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Examining the influence of principal leadership, pedagogical, and professional competence on teacher performance in elementary schools: A multiple regression analysis

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Abstract*:* Teacher performance is a crucial determinant of the quality of learning in elementary schools. This study aims to examine the influence of principal leadership, pedagogical competence, and professional competence on the performance of elementary school teachers. Employing a quantitative correlational design with multiple regression analysis, the study involved 87 teachers selected through random sampling from a population of 111 elementary school teachers in Ngawen District, Gunungkidul, Indonesia. Data were collected using structured questionnaires, and instrument validity and reliability were tested using Pearson's Product Moment correlation and Cronbach's Alpha. The findings reveal that principal leadership, pedagogical competence, and professional competence simultaneously have a significant effect on teacher performance ($R^2 = 0.207$, $F = 7.235$, $p < 0.05$). Partially, principal leadership ($\beta = 0.355$, $p < 0.05$) and pedagogical competence ($\beta = 0.349$, $p < 0.05$) show positive and significant effects on teacher performance, while professional competence indicates a significant but negative effect ($\beta = -0.360$, $p < 0.05$). These results suggest that improving principal leadership and pedagogical competence can enhance teacher performance, while the negative contribution of professional competence requires further exploration. The study provides practical implications for school leaders and policymakers in strengthening teacher development programs to improve the quality of education.

Keywords: principal leadership, pedagogical competence, professional competence, teacher performance, multiple regression

Introduction

Teacher performance is widely acknowledged as one of the most critical determinants of educational quality and student learning outcomes (Kanya, N., et.al, 2021). In the context of elementary education, teachers play a pivotal role in shaping foundational knowledge (Kotsis, K. T., 2025), skills (Irwan, I., et.al., 2024) and character (Jumatullailah, S. N., et.al., 2024) development among young learners. Effective teacher performance is not only measured by mastery of subject matter but also by pedagogical skills (Singerin, S., 2021), professional competence (Fachmi, M., 2021), and the ability to adapt to the dynamic demands of twenty-first century education. In Indonesia, particularly within the framework of the national education system, enhancing teacher performance has consistently been emphasized as a strategic priority to improve the quality of schooling. However, challenges such as uneven teacher competence, limited professional development, and leadership practices that are often administrative rather

than instructional continue to hinder improvements in teaching quality. These challenges underline the urgency of investigating factors that directly affect teacher performance—particularly principal leadership, pedagogical competence, and professional competence—as they represent strategic levers for strengthening the quality of elementary education and ensuring equitable learning outcomes.

Scholars have identified multiple factors influencing teacher performance, among which school leadership and teacher competence stand out as the most significant (Akman, Y., 2021). The principal, as the instructional leader, is responsible for creating a supportive environment, motivating teachers, and aligning educational practices with institutional goals. Research indicates that strong principal leadership correlates positively with teacher motivation, professional growth, and performance outcomes (Achmadi, 2012; Suarjana, 2012). Similarly, pedagogical competence—the ability to design, implement, and evaluate learning processes effectively—has been shown to enhance teaching practices and student engagement. Professional competence, which encompasses mastery of subject matter, professional ethics, and continuous development, also contributes substantially to teachers' effectiveness (Nurdianti, 2017; Hasan, 2017).

In this study, principal leadership is conceptualized as a process through which school leaders influence teachers and organizational conditions to achieve shared educational goals, acknowledging that leadership effectiveness is shaped by contextual complexity rather than solely by the leader's individual actions (Simkins, 2005). Within elementary school settings, such leadership plays a critical role in shaping teachers' professional competence, which refers to their ability to plan, implement, and evaluate instruction effectively in ways that align with curricular standards and support ongoing improvements in teaching quality—competencies that become even more essential amid educational challenges and technological shifts (Hudson et al., 2020). Equally important is teachers' pedagogical competence, encompassing their mastery of instructional strategies, understanding of learners' developmental characteristics, and capacity to create meaningful and engaging learning environments. Together, these dimensions interact dynamically, whereby strong principal leadership fosters the professional and pedagogical growth of teachers, ultimately enhancing overall teacher performance in elementary schools (Karim et al., 2023)

School principals play a central role in shaping the quality of educational practices by creating supportive learning environments and guiding teachers toward achieving institutional goals. Leadership in schools is not merely administrative but also instructional, involving supervision, mentoring, and professional development (Kurniadin & Machali, 2014). Effective leadership motivates teachers, ensures resource allocation, and aligns teaching practices with curriculum standards. Prior studies demonstrate that strong principal leadership significantly correlates with teacher

performance and student achievement (Achmadi, 2012; Sumarno, 2009). Pedagogical competence refers to the teacher's ability to design, implement, and evaluate learning processes that accommodate students' characteristics, needs, and learning environments. According to Uno (2008), competence encompasses the capacity to integrate knowledge, attitudes, and skills in instructional practices. Pedagogical competence directly influences the effectiveness of teaching and the quality of learning outcomes. Research confirms that teachers with higher pedagogical competence are more likely to engage students actively and foster improved learning achievement (Roro Suci Nurdianti, 2017).

Professional competence relates to mastery of subject matter, adherence to ethical standards, and continuous professional growth. Teachers with strong professional competence are expected to demonstrate expertise in their fields, apply appropriate methodologies, and sustain professional integrity (Yamin & Maisah, 2010). Previous studies indicate that professional competence is positively associated with teacher performance, though the strength of this relationship varies across contexts (Hasan, 2017; Surana, 2010). In some cases, professional competence alone may not translate into effective classroom practice unless combined with strong pedagogical skills and leadership support. Teacher performance reflects the extent to which teachers effectively carry out instructional and non-instructional tasks, including lesson planning, classroom management, assessment, and student mentoring. Supardi (2013) defines teacher performance as the teacher's ability to fulfill teaching responsibilities and improve student achievement under their supervision. High teacher performance is characterized by effective instructional delivery, student-centered approaches, and active participation in school development.

Theoretically, principal leadership creates a supportive environment that enhances teacher motivation and accountability, thereby influencing teacher performance. Pedagogical competence equips teachers with the skills needed for effective instructional delivery, while professional competence ensures mastery of subject matter and adherence to ethical standards. Collectively, these variables are expected to contribute to improved teacher performance, though their relative contributions may vary. Previous research has confirmed significant relationships among these variables, but findings remain inconsistent, particularly regarding the

effect of professional competence (Achmadi, 2012; Hasan, 2017; Nurmalasari, 2018). This suggests the need for further empirical examination.

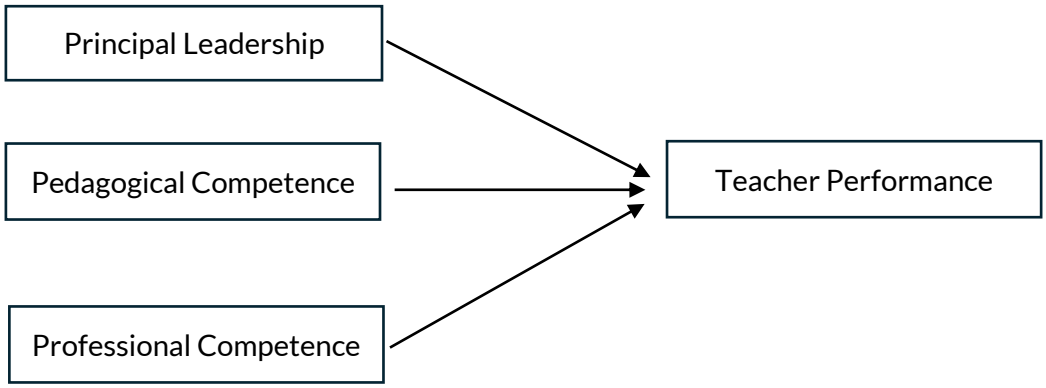

Diagram 1. Influence of Principal Leadership, Pedagogical and Professopnal Competance on teacher competence

The conceptual framework of this study illustrates the hypothesized relationships among the key variables: principal leadership (X1), pedagogical competence (X2), professional competence (X3), and teacher performance (Y). Principal leadership is expected to provide direction, motivation, and organizational support that enhance teachers' ability to perform effectively. Pedagogical competence, as teachers' mastery of instructional strategies and learning management, is anticipated to directly improve classroom practices and student learning outcomes. Professional competence, encompassing subject matter mastery and professional ethics, is assumed to strengthen teachers' credibility and instructional quality.

In the model, these three independent variables (X1, X2, X3) are posited to simultaneously and individually influence the dependent variable, teacher performance (Y). The arrows in the framework signify the directional hypotheses that principal leadership, pedagogical competence, and professional competence each contribute to variations in teacher performance. This framework serves as the theoretical basis for testing the research hypotheses through multiple regression analysis.

Although leadership, pedagogical competence, and professional competence are theoretically interrelated in shaping teacher performance, prior research shows that the interplay among these variables can differ across educational contexts. Leadership, for instance, has been shown to operate as a contextual and relational process that shapes teachers' work environments, professional growth, and instructional decision-making rather than merely a set of leader-driven actions (Simkins, 2005). At the same time, teachers' professional and pedagogical competencies are strengthened when leaders cultivate supportive structures, distribute responsibilities, and facilitate opportunities for collaborative learning—especially during periods of instructional change or technological adaptation (Hudson et al., 2020). Furthermore, managerial leadership research underscores that teacher performance is influenced by multiple

organizational factors, suggesting that leadership, competence, and contextual demands must be examined together to fully understand their collective impact (Karim et al., 2023). These variations emphasize the need for context-specific investigations, particularly in elementary schools where instructional demands and developmental needs differ markedly from other educational levels.

Despite these findings, several studies have reported inconsistent results. While some have confirmed the positive impact of professional competence on teacher performance (Sumarno, 2009; Hasan, 2017), others suggest that professional competence alone does not guarantee improved outcomes unless supported by pedagogical skills and effective leadership (Surana, 2010). Furthermore, most previous research has focused on secondary school contexts—such as junior and senior high schools—leaving a relative gap in the investigation of teacher performance at the elementary school level. This gap is crucial, as elementary education forms the foundation for lifelong learning and requires distinct pedagogical and leadership approaches compared to higher levels of education.

Another gap in the literature concerns the methodological approaches employed. Many earlier studies have relied on bivariate correlations or limited regression models without simultaneously examining the combined effects of leadership and multiple dimensions of teacher competence. Consequently, the interaction and relative contribution of these variables to teacher performance remain underexplored, particularly in rural educational settings where resources and professional development opportunities are limited. To address these gaps, the present study investigates the influence of principal leadership, pedagogical competence, and professional competence on the performance of elementary school teachers in Ngawen District, Gunungkidul, Indonesia. By employing a quantitative correlational design with multiple regression analysis, this research aims to provide a more comprehensive understanding of how these variables interact in shaping teacher performance. This study contributes to the existing literature by extending the scope of inquiry to the elementary school context, applying a robust analytical method, and revealing the nuanced role of professional competence, which may not always yield a straightforward positive effect.

Methode

This study employed a quantitative correlational design with a multiple regression analysis approach. The purpose of this design was to examine the extent to which principal leadership, pedagogical competence, and professional competence influence teacher performance in elementary schools. This approach was considered appropriate, as it enables the analysis of relationships among multiple independent variables and a dependent variable simultaneously.

The population of the study consisted of all elementary school teachers in Ngawen District, Gunungkidul Regency, Indonesia, totaling 111 teachers. Using random sampling, 87 teachers were selected as respondents, representing approximately 78% of the population. The sample size was determined by applying a 5% margin of error, ensuring sufficient statistical power for regression analysis.

Data were collected using structured questionnaires designed to measure four variables: (1) principal leadership, (2) pedagogical competence, (3) professional competence, and (4) teacher performance. Each instrument was developed based on relevant theoretical constructs and adapted to the elementary school context. All questionnaires applied a Likert-type scale with five response options ranging from 1 (never) to 5 (always). The principal leadership instrument consisted of 25 items, pedagogical competence 22 items (20 valid items retained), professional competence 21 items (18 valid items retained), and teacher performance 30 items (26 valid items retained).

Instrument validity was assessed using Pearson's Product Moment correlation, ensuring that each item had a significant correlation with the total score. Reliability was tested using Cronbach's Alpha, with all variables demonstrating coefficients above the acceptable threshold of 0.70, indicating strong internal consistency. Prior to distribution, the instruments were reviewed by experts for content validity and piloted in a small group of teachers outside the research sample. Questionnaires were then administered to the sample teachers with the assistance of school administrators to ensure completion and return.

Descriptive statistics (mean and standard deviation) were first computed to describe the distribution of each variable. Inferential analyses were then performed, including normality, linearity, and multicollinearity tests, as assumptions for multiple regression. Hypothesis testing employed multiple linear regression analysis with three predictors. The strength of relationships was assessed using the F-test for simultaneous effects, t-tests for partial effects, and the coefficient of determination (R^2) to determine the explanatory power of the independent variables. All analyses were conducted at a significance level of 0.05.

Results and Discussion

The descriptive analysis in table 1 revealed the overall levels of the studied variables. Principal leadership (X1) had a mean score of 105.90 (SD = 11.61), which falls into the "very high" category. Pedagogical competence (X2) recorded a mean score of 89.03 (SD = 5.08), also categorized as "very high." Professional competence (X3) yielded a mean score of 82.52 (SD = 4.58), indicating a "very high" category as well. Finally, teacher performance (Y) demonstrated a mean score of 117.84 (SD = 8.55), placing it in the "very high" category. These results indicate that, overall, teachers and principals in

the sampled schools were perceived to demonstrate high levels of leadership, competence, and performance.

Table 1. Descriptive Statistics

Variable	Mean	Std. Deviation
	Statistic	Statistic
KKS (X1)	105.90	11.613
KP (X2)	89.03	5.082
KP(X2)	82.52	4.575
KG (Y)	117.84	8.548
Valid N (listwise)		

Assumption Tests

Prior to regression analysis, the data were tested for statistical assumptions. The Kolmogorov-Smirnov test confirmed that all variables were normally distributed ($p > 0.05$). Linearity tests showed that the relationships between the independent variables and teacher performance were linear ($p > 0.05$). Multicollinearity was not detected, as all Variance Inflation Factor (VIF) values were below 10 and tolerance values exceeded 0.80. These results confirm that the data met the assumptions for multiple regression analysis.

Prior to conducting the regression analysis, several assumption tests were performed, including normality, linearity, and multicollinearity.

Normality Test

The Kolmogorov-Smirnov test was applied to assess the normality of the data distribution. The results are presented in Table 2.

Table 2. Normality Test (Kolmogorov-Smirnov)

Variable	Kolmogorov-Smirnov Z	Asymp. Sig. (2-tailed)
Principal Leadership (X1)	1.144	0.146
Pedagogical Competence (X2)	1.124	0.160
Professional Competence (X3)	1.013	0.256
Teacher Performance (Y)	1.306	0.066

The results indicate that the significance values for principal leadership ($p = 0.146$), pedagogical competence ($p = 0.160$), professional competence ($p = 0.256$), and teacher performance ($p = 0.066$) are all greater than 0.05. Therefore, the data for all variables are normally distributed.

Linearity Test

The linearity of the regression relationships was tested by examining the significance of the F values. The results are displayed in Table 3.

Table 3. Linearity Test

Relationship	F-value	Sig.	Conclusion
Principal Leadership (X1) – Teacher Performance (Y)	1.093	0.378	Linear
Pedagogical Competence (X2) – Teacher Performance (Y)	0.817	0.679	Linear
Professional Competence (X3) – Teacher Performance (Y)	1.325	0.207	Linear

Since all significance values exceed 0.05, the relationships between each independent variable and teacher performance are considered linear.

Multicollinearity Test

The multicollinearity test was conducted by examining tolerance values and the Variance Inflation Factor (VIF). The results are presented in Table 4.

Table 4. Multicollinearity Test

Variable	Tolerance	VIF
Principal Leadership (X1)	0.860	1.163
Pedagogical Competence (X2)	0.887	1.128
Professional Competence (X3)	0.859	1.165

The findings indicate that all independent variables have VIF values less than 10 and tolerance values greater than 0.10, suggesting that no multicollinearity problems exist in the regression model.

Hypothesis Testing

a. Multiple Regression Analysis

The regression analysis was conducted to examine the combined effects of principal leadership, pedagogical competence, and professional competence on teacher performance. The results of the ANOVA test are presented in Table 5.

Table 5. ANOVA (Regression Model Significance)

Model	F	Sig.
Regression	7.235	.000a

The hypotheses tested were as follows:

- H0: The multiple regression model cannot be used to predict teacher performance based on principal leadership, pedagogical competence, and professional competence.

- Ha: The multiple regression model can be used to predict teacher performance based on principal leadership, pedagogical competence, and professional competence.

As shown in Table 1, the significance value (p = 0.000) is less than 0.05, leading to the rejection of H0 and the acceptance of Ha. Therefore, the regression model is statistically significant and can be used to predict teacher performance.

The coefficients of the regression analysis are shown in Table 6.

Table 6. coefficients of the regression analysis

Predictor	B	β	t	Sig.
Constant	93.407	–	4.563	.000
Principal Leadership (X1)	0.261	0.355	3.364	.001
Pedagogical Competence (X2)	0.587	0.349	3.363	.001
Professional Competence (X3)	-0.672	-0.360	-3.412	.001

Based on these results, the regression equation can be expressed as:

$$Y=93.407+0.261X1+0.587X2-0.672X3$$

where Y is teacher performance, X1 is principal leadership, X2 is pedagogical competence, and X3 is professional competence.

F-Test (Simultaneous Effect)

The F-test indicated that the combined effect of principal leadership, pedagogical competence, and professional competence on teacher performance was statistically significant ($F = 7.235$, $p < 0.05$). This result demonstrates that the three independent variables, when considered together, significantly contribute to explaining teacher performance.

Coefficient of Determination (R^2)

The coefficient of determination is shown in Table 7.

Table 7. Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.455a	.207	.179	7.747

The R^2 value of 0.207 indicates that principal leadership, pedagogical competence, and professional competence collectively explain 20.7% of the variance in teacher performance. The remaining 79.3% is influenced by other factors not included in this study.

Partial Correlation Analysis

Partial correlation analysis was employed to test the separate effects of each independent variable on the dependent variable. Hypothesis testing was based on the significance probability (p-value). If $p > 0.05$, the null hypothesis (H0) is accepted; conversely, if $p < 0.05$, the null hypothesis is rejected.

Dependent Variable: Teacher Performance (Y)

$F = 7.235$, $R^2 = 0.207$

Table 8 show that The t-test results indicate that principal leadership (X1) has a partial correlation of 0.346 with teacher performance, with a t-value of 3.364 and a significance level of 0.001 (< 0.05). Therefore, H0 is rejected, and H1 is accepted. This finding demonstrates that principal leadership has a positive and significant effect on teacher performance. The results show that pedagogical competence (X2) has a partial correlation of 0.346 with teacher performance, with a t-value of 3.363 and a significance level of 0.001 (< 0.05). Thus, H0 is rejected, and H2 is accepted. This confirms that pedagogical competence has a positive and significant effect on teacher performance. The analysis indicates that professional competence (X3) has a partial correlation of -0.351 with teacher performance, with a t-value of -3.412 and a significance level of 0.001 (< 0.05). Accordingly, H0 is rejected, and H3 is accepted. Interestingly, this result shows that professional competence exerts a significant but negative effect on teacher performance, suggesting that higher levels of professional competence, as measured in this context, may not directly translate into improved performance.

Table 8. Results of Partial Correlation Analysis (t-test)

Predictor	B	Std. Error	β	t	Sig.	Zero-order	Partial	Part
Constant	93.407	20.470	–	4.563	.000	–	–	–
Principal Leadership (X1)	0.261	0.078	0.355	3.364	.001	0.188	0.346	0.329
Pedagogical Competence (X2)	0.587	0.175	0.349	3.363	.001	0.204	0.346	0.329
Professional Competence (X3)	-0.672	0.197	-0.360	-3.412	.001	-0.194	-0.351	-0.333

Discussion

The findings of this study provide important insights into the determinants of teacher performance in elementary schools. Overall, the results demonstrate that

principal leadership, pedagogical competence, and professional competence jointly exert a significant effect on teacher performance. However, the relative contributions of each variable differ, with principal leadership and pedagogical competence showing positive effects, while professional competence revealed an unexpected negative influence.

Principal Leadership and Teacher Performance

The analysis confirmed that principal leadership significantly and positively affects teacher performance. This result is consistent with prior studies highlighting the importance of principals as instructional leaders who not only manage administrative tasks but also motivate, supervise, and support teachers (Achmadi, 2012; Pratiwi & Wardi, 2017). Effective leadership provides teachers with clear direction, constructive feedback, and professional encouragement, which ultimately enhance classroom practices and student outcomes. In the context of elementary schools in Ngawen District, these findings reinforce the need for principals to strengthen their role as leaders who focus on instructional quality rather than merely administrative compliance.

Several prior studies have consistently underscored the positive relationship between principal leadership and teacher performance. Achmadi (2012), for instance, found that principal leadership significantly enhanced the performance of elementary school teachers, with leadership practices such as supervision, motivation, and communication playing a critical role. Similarly, Pratiwi and Wardi (2017) reported that principal leadership had a strong impact on vocational school teachers' performance, particularly in the business and management fields. The current study aligns with these findings, confirming that effective leadership at the elementary school level provides teachers with direction, encouragement, and accountability, which in turn enhance their performance. However, while previous studies often emphasized the structural or managerial aspects of leadership, the present study highlights the importance of leadership in instructional guidance, particularly within resource-limited rural contexts.

Pedagogical Competence and Teacher Performance

Pedagogical competence was also found to have a significant positive impact on teacher performance. This finding supports existing literature that underscores the importance of pedagogical skills in designing and delivering effective learning experiences (Uno, 2008; Nurdianti, 2017). Teachers who demonstrate strong pedagogical competence are more capable of engaging students actively, employing varied instructional strategies, and conducting accurate assessments, all of which contribute to improved performance. The results suggest that in the elementary school context, pedagogical competence may serve as a critical factor for ensuring high-quality teaching and learning, particularly as young learners require tailored approaches to meet their developmental needs.

The positive influence of pedagogical competence observed in this study is also supported by earlier research. Nurdianti (2017) demonstrated that pedagogical competence significantly improved the performance of high school economics teachers in Bandung. Similarly, Suarjana (2012) found that professional attitudes and pedagogical capabilities were strong determinants of teacher effectiveness in junior high schools in Sukawati. The current study extends these findings to elementary education, showing that pedagogical competence—defined as the ability to plan, deliver, and evaluate instruction—remains essential across different levels of schooling. The consistency across contexts suggests that pedagogical competence constitutes a universal core of effective teaching, though its application may require adaptation to the age and developmental stage of learners.

Professional Competence and Teacher Performance

Interestingly, professional competence was found to have a significant but negative effect on teacher performance. This result stands in contrast to many earlier studies that reported a positive relationship (Hasan, 2017; Sumarno, 2009). Several explanations may account for this paradoxical finding. First, it is possible that teachers with high professional competence, measured primarily through mastery of subject matter and professional standards, may not necessarily translate this knowledge into effective classroom practices if not accompanied by strong pedagogical skills. Second, the emphasis on professional standards may increase teachers' administrative or content-focused workload, thereby reducing their attention to innovative instructional strategies. Third, contextual factors in rural schools—such as limited resources, heavy teaching loads, or lack of professional support—may prevent professional competence from being fully actualized in day-to-day teaching.

In contrast, the finding that professional competence had a negative effect on teacher performance stands in partial opposition to previous research. Hasan (2017), studying economics teachers in Gowa Regency, concluded that professional competence was positively associated with performance, albeit with a weak correlation. Sumarno (2009) also reported a positive and significant relationship between teacher professionalism and performance in elementary schools in Brebes Regency. These studies portray professional competence—defined as subject mastery, ethical responsibility, and professional growth—as a supportive factor in enhancing performance.

The present study diverges by revealing a significant but negative effect. Several contextual factors may explain this contradiction. First, professional competence in the Ngawen District context may be narrowly operationalized around mastery of subject content and adherence to professional standards, without sufficient integration into classroom practice. This is consistent with Surana (2010), who cautioned that professional competence alone does not guarantee performance unless accompanied by motivation and a conducive work environment. Second, the rural setting of this study

may limit opportunities for professional competence to be actualized, such as through access to updated teaching resources, collaborative networks, or continuous training. Consequently, teachers with higher professional competence may experience frustration or disengagement when systemic support is lacking, leading to reduced performance.

This study also aligns with Nurmalasari (2018), who found that principal leadership, pedagogical competence, and professional competence jointly influenced teacher performance in vocational high schools. However, while Nurmalasari reported uniformly positive contributions, the present study reveals a more nuanced picture: leadership and pedagogical competence were positive, but professional competence had a negative impact. This divergence highlights that the combined effect of these variables may vary depending on the educational context, level of schooling, and local conditions.

In synthesizing these comparisons, the current study contributes three unique insights. First, it reaffirms the robustness of principal leadership and pedagogical competence as predictors of teacher performance across different educational levels. Second, it introduces a paradoxical finding regarding professional competence, challenging the prevailing assumption of a uniformly positive effect. Third, it demonstrates the value of analyzing these variables simultaneously through multiple regression, thereby revealing their relative contributions and interactions.

Conclusions

This study concludes that principal leadership, pedagogical competence, and professional competence jointly influence the performance of elementary school teachers, explaining 20.7% of the variance. Principal leadership and pedagogical competence were found to have positive and significant effects, underscoring their essential roles in shaping effective teaching practices. However, professional competence showed a significant but negative effect, suggesting that subject mastery and professional standards alone may not automatically translate into better teacher performance without adequate pedagogical integration and leadership support.

The findings imply that school improvement efforts should focus on strengthening instructional leadership among principals and enhancing teachers' pedagogical skills through continuous professional development. Professional competence must be contextualized and aligned with classroom practice, supported by leadership and systemic resources, to ensure it contributes positively to teacher performance. Policymakers and education stakeholders should adopt a balanced approach that integrates leadership, pedagogy, and professional standards into teacher development programs, particularly in resource-limited elementary schools.

Future studies should include additional variables such as teacher motivation, school climate, and supervisory practices to capture a more comprehensive model of teacher performance. Employing qualitative or mixed-methods approaches would provide richer insights into how competence and leadership interact in practice. Comparative and longitudinal studies across different regions and educational levels are also recommended to validate and extend these findings, especially regarding the paradoxical negative effect of professional competence.

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