Total Ideal Score	Average Score	Achievement Level	Category
	Understanding of learning theories and principles of teaching	6	30	26,72	89,1%	Good
	Understanding of students	5	25	21,45	86%	Good
	Curriculum development	5	25	20,7	83%	Good
	Implementation of educational and dialogic teaching	6	30	25,91	86,4%	Good
	Utilization of information technology in learning	7	35	30,25	86,4%	Good
	Development of students' potential	6	30	25,15	83,8%	Good
	Assessment and evaluation of learning outcomes	5	25	21,74	87%	Good
	Total Average Score	40	200	171,92	85,96%	Good

From the table above, it can be concluded that the indicator of understanding learning theories and principles of teaching falls into the "Good" category, with a score achievement level of 89.1%. The indicator of understanding students falls into the "Good" category, with a score achievement level of 86%. The indicator of curriculum development falls into the "Good" category, with a score achievement level of 83%. The indicator of implementing educational and dialogic teaching falls into the "Good" category, with a score achievement level of 86.4%. The indicator of utilizing information technology in learning falls into the "Good" category, with a score achievement level of 86.4%. The indicator of developing students' potential falls into the "Good" category, with a score achievement level of 83.8%. The indicator of assessment and evaluation of learning outcomes falls into the "Good" category, with a score achievement level of 87%. Based on the sub-indicators, all indicators are in the "Good" category.

2. School Principal Leadership

Data on school principal leadership were collected through the distribution of a questionnaire consisting of 40 statement items to 78 teacher respondents. From the collected responses, the highest score obtained by a respondent was 200, while the lowest score was 120. Based on the data processed using SPSS version 26, the following results were obtained: the mean score was 174.85, the median was

175.00, the mode was 200, the standard deviation was 16.803, the variance was 282.340, and the range was 80. The total score from all respondents was 13,638.

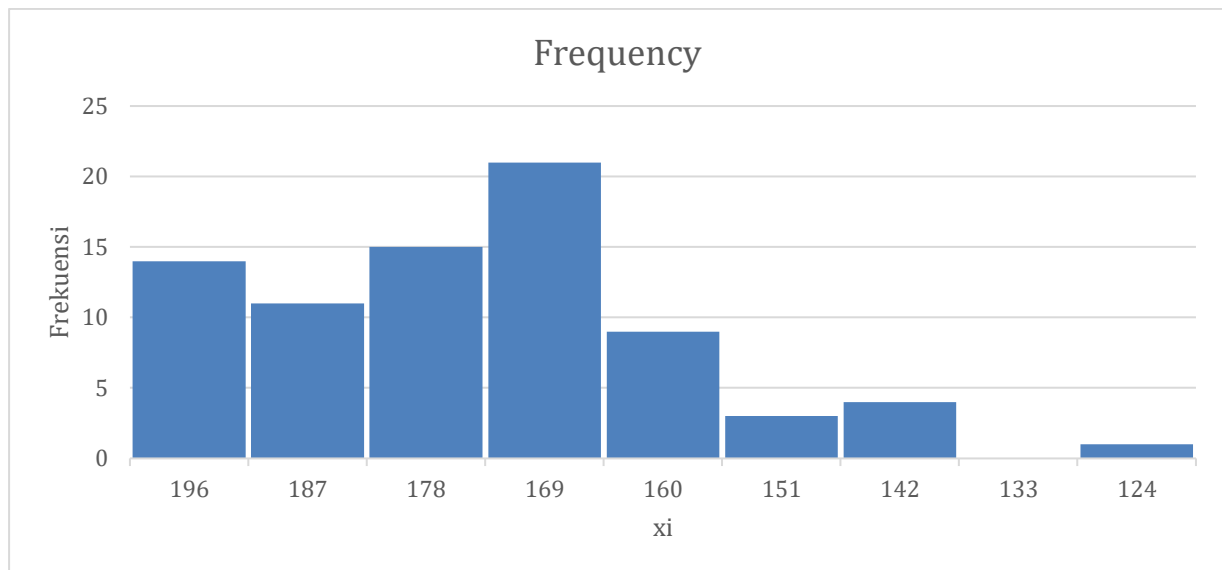


Figure 2. Histogram of School Principal Leadership

Next, based on the data processing of school principal leadership by comparing the average score with the highest score multiplied by 100%, the calculation is as follows: 174.85 divided by 200, then multiplied by 100%, resulting in a score of 87.42%. This score indicates that the school principal leadership variable is categorized as "good" based on the ideal score. For more detailed information about the school principal leadership variable, please refer to the table below:

Table 2. Results of School Principal Leadership Indicator Achievement

X	Indicator	Number of Items	Total Ideal Score	Average Score	Achievement Level	Category
	Influence	10	50	43,96	87,92%	Good
	Motivate	10	50	43,8	87,6%	Good
	Direct	10	50	43,32	86,64%	Good
	Guide	10	50	43,77	87,54%	Good
Total Average Score		40	200	174,85	87,42%	Good

From the table above, it can be concluded that the "influencing" indicator falls into the "good" category with a score achievement level of 87.92%. The "mobilizing" indicator is also in the good category with a score of 87.6%. The "directing" indicator is categorized as good with a score of 86.64%, while the "guiding" indicator is also in the good category with a score of 87.54%. Based on the sub-indicators, it can be concluded that all sub-indicators are classified as good.

b. Assumption Testing

1. Normality Test

The purpose of the normality test is to determine whether the data used in the study are normally distributed. In this research, the normality test was conducted using the Kolmogorov-Smirnov test in SPSS version 26. The criteria are as follows :

If Sig > 0.05, the data are normally distributed.

If Sig < 0.05, the data are not normally distributed.

Table 3. Normality Test Results

One-Sample Kolmogorov-Smirnov Test			
		School Principal Leadership	Teachers' Pedagogical Competence
N		78	78
Normal	Mean	174.85	171.92

Parameters ^{a,b}	Std. Deviation	16.803	14.568
Most Extreme Differences	Absolute	0.086	0.095
	Positive	0.067	0.095
	Negative	-.086	-.076
Test Statistic		0.086	0.095
Asymp. Sig. (2-tailed)		0.200 ^{c,d}	0.080 ^c
a. Test distribution is Normal.			
b. Calculated from data.			
c. Lilliefors Significance Correction.			
d. This is a lower bound of the true significance.			

Based on the results of the normality test, it was found that the significance value for the teachers' pedagogical competence variable was $0.80 > 0.05$, and for the school principal leadership variable, it was $0.200 > 0.05$. Therefore, it can be concluded that the data obtained are normally distributed.

2. Homogeneity Test

The homogeneity test is used to determine whether the data obtained from the research have the same variance or not. The data are considered to have equal or homogeneous variance if the significance level is ≥ 0.05 , and if the significance level is < 0.05 , then the data are concluded to have unequal or heterogeneous variance.

Table 4. Homogeneity Test of School Principal Leadership and Teachers' Pedagogical Competence Variables

Test of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
X and Y	Based on Mean	1,298	1	154	0,256
	Based on Median	1,316	1	154	0,253
	Based on Median and with adjusted df	1,316	1	151.624	0,253
	Based on trimmed mean	1,306	1	154	0,255

Based on the results of the homogeneity test above, which was processed using SPSS version 26 with the Levene's Test, it was found that the significance value for the variables of school principal leadership and teachers' pedagogical competence was 0.256, which is greater than 0.05. Therefore, it can be concluded that the data have equal variance or are homogeneous.

3. Hypothesis Testing

The hypothesis tested in this study is: *"There is a positive and significant relationship between school principal leadership and teachers' pedagogical competence in public senior high schools in Pariaman City."* To examine the relationship between school principal leadership and teachers' pedagogical competence, a simple correlation analysis was used. To determine the correlation coefficient between the school principal leadership variable (X) and the teachers' pedagogical competence variable (Y), the Pearson correlation formula was applied using SPSS version 26.

Table 5. Correlation Test Results of School Principal Leadership and Teachers' Pedagogical Competence Variables

Correlations		School Principal Leadership	Teachers' Pedagogical Competence
School Principal Leadership	Pearson Correlation	1	.657**
	Sig. (2-tailed)		.000
	N	78	78
Teachers' Pedagogical Competence	Pearson Correlation	.657**	1
	Sig. (2-tailed)	.000	
	N	78	78
**. Correlation is significant at the 0.01 level (2-tailed).			

Based on the table above, it can be seen that the calculated correlation coefficient between school principal leadership and teachers' pedagogical competence is 0.657. Furthermore, to determine whether there is a significant relationship between school principal leadership and teachers' pedagogical competence, a t-test can be conducted. The hypothesis criteria for the t-test are as follows:

If $t_{\text{calculated}} \leq t_{\text{table}}$, then H_0 is rejected.

If $t_{\text{calculated}} \geq t_{\text{table}}$, then H_a is accepted.

To manually calculate the t-test value, the following formula is used:

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

Based on the calculation results above, the t-count value obtained was 7.597. After obtaining the t-count value, the next step is to determine the t-table value at a significance level of $\alpha = 0.05$ with degrees of freedom ($df = N - 2$). For $N = 78$, the t-table value at a 5% significance level or a 95% confidence level is 1.669. From the results of the significance test of the correlation, it is found that t-count is greater than t-table at the 5% significance level, namely $7.597 > 1.669$. According to the criteria for the significance test of the correlation, if t-count is greater than t-table, then there is a positive and significant relationship between the two variables. Therefore, it can be concluded that there is a positive and significant relationship between school principal leadership and teachers' pedagogical competence in public senior high schools in the city of Pariaman.

Discussion

Based on the data analysis results, the teachers' pedagogical competence in public senior high schools in Pariaman City has been effectively implemented, with an achievement score of 85.96%. Pedagogical competence refers to the teacher's ability to manage the learning process of students, which includes understanding learning theories and principles, understanding students, curriculum development, conducting educational and dialogical teaching, utilizing information technology in learning, developing students' potential, and assessing and evaluating learning outcomes (Rifma, 2016). Furthermore, based on the data analysis results, the school principal leadership in schools in Pariaman City also falls into the "good" category, with an achievement score of 87.42%. School principal leadership is the ability and process by which the principal influences, moves, directs, and guides the people they lead (Sulastri et al., 2022).

The correlation analysis results show that the correlation coefficient (R) value is 0.657, indicating a relationship between variable X (school principal leadership) and variable Y (teachers' pedagogical competence). Furthermore, the t-count value of 7.597 is greater than the t-table value of 1.669, indicating a positive and significant relationship between school principal leadership and teachers' pedagogical competence in schools in Pariaman City. This means that the better the school principal's leadership, the higher the teachers' pedagogical competence. Therefore, the effective and inspiring leadership of the school principal plays a strategic role in improving the quality of learning by strengthening teachers' pedagogical competencies.

4. CONCLUSION

Based on the research findings, both teachers' pedagogical competence and school principal leadership in public senior high schools in Pariaman City are categorized as good, with scores of 85.96% and 87.42%, respectively. There is a significant relationship between school principal leadership and teachers' pedagogical competence, with a correlation coefficient of 0.657 and a significance value of 7.597 at a 5% significance level. Therefore, teachers are expected to continue improving their pedagogical competence, particularly in curriculum development; school principals are expected to strengthen their leadership skills in guiding to create a supportive work environment; and future researchers are advised to expand the scope and variables of the study to obtain more in-depth data.

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