

## THE INFLUENCE OF TEACHERS' PEDAGOGICAL ON THE LEARNING QUALITY OF PUBLIC JUNIOR HIGH SCHOOLS IN REMBANG SUBDISTRICT

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### ABSTRACT

This study investigates the effect of teachers' pedagogical competence on learning quality in public junior high schools (*SMP Negeri*) in Rembang Subdistrict. The 2024 Education Report Card reported an average learning quality score (68.14) below the *tuntas madya* threshold (80.42), indicating the need for competency improvement. Employing a quantitative explanatory design, data were collected from 145 teachers in six schools through proportional random sampling. A validated and reliable Likert-scale questionnaire (Cronbach's Alpha > 0.90) measured both variables. Data analysis using simple linear regression showed that pedagogical competence significantly and positively affects learning quality ( $\beta = 1.520$ ,  $p = 0.013$ ), explaining 42.0% of its variance ( $R^2 = 0.420$ ). Teachers with high pedagogical competence marked by adaptive planning, effective strategies, and accurate assessment achieved better learning outcomes. The study highlights pedagogical competence as a key determinant of learning quality and recommends broader research with additional variables such as technology integration and school climate.

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### INTRODUCTIONS

The quality of learning is a key indicator in achieving educational goals at the school level. High-quality learning reflects the integration of classroom management, psychological support, and the implementation of teaching

methods that are relevant to students' characteristics and the applicable curriculum. According to Permendikbud No. 9 of 2022, learning quality is classified into three main dimensions: (1) classroom management, which includes orderly learning conditions and positive discipline; (2) psychological support, which covers affective support, teacher attention, and constructive feedback; and (3) learning methods, which include adaptive instruction, teacher guidance, literacy and numeracy learning, and interactive activities.

However, the learning quality achievements in public junior high schools (*SMP Negeri*) in the Rembang Subdistrict have not yet reached the optimal level, as reflected in the 2024 Education Report Card (*Rapor Pendidikan*).

Table 1. Learning Quality of Public Junior High Schools in Rembang Subdistrict, 2024

No	Dimension	SMP N 1	SMP N 2	SMP N 3	SMP N 4	SMP N 5	SMP N 6	Total	Average
1	Classroom Management	70.44	77.86	68.31	68.31	61.76	70.44	417.12	69.52
2	Psychological Support	70.07	78.19	69.97	60.52	65.84	70.07	414.66	69.11
3	Learning Methods	64.33	72.30	63.55	60.55	58.98	64.33	384.04	64.00
4	Learning Quality	68.28	77.42	66.42	66.30	62.19	68.28	408.89	68.14

Source: Education Report Card, Public Junior High Schools, Rembang Subdistrict, 2024

The average score of 68.14 is still below the minimum threshold for the *tuntas madya* category (80.42), indicating the need for targeted interventions on factors that influence learning quality. One factor with a strong impact is teachers' pedagogical competence.

Teachers' pedagogical competence includes the ability to manage classrooms, select appropriate learning strategies, and conduct assessments that are oriented toward students' needs (Werdingisih et al., 2023). Teachers with strong pedagogical competence are able to create a conducive learning atmosphere, use learning media effectively, and provide constructive feedback to students. Hafitriani (2021) found that continuous pedagogical training significantly contributes to improving student learning outcomes.

However, based on the results of school principals' supervision, teachers' pedagogical competence in public junior high schools in Rembang Subdistrict is still relatively low in several aspects: learning environment (65%), use of learning media (70%), and provision of feedback (60%). This condition highlights the need for a more in-depth investigation into the extent to which teachers' pedagogical competence influences learning quality.

Considering these circumstances, this study aims to empirically examine the influence of teachers' pedagogical competence on the quality of learning in public junior high schools in Rembang Subdistrict. The findings are expected to provide data-based strategic recommendations for improving policies and instructional practices at the school level.

Learning quality reflects the success of the educational process in achieving both the academic and non-academic objectives of students. Daryanto (2023) states that learning quality is reflected in positive teacher-student interactions, the use of appropriate learning strategies, and a supportive learning environment. Sanjaya (2022) adds that learning quality can be measured through students' active engagement and the achievement of learning outcomes in accordance with curriculum standards. Haryati (2019) emphasizes the importance of synergy among teachers, students, learning media, and the learning environment as components that shape optimal learning quality. According to Permendikbud No. 16 of 2022 and Permendikbud No. 9 of 2022, learning quality is influenced by three important dimensions: classroom management, psychological support, and learning methods. These three dimensions underpin the design of effective, student-centered teacher-student interactions, focusing on the attainment of cognitive, affective, and psychomotor competencies.

Learning quality is not solely determined by teachers' classroom strategies but also by factors such as the school principal's leadership, teachers' pedagogical competence, the school's quality culture, and the physical and emotional learning environment. Arneti et al. (2024) note that school principals with a clear vision can create a school

ecosystem that supports the enhancement of teacher professionalism. Daryanto (2023) asserts that teachers who are pedagogically competent are better able to implement learning strategies suited to students' needs. A positive quality culture, according to Dwiyono et al. (2022), fosters an innovative climate that encourages the involvement of all school members in improving learning quality. Harlita and Ramadan (2023) highlight the importance of developing students' social-emotional competencies in creating productive and harmonious classrooms. Kundiastuti et al. (2024) and Nurhayati & Rahmadani (2023) also demonstrate that the use of educational technology and a conducive learning environment enhance the attractiveness and effectiveness of learning. In the view of Kejarpena (2023) and Hattie (2020), learning quality is determined by the combined and integrated influence of teachers, students, learning processes, and school organization.

Pedagogical competence is a fundamental requirement that every teacher must possess to conduct effective learning processes. Werdiningsih et al. (2022) state that pedagogical competence not only encompasses an understanding of learning theories but also the ability to design lesson plans, use instructional media, and conduct objective assessments. Romlah et al. (2019) explain that pedagogical competence is influenced by the school principal's leadership, teacher professionalism, innovation in learning, and responsibility in task execution. Firdaus et al. (2022) and Shunhaji & Zulaihah (2022) demonstrate that support from school principals through academic supervision has been proven to significantly improve teachers' pedagogical competence.

Teachers' pedagogical competence is crucial in determining learning quality, as it involves skills in managing the teaching and learning process from planning, implementation, to evaluation. Teachers with high pedagogical competence can understand students' characteristics, design appropriate learning strategies, manage classrooms effectively, and provide constructive feedback. This directly contributes to creating a conducive, interactive, and goal-oriented learning environment. Research indicates that strong pedagogical competence promotes increased student engagement, better learning outcomes, and the development of positive attitudes toward learning. Therefore, improving teachers' pedagogical competence is a strategic step toward achieving high-quality learning that is relevant to students' needs and adaptive to contemporary developments.

## METHOD

This study employed a quantitative approach aimed at objectively examining the relationship between variables through the collection and analysis of numerical data. This approach enables a systematic measurement of the effect of teachers' pedagogical competence on learning quality. The type of research used was explanatory, intended to analyze the extent to which the independent variable (teachers' pedagogical competence) affects the dependent variable (learning quality). To obtain valid and reliable data, the study applied a survey design by distributing questionnaires to predetermined respondents. The survey method was chosen because it is efficient for collecting large amounts of data and can be statistically analyzed to produce objective results.

The research was conducted in public junior high schools (*SMP Negeri*) in the Rembang Subdistrict, covering six schools: SMP Negeri 1, 2, 3, 4, 5, and 6 Rembang. The selection of locations considered the representativeness of school characteristics in terms of teacher competence and learning quality. The implementation period was from February to July 2025, covering the stages of title submission, proposal preparation and seminar, instrument testing, data collection, analysis, report writing, as well as thesis defense and revision.

Teachers' pedagogical competence is defined as the ability of teachers to understand students, design, implement, and evaluate learning according to students' needs. Teachers with high pedagogical competence can create a conducive learning environment, implement effective learning, and conduct evaluations for continuous improvement. Learning quality is defined as the result of teacher-student interaction in the teaching and learning process, as reflected in students' mastery of the material, skills development, and critical thinking ability.

The variables in this study consisted of independent variable (X): Teachers' pedagogical competence and Dependent variable (Y): Learning quality. Operationally, both variables were measured through respondents' perceptions using a Likert-scale questionnaire covering specific dimensions and indicators according to established theory.

The research population consisted of all teachers at public junior high schools in Rembang Subdistrict, totaling 228 individuals. The sample was determined using proportional random sampling based on Slovin's formula with a margin of error of 5%, resulting in a sample size of 145 teachers. The sample was then proportionally distributed according to the number of teachers in each school. For example, SMP Negeri 1 Rembang, which has 47 teachers, contributed 30 teachers as respondents, with other schools following proportional allocation.

The research instrument was a questionnaire using a five-point Likert scale ranging from "strongly disagree" to "strongly agree." According to Arifin (2017), a good instrument must have high validity and reliability to ensure that the data truly represent the research object. Validity was tested using the Pearson Product Moment correlation, with the criterion for validity being a significance value ( $p < 0.05$ ) and an  $r$ -value greater than the  $r$ -table value (Ghozali, 2018). Invalid items were removed. Reliability was tested using Cronbach's Alpha, with the criterion for reliability being an alpha value greater than 0.60 (Sugiyono, 2019). The results showed that all variables had alpha values above 0.90, indicating very high reliability.

Data collection was carried out by directly distributing questionnaires to respondents in their respective schools. This technique allowed for efficient quantitative data collection and facilitated statistical analysis. Data analysis techniques included: (1) Descriptive analysis to describe means, frequencies, and data distributions. (2) Classical assumption tests including normality tests (Kolmogorov-Smirnov), homogeneity tests, linearity tests, and multicollinearity tests (VIF and tolerance). (3) Simple linear regression analysis to determine the effect of teachers' pedagogical competence on learning quality, using the model:  $Y = a + bXY$ . **t-test** to examine the significance of the effect of the independent variable on the dependent variable. Coefficient of determination ( $R^2$ ) to measure the proportion of variance in the dependent variable explained by the independent variable. The interpretation of the analysis results was linked to relevant theories and previous findings to produce conclusions that are valid and scientifically accountable.

## RESULT AND DISCUSSION

### Result

Descriptive statistics aim to describe respondents' tendencies regarding the two main variables in this study, namely: Teachers' Pedagogical Competence (X2) and Learning Quality (Y). Data were collected from 145 teachers at public junior high schools (*SMP Negeri*) in Rembang Subdistrict and processed using SPSS. Based on the analysis results, all variables showed mean values that tended to be positive, although there was still variation in categories for each indicator. The following is a summary of descriptive statistics for each variable:

Table 2. Descriptive statistics

Variable	Mean	Min-Max Score	Std. Deviation	Dominant Category	Score Interval of Dominant Category	Number of Respondents	Percentage (%)
Learning Quality (Y)	85.36	29 – 139	21.678	Fairly High	73 – 94	45	38.50
Pedagogical Competence (X2)	120.38	112 – 128	3.269	Fairly High	120 – 123	52	44.40



The data in the table above show that all variables are at a positive perception level, with the dominant category being “fairly high.” For the learning quality variable, the highest score reached 139 out of a maximum of 140, while the lowest was 29, indicating a very wide range (110 points). This suggests that there are teachers with very high perceptions of learning quality, but also those with very low perceptions, indicating the need for differential interventions to improve teaching quality.

For the pedagogical competence variable, the data distribution shows that most teachers rated their competence as “fairly high.” However, 31.6% were in the “low” category, particularly in assessment and differentiated learning aspects. This indicates the importance of enhancing teacher professionalism through continuous training (Glickman et al., 2017). Overall, the descriptive statistics show that both variables under study are relatively good in public junior high schools in Rembang Subdistrict, although there is still room for improvement, particularly in pedagogical competence and the consistency of school quality culture.

Before conducting linear regression analysis, assumption testing was carried out to ensure that the data met the basic assumptions of regression. These tests included normality, linearity, multicollinearity, and heteroscedasticity tests. The feasibility of the regression model depends on meeting these four assumptions to ensure that the analysis results are valid and accurately interpretable.

The **normality test** was conducted to determine whether the residuals from the regression model were normally distributed. This test was performed using the Kolmogorov–Smirnov test, which produced a significance value of 0.200. Since this value was greater than 0.05, it can be concluded that the residuals are normally distributed. This means that the deviations between predicted and actual values are random and show no specific pattern, which is an important requirement in parametric regression analysis (Hair et al., 2019).

Next, the **linearity test** was conducted to ensure that the relationship between each independent variable and the dependent variable is linear. This was tested using the ANOVA *Test for Linearity*, where the results showed that the *deviation from linearity* significance value for X against Y was greater than 0.05. This indicates that the relationship between the independent and dependent variables meets the linearity assumption, allowing linear regression analysis to be applied appropriately. A linear relationship is important to ensure that changes in the independent variable proportionally contribute to changes in the dependent variable (Ghozali, 2018).

The **multicollinearity test** was conducted to identify whether there was a high correlation among the independent variables in the multiple regression model. This was assessed by examining the Tolerance and Variance Inflation Factor (VIF) values. The results showed that all variables had Tolerance values above 0.1 and VIF values below 10. Therefore, it can be concluded that there was no multicollinearity in the model. This means that each independent variable made a unique contribution to explaining variations in learning quality without statistically overlapping.

Finally, the **heteroscedasticity test** was conducted to determine whether there was unequal variance in the residuals at different predicted values (heteroscedasticity symptoms). This test used the Glejser method, which showed that the significance values of each independent variable were greater than 0.05. Therefore, it can be concluded that there was no heteroscedasticity in the regression model, indicating that the residual variance was constant (homoscedastic). This condition is essential to ensure that the regression coefficient estimates are unbiased and have maximum efficiency.

Based on these tests, all regression assumptions were met. The regression model in this study was deemed appropriate for further analysis as it satisfied the assumptions of normality, linearity, absence of multicollinearity, and absence of heteroscedasticity. This strengthens the validity of the hypothesis testing results and the interpretation of the regression model.

The hypothesis testing in this study aimed to determine the partial and simultaneous effects of the independent variable on the dependent variable. Hypothesis testing was conducted using simple linear regression to assess the effect of each independent variable individually and multiple linear regression to assess their combined effects on learning quality. In the regression analysis between teachers’ pedagogical competence (X) and learning quality (Y), the regression coefficient was found to be 1.520 with a significance value of 0.013, which is less than 0.05. This means that teachers’ pedagogical competence has a positive and significant effect on learning quality. The  $R^2$  value of 0.420 indicates that teachers’ pedagogical competence explains 42.0% of the variation in learning quality. This finding

suggests that improvements in teachers' pedagogical competence—in the areas of planning, implementing, and evaluating learning will significantly enhance learning quality.

### Discussion

The data analysis shows that teachers' pedagogical competence has a significant influence on learning quality. Teachers with high pedagogical competence are able to design learning that is adaptive to students' characteristics, apply effective strategies, and conduct accurate assessments. This finding is consistent with the results of Rohana (2021), who found that teachers' pedagogical competence significantly affects learning quality, with a coefficient of 0.295. Furthermore, a systematic study by Salsabila (2021) revealed that teachers' pedagogical competence consistently influences student learning outcomes at the secondary school level. The same conclusion was drawn by Darmawansa and his team in a study published on *mediaakademik.com*, which emphasized that pedagogical competence is a core component of teacher professionalism that directly affects both the quality of the learning process and the learning outcomes.

Another finding from Hazami and Herminingsih (2017) states that pedagogical competence, both partially and simultaneously, has a significant positive effect on learning effectiveness at SMA Negeri 96 Jakarta. In addition, research by Mukin et al. (2025) in the context of Catholic Religious Education teachers showed a significant positive effect of pedagogical competence on the quality of education, as indicated by a *t*-value greater than the *t*-table value.

Contextually, in public junior high schools (*SMP Negeri*) in Rembang Subdistrict, teachers who actively participate in training and professional reflection activities demonstrate higher scores in learning quality. This supports the argument of Hazami and Herminingsih (2017), who found that pedagogical competence plays a crucial role in learning effectiveness, as also observed in SMA Negeri 96 Jakarta. This success is further reflected in the study by Mukin et al. (2025), which emphasized the importance of strengthening teachers' pedagogical competence as a benchmark for learning quality.

### CONCLUSION

Based on the results of the study involving 145 teachers from public junior high schools (*SMP Negeri*) in Rembang Subdistrict, it can be concluded that learning quality is significantly influenced by teachers' pedagogical competence. The variable of teachers' pedagogical competence was proven to have a positive effect, both partially and simultaneously, on the improvement of learning quality. Pedagogical competence plays an important role in enhancing the effectiveness of the teaching–learning process, in which teachers who have the ability to design and implement learning in accordance with students' characteristics, as well as to conduct accurate assessments, will create meaningful learning experiences that have a positive impact on students' learning outcomes.

The novelty of this research lies in its analytical focus on examining the influence of teachers' pedagogical competence specifically within the context of public junior high schools in Rembang Subdistrict, while taking into account proportional sample distribution across six different schools. This study makes an empirical contribution to strengthening the evidence that pedagogical competence is not merely a supporting factor, but a key determinant of learning quality at the junior secondary school level in areas with diverse school characteristics.

The limitations of this research include its scope, which only covers teachers in public junior high schools within a single subdistrict, meaning the results may not fully represent conditions in other regions. Furthermore, the research instrument relied on respondents' perceptions through questionnaires, which may be influenced by subjective responses.

Based on these findings and limitations, future research is recommended to expand the study area to include several districts or provinces so that the results are more generalizable. Subsequent studies may also combine

quantitative and qualitative methods (mixed methods) to gain deeper insights, particularly regarding the actual classroom practices of teachers' pedagogical competence. In addition, it is suggested to include other variables such as technology-supported learning or school climate, which may potentially interact with pedagogical competence in influencing learning quality.

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