
The influence of principal leadership and the availability of facilities and infrastructure on teacher performance

SANDRA GAMBA INDAH^{1*}, SULASTRI SULASTRI², RIFMA RIFMA³, AND SYAHRIL SYAHRIL⁴

Abstract

This study explores the influence of principal leadership and the availability of facilities and infrastructure on teacher performance in MTS Negeri Padang Lawas Regency. Using a quantitative correlational approach, the research examines how principal leadership and resources contribute to enhancing teacher performance. Data were collected through a questionnaire administered to 56 teachers, with results analyzed using descriptive statistics, normality tests, homogeneity tests, multicollinearity tests, and linearity tests. The findings reveal that principal leadership accounts for 18% of teacher performance variation, while the availability of facilities and infrastructure contributes 22.2%. Together, these two factors explain 37.8% of the variation in teacher performance. The study emphasizes the importance of improving both leadership skills and educational resources to enhance teaching effectiveness. These results suggest that investment in leadership development and school infrastructure should be prioritized to achieve better educational outcomes.

Keywords

Facilities and infrastructure, principal leadership, teacher performance

Article History

Received 05 February 2025

Accepted 10 January 2026

How to Cite

Indah, S. G., Sulastris, S., Rifma, R., & Syahril, S. (2026). The influence of principal leadership and the availability of facilities and infrastructure on teacher performance. *Indonesian Research Journal in Education | IRJE |*, 10(1), 7-21. <https://doi.org/10.22437/irje.v10i1.41614>

¹ Universitas Negeri Padang, Padang, Indonesia, Corresponding author: sandragambasiregar@gmail.com

²⁻⁴ Universitas Negeri Padang, Padang, Indonesia

Introduction

Education plays a critical role in shaping high-quality human resources and is recognized as a fundamental element in the development of society. The quality of education has a direct impact on a nation's economic development, social stability, and overall well-being. As emphasized in Indonesia's National Education System, education is a conscious, planned effort to create a learning environment where students can develop their potential across various dimensions, including intellectual, emotional, and spiritual. Moreover, education serves as a tool for shaping the nation's character and fostering responsible citizenship.

At the core of the education system lies the teacher, whose role is paramount in delivering knowledge and facilitating learning. Teachers are responsible for delivering content and fostering critical thinking, creativity, and moral development among students. According to the Ministry of Education and Culture Regulation No. 15 of 2018, teachers have several important responsibilities, including planning lessons, teaching, monitoring students' progress, and supporting their personal growth. Effective teacher performance is key to guaranteeing the quality of education and the success of the learning process in schools. However, field observations have revealed that teacher performance is often suboptimal, attributed to several factors, including insufficient support from school leadership and inadequate facilities and infrastructure (Savitri et al., 2022). While individual teacher competence is critical, the support structures in place at the school level are equally important in determining how effectively teachers can perform their duties.

This study aims to investigate the influence of two critical factors on teacher performance: principal leadership and the availability of facilities and infrastructure. Principal leadership is widely acknowledged as a crucial determinant of school performance, given that school leaders are integral in establishing direction, motivating staff, and facilitating the efficient functioning of the institution (Wahyudi, 2009). The principal's leadership style has a direct effect on how motivated, satisfied, and effective teachers are in the classroom. Effective leadership fosters a positive school climate, encourages professional growth, and enhances teachers' engagement with their work (Sutikno, 2018).

Similarly, the availability and quality of facilities and infrastructure are crucial in creating an environment conducive to teaching and learning. Facilities encompass the physical resources available to teachers, such as classrooms, teaching aids, and office equipment, whereas infrastructure refers to the broader support systems that enable effective teaching, including school buildings, technology, and administrative support (Hermawan, 2021). Adequate facilities and infrastructure ensure that teachers have the necessary tools and resources to deliver effective lessons and meet the diverse needs of their students. Without these resources, teachers may struggle to carry out their duties effectively, resulting in suboptimal performance (Sogoni, 2017).

Studies have demonstrated that leadership and resources have a significant influence on teacher performance. For instance, studies by Nursiwati and Rahmawati (2024) demonstrate that the quality of leadership and the availability of educational infrastructure are strongly correlated with teacher job satisfaction and performance. A supportive school leader who provides guidance, resources, and a clear vision is more likely to inspire teachers to perform

at their best. Additionally, schools that invest in quality facilities and infrastructure create a work environment that enables teachers to focus on their core responsibilities, thereby improving their classroom effectiveness (Wijaya & Selamat, 2024).

Despite recognition of these factors, the literature remains unclear about the specific ways in which principal leadership and facilities/infrastructure influence teacher performance in Indonesian schools, particularly in the context of MTS Negeri Padang Lawas Regency. This study aims to fill this gap by examining the relationships among principal leadership, the availability of facilities and infrastructure, and teacher performance in this educational setting. By examining these factors, the study aims to provide actionable insights that inform policy and practice for enhancing teacher performance at the school level.

In this research, principal leadership is conceptualized as the school leader's ability to influence and mobilize teachers to achieve the school's goals. Leadership behaviors such as motivating staff, providing clear direction, fostering professional development, and creating a positive school culture are all considered integral to effective leadership (Schuetz, 2011). Principal leadership is a dynamic process that involves administrative and interpersonal skills, crucial for building trust, managing conflict, and encouraging collaboration among teachers (Sutikno, 2018).

The availability of facilities and infrastructure is equally critical in supporting teacher performance. Facilities, such as classrooms, teaching aids, and learning materials, have a direct impact on the quality of education. Inadequate facilities, such as poorly equipped classrooms or a lack of access to technology, can hinder teachers' ability to engage students and deliver effective lessons. On the other hand, well-maintained facilities and access to modern educational tools can enhance the learning experience for both teachers and students, leading to better outcomes (Musnaeni et al., 2022). Furthermore, the physical work environment, including aspects such as lighting, cleanliness, and security, also plays a significant role in teachers' job satisfaction and performance (Sogoni, 2017).

MTS Negeri Padang Lawas Regency has identified the availability of teaching resources and infrastructure as a key concern. Teachers have reported difficulties in preparing effective lesson plans due to a lack of support from school leadership and limited access to necessary teaching materials and resources. Additionally, some teachers face challenges in adhering to school regulations, which further impacts their performance. These challenges suggest a need for stronger leadership and better infrastructure to enhance teacher effectiveness in the region. To address these issues, it is essential to focus on improving both principal leadership and the quality of facilities and infrastructure.

In addition to leadership and resources, the broader educational context—such as the school's organizational culture, teacher collaboration, and external support mechanisms—can also influence teacher performance. Organizational culture plays a key role in shaping teacher behaviors, values, and expectations. Schools with a culture of collaboration and professional development tend to foster higher teacher motivation and performance (Musnaeni et al., 2022). External factors, such as community involvement, government policies, and socio-economic conditions, also impact the overall effectiveness of teachers and the learning environment (Wahyudi, 2009). Understanding how these multiple factors interact with principal leadership and facilities will provide a more comprehensive view of the challenges teachers face and offer insights into effective strategies to improve performance.

This study, therefore, seeks to answer the following research questions:

- Does the leadership of principals affect teacher performance?
- Does the availability of facilities and infrastructure impact teacher performance?
- To what extent do principal leadership and the availability of facilities and infrastructure together affect teacher performance?

By addressing these questions, the study seeks to contribute to the existing body of knowledge on the factors influencing teacher performance, specifically in the context of MTS Negeri Padang Lawas Regency. The findings of this study will have practical implications for policymakers, school leaders, and educators seeking to improve the quality of education and enhance teacher performance.

Literature Review

The success of education and student outcomes is closely tied to teacher performance, making it crucial for educational institutions to continuously develop and enhance their teachers' performance. Teacher performance refers to the tangible results teachers achieve in their professional roles. It can be measured by the outcomes of their work, the completion of tasks, or the execution of activities within a defined time frame. Teacher performance aims to assess whether educators have successfully imparted the knowledge and skills outlined in educational or training programs (Sunarsi, 2020).

Teacher performance reflects the outcomes achieved by a teacher in fulfilling their duties, as mandated by the school to contribute to the realization of its vision, mission, and objectives. This performance must be demonstrated legally, morally, and ethically. According to the regulation issued by the [Ministry of National Education \(2007\)](#), teacher performance is defined as the tangible achievement of teaching outcomes resulting from the activities teachers engage in as part of their core duties. These duties, in turn, represent a professional commitment in the field of education.

Teachers are the cornerstone of educational success, playing a crucial role in achieving overall educational goals. According to the [Directorate of Education Personnel \(2010\)](#), teachers' roles encompass several core competencies. These include: (a) Teacher as a demonstrator: Teachers must master the subject matter they teach and continuously strengthen their knowledge. This level of mastery has a direct effect on how well students learn; (b) Teacher as a classroom manager: Teachers should effectively manage classroom resources, develop students' ability to utilize learning tools, and create conducive learning environments that enable students to meet their learning objectives; (c) Teacher as a mediator and facilitator: Teachers must possess sufficient knowledge and understanding of educational media, which serve as tools to streamline the teaching and learning process. They must also identify and use appropriate learning resources to support educational goals; (d) Teacher as an evaluator: Teachers need to conduct assessments to determine whether learning objectives have been met, whether the material has been fully grasped, and whether the teaching methods used were effective; (e) Teacher as a curriculum developer: Teachers have the authority to design and plan the curriculum, determine lesson objectives, develop teaching strategies, and evaluate the success of their teaching methods.

The quality of learning outcomes is largely determined by the strategies teachers develop and implement. These strategies are assessed through teacher performance evaluations, which help ensure that the learning process is effectively managed. To achieve reliable and measurable outcomes, teachers need to have clear planning, efficient learning management, and well-organized teaching practices (Musnaeni et al., 2022).

Supardi (2014) also emphasized that teacher performance is characterized by the teacher's ability to carry out their teaching tasks, as indicated by several specific competencies: (1) the ability to prepare lesson plans, (2) the ability to deliver lessons effectively, (3) the ability to foster positive interpersonal relationships, (4) the ability to assess student learning outcomes, (5) the ability to provide enrichment activities, and (6) the ability to conduct remedial teaching.

Leadership plays a critical role in shaping the performance of teachers. Leadership refers to the ability to influence, guide, direct, and motivate individuals, including teachers, students, and other school staff, to work collaboratively towards achieving the institution's goals (Hasanah, 2020). In the school context, principals must possess leadership skills to manage their schools effectively. A principal who is skilled at communication and understands the importance of building relationships within the school community is better equipped to help students achieve their educational goals (Savitri et al., 2022). According to Decree No. 162/U/2003 of the Minister of National Education, a school principal must embody the roles of educator, manager, administrator, supervisor, leader, entrepreneur, and climate creator. This all-encompassing role demonstrates the crucial importance of leadership in managing a school. As such, school principals need strong leadership capabilities, as leadership plays a vital role in determining the school's success and educational outcomes.

Wahyudi (2009) described leadership as the ability to mobilize, direct, and influence members' mindsets and work processes, encouraging their independence, especially in decision-making, to expedite the achievement of organizational goals. Schuetz (2011) similarly emphasized that leadership is about motivating, influencing, and enabling individuals to contribute to the organization's effectiveness and success. These leadership skills are crucial for a school principal to manage and motivate teachers to perform at their best, thereby enhancing the overall educational experience.

The availability of educational facilities and infrastructure is another critical factor that affects teacher performance. Educational facilities refer to the tangible resources necessary for teaching and learning, including classrooms, teaching materials, and equipment. Infrastructure, on the other hand, encompasses broader support systems, including the physical environment, technology, and administrative resources, that facilitate the creation of a conducive learning environment (Hermawan, 2021). Infrastructure indirectly supports educational processes, but it is essential for making teachers' jobs easier and improving the quality of education. Facilities, however, directly impact the teaching and learning process, including resources such as learning tools, media, and other instructional aids.

Infrastructure management is also crucial in supporting the smooth functioning of educational activities. Priansa (2014) outlined several benefits of effective infrastructure management, including (1) providing data to identify and plan for the procurement of necessary materials, (2) guiding the procurement and distribution of educational resources, (3) assessing the state of goods to make informed decisions about adding or reducing resources,

(4) offering data to facilitate the supervision and control of goods, and (5) evaluating the effectiveness of infrastructure management within an institution.

Teachers can perform their jobs effectively when they have the necessary facilities and infrastructure. Without sufficient resources, such as up-to-date technology or well-maintained classrooms, teachers face significant barriers to effective teaching. Conversely, a well-equipped school with the necessary infrastructure enables teachers to focus on delivering quality education, resulting in improved student outcomes and enhanced teacher performance (Sogoni, 2017). Furthermore, the physical environment, including factors such as cleanliness, lighting, noise levels, and safety, also affects teachers' job satisfaction and their ability to perform effectively in their roles.

Overall, the interaction between leadership and infrastructure is critical in determining teacher performance. Both principal leadership and the availability of facilities and infrastructure significantly influence how teachers perform in their roles. Research by Nursiwati and Rahmawati (2024) and Savitri et al. (2022) highlights that supportive leadership and adequate facilities contribute to higher teacher satisfaction, improved job performance, and better educational outcomes. Therefore, enhancing both leadership and infrastructure in schools should be a primary focus for policymakers and school administrators seeking to improve teacher performance and educational quality.

Methodology

Research design, sites, and participants

This study employs a quantitative research design, specifically using a correlational approach that combines both descriptive and associative methods. The descriptive approach aims to provide an overview of the data as they are, describing the current state of the variables under study. The associative approach, on the other hand, is used to examine the relationships between the independent and dependent variables and to assess the contribution of the independent variables to the dependent variable.

The population for this study comprises the teachers at MTS Negeri Padang Lawas Regency, totaling 199. A sample of 56 teachers was selected using proportional stratified random sampling, ensuring the sample accurately represents the population by accounting for different subgroups within the teacher population.

Data collection was conducted using a closed-ended questionnaire, designed with a Likert scale featuring five response options: Always (A), Often (O), Sometimes (S), Rarely (R), and Never (N). This type of questionnaire allows standardized responses to be quantitatively analyzed. The research instrument was first tested for validity and reliability before being used in the study. Once validated, the questionnaire was distributed to the selected sample, and the responses were collected.

The data collected from the questionnaires were analyzed using descriptive statistics, which helped summarize the data and provide an overall picture. In addition, several analytical requirements were tested to ensure the data were valid for subsequent analysis. These included normality testing, homogeneity testing, and multicollinearity testing. These tests were necessary to verify the assumptions for performing hypothesis testing using regression analysis.

The research hypotheses were formulated based on the problem formulation, research objectives, and theoretical framework. The hypotheses tested in this study are as follows:

- Principal leadership affects teacher performance.
- The availability of facilities and infrastructure affects teacher performance.
- Principal leadership and the availability of facilities and infrastructure together affect teacher performance.

After conducting the necessary assumption tests, hypothesis testing was performed using both simple linear regression and multiple regression analysis. Simple linear regression was used to examine the individual impact of principal leadership and the availability of facilities and infrastructure on teacher performance. Multiple regression analysis was then conducted to assess the combined effects of both independent variables (principal leadership and facilities and infrastructure) on the dependent variable (teacher performance). This analysis helps determine the relative importance and strength of each factor in influencing teacher performance.

Findings

Normality test

The normality of the teacher performance (Y), principal leadership (X1), and the availability of facilities and infrastructure (X2) variables was tested using the Kolmogorov-Smirnov Z test (SPSS Version 26). A data set is considered normally distributed if the significance level (Asymp. Sig) of the Kolmogorov-Smirnov test exceeds 0.05. If the significance level is less than 0.05, the data is deemed not normally distributed.

The results of the normality test revealed that the significance values for all three variables exceed 0.05, indicating that the data for teacher performance (Y), principal leadership (X1), and the availability of facilities and infrastructure (X2) were normally distributed. Therefore, the data meet the normality assumption required for further analysis.

Table 1. *Summary of normality test results*

No	Research variables	Sign	Description
1	Teacher performance (Y)	0.093	Normal
2	Principal leadership (X1)	0.200	Normal
3	Availability of facilities and infrastructure (X2)	0.095	Normal

Homogeneity test

The homogeneity of variance was tested using Levene's Test to determine whether the variances of the dependent variable (teacher performance) were equal across the different groups for the independent variables (principal leadership and the availability of facilities and infrastructure). According to Levene's Test, if the significance value exceeds 0.05, the variances are considered homogeneous.

The results of the homogeneity test indicated that the variances for both principal leadership (X1) and the availability of facilities and infrastructure (X2) were homogeneous, with significance values of 0.056 and 0.123, respectively. This confirms that the data meet the homogeneity assumption for regression analysis.

Table 2. *Summary of homogeneity test results*

Variable	Levene statistic	Df1	Df2	sig
Principal leadership (X1)	3.746	1	110	0.056
Availability of facilities and infrastructure (X2)	2.410	1	110	0.123

Multicollinearity test

The multicollinearity test was conducted to assess correlations among the independent variables (principal leadership and the availability of facilities and infrastructure). Multicollinearity is problematic when independent variables are highly correlated. The Variance Inflation Factor (VIF) was used to assess multicollinearity; values exceeding 10 indicate a problem, and Tolerance values less than 0.1 also indicate multicollinearity.

The results indicated that both principal leadership (VIF = 1.001, Tolerance = 0.999) and the availability of facilities and infrastructure (VIF = 1.001, Tolerance = 0.999) had VIF values below 10 and Tolerance values exceeding 0.1. Therefore, there is no multicollinearity between the independent variables.

Table 3. *Multicollinearity test*

Model	Tolerance	VIF
Principal leadership (X1)	0.999	Principal leadership (X1)
Availability of facilities and infrastructure (X2)	0.999	1.001

Linearity test

The linearity of the regression models was tested to determine if a linear relationship existed between the independent variables (principal leadership and the availability of facilities and infrastructure) and the dependent variable (teacher performance). The regression line was tested using the F-test, where a significance value (p-value) exceeding 0.05 indicates that the relationship is linear.

The results of the linearity test indicated that both principal leadership (X1) and the availability of facilities and infrastructure (X2) had linear relationships with teacher performance. The p-values for both tests exceeded 0.05 (p = 0.534 for X1 and p = 0.768 for X2), confirming that the regression models were linear.

Table 4. Summary of linearity test analysis results in x_1 against y

Source	Sum of Squares	Df	Mean square	F	P
Deviation	5190.326	30	173,011	972	0534
Within Group	4270.500	24	177,938		
Total		55			

Table 5. Summary of linearity test results in x_2 against y

Source	Sum of Squares	Df	Mean square	F	P
Deviation	3947.423	28	140.979	754	0.768
Within Group	4861.583	26	186.984		
Total		55			

Hypothesis testing

Effect of Principal Leadership on Teacher Performance: The first hypothesis tested in this study was whether principal leadership affects teacher performance. The correlation analysis indicated a significant positive relationship between principal leadership and teacher performance, with a correlation coefficient of 0.424 and a coefficient of determination (R^2) of 0.180. This indicates that principal leadership accounts for 18.0% of the variation in teacher performance. Simple regression analysis yielded $\hat{Y} = 88.722 + 0.543X_1$, with a significant F-value ($F = 11.830$, $p = 0.001$), confirming that principal leadership has a significant influence on teacher performance.

Table 6. Correlation results of x_1 to y

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	.424a	0.180	0.165	13.236
a. Predictors: (Constant), Principal Leadership				

Effect of Availability of Facilities and Infrastructure on Teacher Performance: The second hypothesis tested whether the availability of facilities and infrastructure affects teacher performance. The correlation coefficient between the availability of facilities and infrastructure and teacher performance was 0.486, with an R^2 value of 0.222. This outcome indicates that the availability of facilities and infrastructure accounts for 22.2% of the variation in teacher performance. Simple regression analysis yielded the equation $\hat{Y} = 62.956 + 0.669 X_2$, with a significant F-value ($F = 16.701$, $p = 0.000$), indicating that the availability of facilities and infrastructure has a significant influence on teacher performance.

Table 7. *Correlation results of x2 to y*

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
Availability of Facilities and Infrastructure (X2)	0.486	0.236	0.222	12.772

Combined Effect of Principal Leadership and Availability of Facilities and Infrastructure on Teacher Performance: The third hypothesis examined whether principal leadership and the availability of facilities and infrastructure together influence teacher performance. The multiple regression analysis indicated a significant combined effect, with a correlation coefficient of 0.633 and an R^2 of 0.378. This indicates that both independent variables together explain 37.8% of the variation in teacher performance. The regression equation $\hat{Y} = 121.365 + 0.520 X1 + 0.648 X2$ was found to be significant ($F = 17.721$, $p = 0.000$), indicating that both principal leadership and the availability of facilities and infrastructure have a substantial impact on teacher performance.

Table 8. *Multiple regression results for x1 and x2 on y*

Source	Sum of Squares	Df	Mean Square	F	P
Regression	4621.918	2	2310.959	17.721	0.000
Residual	6911.511	53	130.406		
Total	11533.429	55			

Table 9. *Coefficients for x1 and x2 on y*

Source	Coefficient	T	Sig
Constant	121.365	21.629	0.000
Principal Leadership (X1)	0.520	3.815	0.001
Availability of Facilities and Infrastructure (X2)	0.648	4.421	0.000

The findings of this study suggest that principal leadership and the availability of facilities and infrastructure have a significant impact on teacher performance. Principal leadership alone accounts for 18.0% of the variance in teacher performance, while the availability of facilities and infrastructure accounts for 22.2%. Together, these two factors account for 37.8% of the variation in teacher performance, underscoring their importance in enhancing educational outcomes.

Discussion

The results of the data analysis and the responses of teachers at MTS Negeri Padang Lawas Regency revealed valuable insights into the variables under investigation, namely principal leadership, the availability of facilities and infrastructure, and teacher performance.

The level of teacher responses to principal leadership was rated very high (93% of the ideal score), the availability of facilities and infrastructure was also rated very high (91.17% of the perfect score), and teacher performance itself was in the high category (89.768% of the perfect score). These results contrast with the initial observations made by the researchers, who perceived teacher performance as relatively lacking. The disparity between the initial observations and the study findings underscores the importance of using valid and reliable measurement instruments. Observational data alone are insufficient for making broad generalizations. This underscores the need for systematic research, conducted following rigorous procedures, to obtain empirical evidence and support valid conclusions.

Effect of principal leadership on teacher performance

The results of this study indicate that principal leadership has a significant impact on teacher performance, accounting for 18.0% of the variation in teacher performance. In practical terms, this means that principal leadership can be used as a predictor of teacher performance. The better the leadership provided by the principal, the better the performance of teachers.

The descriptive analysis revealed that the principal's leadership was highly rated, with an average score of 93%. Among the various indicators of principal leadership, the highest-rated indicator was directing, with a score of 93.71%, indicating that principals are particularly effective in guiding their teachers. The lowest-rated indicator was driving, which also scored very high at 92.25%. This suggests that while principal leadership is strong, there is room for improvement, particularly in motivating and mobilizing teachers effectively. It is essential to acknowledge that the role of principal leadership is multifaceted, encompassing various responsibilities such as influencing, motivating, directing, and mobilizing staff to achieve educational goals (Schuetz, 2011; Wahyudi, 2009).

The regression analysis confirmed the significant effect of principal leadership on teacher performance, with a regression coefficient of 0.543, which is statistically significant ($p = 0.001$). This finding aligns with the theory put forward by Wahyudi (2009), who emphasized that leadership involves motivating and influencing members of an organization to work independently and make decisions to achieve predefined goals. Additionally, as Mulyasa (2013) suggests, the principal's role as an educator, manager, and motivator is crucial for improving teacher performance. Therefore, enhancing the principal's leadership skills, particularly in terms of mobilizing and motivating teachers, can improve overall teacher performance.

Improvement in principal leadership should focus on the areas of influence and motivation, with a particular emphasis on mobilizing teachers—an area identified as the lowest in this study. Principals should enhance their ability to engage teachers and make them active participants in the school's educational vision. Effective mobilization can lead to greater collaboration and enthusiasm among teachers, ultimately resulting in improved classroom performance (Darmawan, 2014).

Effect of facility availability and infrastructure variable (X2) and infrastructure on teacher performance

The study also found that the availability of facilities and infrastructure had a significant impact on teacher performance, accounting for 22.2% of the variation in performance. In other words, the quality and availability of physical resources in the school environment can predict the level of teacher performance. The better the infrastructure, the better the performance of teachers.

Descriptive analysis revealed that the availability of facilities and infrastructure was highly rated, with an average score of 91.17%. Among the various indicators, the highest score was for classroom facilities, which was rated at 93.86% of the ideal score, indicating that classrooms are well-equipped for teaching and learning activities. However, the indicator with the lowest score was supporting equipment, which was rated at 88.29%, suggesting that some areas of infrastructure, such as learning aids or administrative resources, still require improvement.

The significant correlation between the availability of facilities and infrastructure and teacher performance further supports the view that adequate infrastructure has a direct influence on teaching effectiveness. As Wijaya and Selamat (2024) point out, proper facilities and infrastructure enable teachers to manage teaching and learning activities more effectively. Teachers who have access to up-to-date technology, well-equipped classrooms, and appropriate teaching materials are better positioned to engage their students and achieve learning objectives (Musnaeni et al., 2022).

The regression analysis indicated that the availability of facilities and infrastructure had a significant effect on teacher performance, with a regression coefficient of 0.669 and a p-value of 0.000, confirming the strong influence of this variable. This result is consistent with findings from other studies, which suggest that well-equipped schools foster better teaching conditions, leading to improved teacher performance (Hermawan, 2021; Sogoni, 2017). Therefore, improving the availability and quality of facilities and infrastructure should be a priority for schools aiming to enhance teacher performance.

Combined effect of principal leadership and availability of facilities and infrastructure on teacher performance

The third hypothesis tested the combined effect of principal leadership and the availability of facilities and infrastructure on teacher performance. The results indicated that both factors together explain 37.8% of the variation in teacher performance. This significant combined effect highlights the importance of both leadership and infrastructure in improving teacher effectiveness.

Multiple regression analysis revealed a combined regression equation: $\hat{Y} = 121.365 + 0.520X_1 + 0.648X_2$. The principal leadership variable (X_1) had a regression coefficient of 0.520, while the availability of facilities and infrastructure (X_2) had a higher coefficient of 0.648. This suggests that the availability of facilities and infrastructure has a slightly greater impact on teacher performance compared to principal leadership. However, the combined effect of these two factors significantly enhances teacher performance.

The combined influence of principal leadership and infrastructure reflects the interconnectedness of these variables. Schools with strong leadership and adequate infrastructure provide an environment that supports teachers in performing their best.

According to the findings of this study, improving both principal leadership and infrastructure is essential for enhancing teacher performance. Schools should focus on fostering leadership that motivates and engages teachers, while also ensuring that teachers have access to the necessary resources and facilities to carry out their duties effectively (Wijaya & Selamat, 2024).

Data analysis indicates that both principal leadership and the availability of facilities and infrastructure significantly impact teacher performance, both independently and in combination. Schools should prioritize improving these two factors to foster a conducive environment for teaching and learning. As principals are the key figures in managing school resources and motivating teachers, they play a pivotal role in ensuring that the school environment is optimal for both educators and students.

The findings of this study have important implications for school management and policy. First, principal leadership is crucial in shaping teacher performance. School leaders must enhance their leadership capabilities, particularly in motivating and mobilizing their teachers. Providing leadership development programs for principals could improve their ability to manage and guide teachers more effectively.

Second, the availability of facilities and infrastructure is a key determinant of teacher performance. Policymakers and school administrators must invest in improving school infrastructure, ensuring that classrooms are adequately equipped, and that teachers have access to the necessary resources. This investment will improve teacher performance and contribute to better student outcomes.

Lastly, the combined effect of principal leadership and facilities on teacher performance underscores the importance of a holistic approach to school improvement. Both leadership development and infrastructure improvement should be prioritized simultaneously to achieve the best possible outcomes for teachers and students alike.

This study has demonstrated that principal leadership, as well as the availability of facilities and infrastructure, both independently and collectively, influence teacher performance. Principal leadership accounts for 18.0% of the variation in teacher performance, while facilities and infrastructure contribute 22.2%. Together, they account for 37.8% of the variation, underscoring their importance in enhancing the quality of education. To enhance teacher performance, school leaders must focus on improving both their leadership skills and the availability of resources within the school.

Conclusion

This study has investigated the influence of principal leadership and the availability of facilities and infrastructure on teacher performance at MTS Negeri Padang Lawas Regency. Based on the data analysis, several key findings were obtained:

- a. **Principal Leadership:** The results indicate that principal leadership significantly affects teacher performance, accounting for 18.0% of the variation. The better the leadership demonstrated by the principal, the better the performance of the teachers. Specifically, leadership behaviors such as directing, motivating, and mobilizing teachers are key areas that need further improvement, with mobilizing teachers being identified as the lowest indicator in this study. Enhancing the principal's role as an effective motivator

- and mobilizer of teachers will contribute significantly to improving teacher performance.
- b. Availability of Facilities and Infrastructure: The availability of facilities and infrastructure was found to have a significant effect on teacher performance, explaining 22.2% of the variation in teacher performance. Schools with better facilities and infrastructure provide teachers with the necessary tools and resources, enabling them to perform their roles more effectively. Despite the high rating of available facilities, there is still room for improvement, especially in ensuring that all supporting equipment is of high quality.
 - c. Combined Effect: The combined effect of principal leadership and the availability of facilities and infrastructure accounted for 37.8% of the variation in teacher performance. This finding emphasizes that both factors—strong leadership and adequate resources—work together to create an environment that fosters improved teacher performance.

In conclusion, to enhance teacher performance, both principal leadership and the availability of facilities and infrastructure must be prioritized. Schools should focus on improving leadership practices, particularly in motivating and mobilizing teachers, and invest in ensuring that adequate teaching facilities are available. This holistic approach to leadership and resource management will improve teacher performance and contribute to better educational outcomes in the long term. Future research could explore additional factors that influence teacher performance, such as professional development programs, teacher motivation, and student engagement, to provide a more comprehensive understanding of the drivers of educational success.

Disclosure Statement

No potential conflict of interest was reported by the authors.

References

- Darmawan, I. (2014). *Meningkatkan kinerja guru melalui kepemimpinan kepala sekolah (Improving teacher performance through school principal leadership)*. Alfabeta.
- Directorate of Education Personnel. (2010). *Pedoman penugasan guru (Guidelines for teacher assignments)*. Kementerian Pendidikan Nasional Republik Indonesia.
- Hasanah, N. (2020). NH kebijakan kepala sekolah dalam meningkatkan kinerja sekolah melalui manajemen informasi pada SDN di Kecamatan Prigen Kabupaten Pasuruan: Kebijakan, kinerja sekolah, manajemen informasi (NH principal's policy in improving school performance through information management at elementary schools in Prigen sub-district, Pasuruan district: Policy, school performance, information management). *Journal of Education Management and Learning*, 3(2), 1-11.
- Hermawan, D. (2021). *Manajemen sarana dan prasarana (Facilities and infrastructure management)*. Klik Media.
- Ministry of National Education. (2007). *Peraturan Menteri Pendidikan Nasional Republik Indonesia Nomor 41 Tahun 2007 tentang standar proses pendidikan dasar dan menengah (Regulation of the*

- Minister of National Education of the Republic of Indonesia No. 41 of 2007 concerning the process standards for elementary and secondary education*). Kementerian Pendidikan Nasional Republik Indonesia.
- Mulyasa, H. E. (2013). *Uji kompetensi dan penilaian kinerja guru (Competency testing and teacher performance assessment)*. PT Remaja Rosdakarya.
- Musnaeni, M., Abidin, S., & Purnamawati, P. (2022). Pentingnya manajemen strategi dalam meningkatkan kualitas pendidikan (The importance of strategic management in improving the quality of education). *Cendekia: Jurnal Ilmu Pengetahuan*, 2(2), 98-104.
- Nursiwati, N., & Rahmawati, R. (2024). Pengaruh sarana dan prasarana terhadap kinerja guru serta dampaknya pada mutu lulusan pada SMP Negeri se-Kecamatan Bandar Laksamana (The influence of facilities and infrastructure on teacher performance and their impact on the quality of graduates at State Middle Schools in Bandar Laksamana District). *Jurnal Menara Ekonomi: Penelitian dan Kajian Ilmiah Bidang Ekonomi*, 10(2), 20–32.
- Priansa, D. (2014). *Manajemen sumber daya manusia (Human resource management)*. Rajawali Press.
- Savitri, A. S., Rahma, A. N., Kultsum, U. W., & Prihantini, P. (2022). Peran kepala sekolah sebagai pemimpin dalam pengelolaan pendidikan pada satuan pendidikan (The role of the school principal as a leader in managing education in the educational unit). *Aulad: Journal on Early Childhood*, 4(3), 329–336.
- Schuetz, A. (2016). Effective leadership and its impact on an organisation's success. *Journal of Corporate Responsibility and Leadership*, 3(3), 73-90.
- Sogoni, E. C. (2017). Influence of work environment on teacher performance in public secondary schools: A case study of Bungoma South Sub County, Kenya [Doctoral dissertation, University of Nairobi].
- Sunarsi, H. (2020). Pengaruh kepemimpinan kepala sekolah terhadap kinerja guru di sekolah dasar (The effect of principal leadership on teacher performance in elementary schools). *Jurnal Pendidikan dan Manajemen*, 5(3), 245-260.
- Supardi, A. (2014). *Pengelolaan sumber daya manusia pendidikan (Management of educational human resources)*. Alfabeta.
- Sutikno, S. (2018). *Pemimpin dan kepemimpinan tips praktis untuk menjadi pemimpin yang diidolakan (Leaders and leadership practical tips to become an idolized leader)*. Holistica.
- Wahyudi, D. R. (2009). *Kepemimpinan kepala sekolah dalam organisasi pembelajar (Principal leadership in learning organizations)*. Bandung: Alfabeta.
- Wijaya, A., & Selamat, S. (2024). The influence of work environment and facilities and infrastructure on teacher performance in vocational high schools. *Ensiklopedia: Jurnal Pendidikan dan Inovasi Pembelajaran Saburai*, 4(01), 44-52.
-