Volume 7 Number 2 (2025)
May-August 2025
Page: 545-565

E-ISSN: 2656-4491
P-ISSN: 2656-4548
DOI: 10.37680/scaffolding.v7i2.7537

SCAFFOLDING
Jurnal Pendidikan Islam dan Multikulturalisme

THE INFLUENCE OF PRINCIPAL'S ACADEMIC SUPERVISION, THE ROLE OF MOTIVATOR TEACHERS, AND TEACHERS' WORK DISCIPLINE ON SCHOOL QUALITY AT PUBLIC ELEMENTARY SCHOOLS

Memik Nor Fadilah[1], Maryanto[2], Ngasbun Egar[3]
[123]Universitas PGRI Semarang; Indonesia
Correspondence Email; memoafaradila@gmail.com

Submitted: 22/02/2025 Revised: 10/04/2025 Accepted: 09/06/2025 Published: 03/08/2025

Abstract

This study aims to examine the influence of principal academic supervision, the role of teacher leaders (Guru Penggerak), and teacher work discipline on the quality of elementary schools in Gunungpati District, Semarang City. Employing a quantitative approach with an ex post facto method and correlational design, the research involved a total population of 270 public elementary school teachers across 32 schools. A sample of 161 teachers was selected through proportional random sampling. Data were collected using a closed-ended questionnaire measured on a Likert scale and tested for validity and reliability using SPSS software. Data analysis techniques included prerequisite tests (normality, linearity, multicollinearity, and heteroscedasticity) and hypothesis testing through multiple linear regression analysis. The findings indicate that principal academic supervision significantly influenced school quality with a contribution of 65.5%; the role of teacher leaders contributed 56.1%; and teacher work discipline contributed 59.2%. Simultaneously, the three variables accounted for 75.5% of the variance in school quality. These results demonstrate that internal school factors play a crucial role in achieving educational quality. The study underscores the importance of optimizing the principal's supervisory role, strengthening teacher leadership capacity, and fostering a disciplined work culture among teachers. The findings provide empirical evidence that can inform policy and strategic decisions to improve school quality at the institutional and systemic levels.

Keywords

Academic Supervision, Elementary School, School Quality, Teacher Leaders, Work Discipline.

INTRODUCTION

Education quality is the fundamental foundation for achieving national development goals. It not only promotes individual welfare but also accelerates economic growth and social transformation (Siahaan et al., 2023; Fatimah & Rosyidah, 2021). To address this, the Ministry of Education and Culture of Indonesia introduced several strategic policies, including the National Assessment, as regulated in Permendikbud No. 17 of 2021 (Indahri, 2021 ; Mujiburrahman et al., 2023). The assessment aims to enhance school quality by focusing on literacy, numeracy, and character development (Mustapa, 2024 ; Muliantara & Suarni, 2022).

This National Assessment evaluates school quality through three main instruments: the Minimum Competency Assessment (AKM), the Character Survey, and the Learning Environment Survey (Syamsuddin & Harianto, 2023; Nur Laksmi Astutiningtyas & Kusumaningsih, 2025). It serves not only as a measure of student achievement but also as a feedback mechanism to improve educational practices and school climate (Rubiherlan et al., 2022). The resulting Education Report Card becomes a strategic tool for schools and policymakers to design data-driven improvement plans (Siahaan et al., 2023).

However, despite these well-intentioned efforts, there remains a significant gap between national policy ideals and their practical implementation. A preliminary study conducted in Gunungpati District revealed several challenges hindering school quality, such as teacher shortages, disproportionate workloads, and low instructional commitment. These issues are worsened by a limited understanding of the Merdeka Curriculum and ineffective academic supervision by school principals. Many educators are unfamiliar with the curriculum's pedagogical foundation, leading to compliance-focused rather than transformative practices.

The implementation of academic supervision—a mechanism meant to ensure instructional quality—has also fallen short of expectations (Fahmi Addini et al., 2022). Rather than being reflective and developmental, supervision activities are often procedural, focusing on documentation with minimal impact on teaching improvement. Although planning, execution, and follow-up stages are rated “good” on paper, they rarely translate into real pedagogical change.

In parallel, the Human Resource Development policy through the *Guru Penggerak* program—designed to cultivate teacher leadership and promote learning communities—has not met its full potential (Siregar et al., 2023). These motivator teachers are expected to be change agents who foster sustainable learning ecosystems. Yet, in practice, their engagement in collaborative teaching and

peer mentoring remains low. Their role-model behavior in discipline, professional growth, and knowledge sharing is still limited.

Teacher work discipline also plays a critical role in shaping school quality (Lestari Prasilowati, 2024). Issues such as tardiness, lack of student mentoring, disengagement from scientific activities, and poor utilization of certification incentives are widespread. These behaviors contradict the professional expectations set by national education reforms and undermine efforts toward quality improvement.

Scholarly evidence reinforces the importance of aligning inputs, processes, and outputs in educational institutions. Research by Suwartini & Sutama (2023) emphasizes that any imbalance across these components reduces overall school performance. This aligns with quality management theory, which views the relationship between inputs (teachers, infrastructure), processes (teaching strategies), and outputs (student achievement) as the cornerstone of institutional success (Santosa et al., n.d.). Furthermore, Fitriyanti & Sholeh (2024) further argue that school leadership, particularly in curriculum design and supervision, is crucial for effective quality control. Similarly, Mushthofa et al. (2022) highlight the role of resource accountability in achieving sustainable school improvement. Regarding the Merdeka Curriculum, research by Negeri & Sumatera Selatan (2023) points to the critical role of school committees and community involvement in supporting implementation success. In the context of quality management, Muflihah & Khofya Haqiqi (2019) also stated that input–process–output-based control measures significantly improve the quality of secondary education, which is relevant to be adapted at the elementary level.

Thus, although various studies provide strong insights into the role of inputs, processes, outputs, leadership, and resource management in education quality, there remains a significant research gap. One such gap is the lack of empirical studies that simultaneously examine three internal factors: principal academic supervision, the role of *Guru Penggerak*, and teacher work discipline, particularly in the context of implementing the Merdeka Curriculum in elementary schools.

This study aims to fill that gap by providing integrated and contextual empirical evidence. Based on these conditions, this research is both important and relevant as it seeks to address the gap between system idealism and empirical realities in public elementary schools in the Gunungpati District. This study also strengthens the theoretical discourse on the importance of school governance based on professionalism and collaboration within learning communities. Theoretically,

the results of this research are expected to enrich the body of knowledge in the field of educational management, particularly regarding instruments for improving the quality of elementary schools. Practically, the findings can serve as a basis for decision-making by principals, education offices, and other stakeholders in formulating more adaptive and solution-oriented policies to address field-related challenges.

Therefore, the objective of this research is to investigate the influence of principal academic supervision, the role of *Guru Penggerak*, and teacher work discipline on the quality of public elementary schools in Gunungpati District, Semarang City. The significance of this study lies in its effort to link these variables into an integrative model that is expected to provide a more comprehensive and applicable solution to address school quality issues.

METHOD

This study employs a quantitative approach with an ex post facto method, which is a type of research aimed at identifying causal relationships based on events that have already occurred (GÜNGÖR & GEÇİKLİ, 2021). This approach is used because the researcher does not administer any direct treatment to the variables, but instead observes the influence of independent variables on the dependent variable as they naturally occur (Client et al., 2021). The focus of this research is to examine the influence of the principal's academic supervision, the role of *Guru Penggerak* (Motivator Teachers), and teacher work discipline on the quality of elementary schools in the Gunungpati District, Semarang City.

The research was conducted from January to July 2025 across 32 public elementary schools located in Gunungpati District, Semarang City, Central Java Province, Indonesia—an area characterized by a mix of urban and peri-urban communities with diverse socio-cultural backgrounds. The total population included 270 teachers, from which a sample of 161 teachers was selected using Slovin's formula and proportional random sampling technique.

The research design applied is a non-experimental correlational design, in which the researcher maps the relationships among variables without any manipulation or specific treatment (Mursyd et al., 2022). In this design, school quality (Y) is the dependent variable, which is influenced by three independent variables: the principal's academic supervision (X1), the role of *Guru Penggerak* (X2), and teacher work discipline (X3). To measure each variable, a questionnaire instrument was used, developed based on theoretical and operational indicators, and tested for validity and

reliability using SPSS software (Hardani MSi et al., 2020).

Primary data were collected directly from 161 public elementary school teachers in Gunungpati District, Semarang City, through a structured, closed-ended questionnaire using a Likert scale. Secondary data were obtained from official documents provided by the Education Office of Semarang City, school profiles, and relevant government regulations. The inclusion of both primary and secondary data strengthens the empirical foundation of this study and ensures the validity of the conclusions drawn. Presenting these data sources transparently and systematically enables readers to verify the accuracy of the arguments and assess whether the data used are representative and aligned with the research objectives stated at the beginning of the article.

The data analysis techniques used include prerequisite tests (normality, linearity, multicollinearity, and heteroscedasticity), followed by simple linear regression, multiple linear regression, the coefficient of determination test (R^2), and Pearson Product-Moment correlation to determine the strength and direction of the relationships among variables (Yam & Taufik, 2021).

The conceptual design of this study is illustrated as follows:

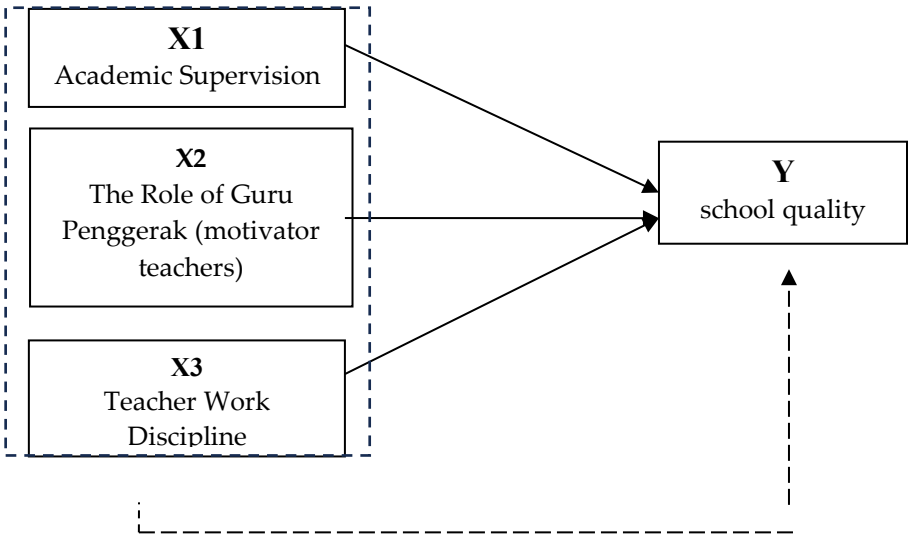

Figure 1. Diagram of Conceptual Framework

The diagram shows that the three independent variables (X1, X2, and X3) are assumed to influence the dependent variable (Y), which is school quality. This design supports the correlational approach, aiming to identify the extent and significance of the relationships among these variables within the context of primary education.

Based on the research objectives and framework, this study formulated four hypotheses to be tested statistically:

1. H_1: There is a significant influence of principal academic supervision on the quality of public elementary schools in Gunungpati District, Semarang City.
2. H_2: There is a significant influence of the role of Guru Penggerak (teacher leaders) on school quality in the same context.
3. H_3: There is a significant influence of teacher work discipline on the quality of public elementary schools.
4. H_4: There is a simultaneous and significant influence of principal academic supervision, the role of Guru Penggerak, and teacher work discipline on school quality.

These hypotheses were developed to empirically verify the theoretical assumption that internal school factors, particularly those related to instructional leadership, teacher empowerment, and professional ethics, have a measurable impact on school quality. The hypothesis testing in this study was conducted using simple and multiple linear regression analysis, enabling the researcher to assess both partial and simultaneous relationships among the variables under investigation.

FINDINGS AND DISCUSSION

Findings

Data Description

Based on descriptive analysis of responses from 161 elementary school teachers in Gunungpati District, all four research variables, academic supervision, the role of Guru Penggerak, teacher work discipline, and school quality, fall into the moderate category.

a. Academic supervision had a mean score of 120.09, with 40.3% of teachers rating it as low or very low, indicating inconsistency and the need for more effective implementation across schools.
b. The role of Guru Penggerak scored an average of 120.20, yet a notable portion of teachers (23.6%) still rated it low or very low, suggesting its transformational role in improving learning is not yet fully realized.
c. Teacher work discipline averaged 118.36, also in the moderate range, but 21.8% of responses indicated low or very low discipline, reflecting a need to reinforce professional ethics and accountability.
d. School quality, the dependent variable, had a mean of 128.66, with over a third of teachers perceiving it as low or very low, likely influenced by variation in the three contributing factors.

Overall, the results indicate that while the internal factors show moderate performance, improvements are necessary to elevate the overall quality of education in a consistent and sustainable manner.

Dimension Test Results

The dimensional analysis of each variable in this study, conducted using factor analysis (Sawji et al., 2024), shows that the components within each construct contribute unequally to the overall variable. For the school quality variable, which comprises five dimensions, the dimension of school learning emerged as the most dominant with an extraction value of 0.811 (81.1%), while school accountability contributed the least at 0.633 (63.3%). This indicates that teachers perceive the quality of the learning process as the core indicator of overall school quality.

In the case of the principal's academic supervision, follow-up activities were found to contribute the most significantly to the construct, with a value of 0.741 (74.1%). In contrast, the implementation dimension only accounted for 0.319 (31.9%), suggesting that many supervisory activities are conducted in a procedural manner without sufficient impact on improving teaching and learning processes.

The role of Guru Penggerak also showed varied contributions across its dimensions. The highest contribution came from the dimension of building collaborative efforts (0.819 or 81.9%), reinforcing the notion that teacher collaboration is a central force in educational transformation. Meanwhile, fostering a learning ecosystem was the least contributing dimension, with a relatively low value of 0.239 (23.9%), reflecting a gap in internalizing long-term, sustainable learning culture among motivator teachers.

For teacher work discipline, the execution of tasks had the most substantial contribution (0.751 or 75.1%), highlighting that responsibility in performing both instructional and administrative duties is central to discipline. Conversely, work ethics had the lowest contribution at 0.433 (43.3%), pointing to a need for improvement in professional conduct and interpersonal behavior within the school environment.

Overall, the findings of this dimensional analysis suggest that while some components of each variable are functioning well, others remain weak and require targeted development. Addressing these weaker dimensions is crucial to improving the overall quality of education in public elementary schools in Gunungpati District.

Regression Requirement Test Results

Before performing data analysis, the implementation of both simple and multiple linear regression analysis in hypothesis testing requires several assumptions to be met, namely data normality, linearity, multicollinearity, and heteroscedasticity (Rizky et al., 2024) ; (Sugiyanto et al., 2025)

a. Normality Test

The normality test aims to determine whether the data collected from each variable is normally distributed (Silalahi et al., 2024). This study employed the One-Sample Kolmogorov-Smirnov test. The criterion for determining normal distribution is: if the significance value (Sig) > 0.05, the data is normally distributed; otherwise, it is not.

Table 1. One-Sample Kolmogorov-Smirnov Test

Variable	Sig. Value
Academic Supervision	0.761
Role of *Guru Penggerak*	0.734
Teacher Work Discipline	0.349
School Quality	0.465

Source: SPSS Output

Based on the table above, with a 5% significance level (α = 0.05), all variables have significance values greater than 0.05, indicating that the data for academic supervision, role of *Guru Penggerak*, teacher work discipline, and school quality are normally distributed.

b. Linearity Test

The linearity test is used to determine whether there is a linear relationship between the independent variables and the dependent variable (Alwy Yusuf et al., 2024). The decision rule is: if the significance value of the deviation from linearity > 0.05, the relationship is linear; otherwise, it is not.

Table 2. Linearity Test between Academic Supervision (X1) and School Quality (Y)

Component	Sum of Squares	df	F	Sig
Deviation from Linearity	11681.133	80	1.194	0.216

Conclusion: Since the significance value of 0.216 > 0.05, it can be concluded that there is a linear relationship between academic supervision and school quality.

Table 3. Linearity Test between Role of *Guru Penggerak* (X2) and School Quality (Y)

Component	Sum of Squares	df	F	Sig
Deviation from Linearity	14318.134	73	1.317	0.109

Conclusion: With a significance value of 0.109 > 0.05, the relationship between the role of *Guru Penggerak* and school quality is linear.

Table 4. Linearity Test between Teacher Work Discipline (X3) and School Quality (Y)

Component	Sum of Squares	df	F	Sig
Deviation from Linearity	9513.660	71	0.751	0.894

Conclusion: The significance value of 0.894 > 0.05 confirms a linear relationship between teacher work discipline and school quality.

c. Multicollinearity Test

The multicollinearity test examines whether there is a high correlation among independent variables (Mardiatmoko, 2020). A good regression model should not have multicollinearity. This is assessed using Tolerance and Variance Inflation Factor (VIF) values.

Table 5. Multicollinearity Test

Variable	Tolerance	VIF
Academic Supervision	0.372	2.691
Role of *Guru Penggerak*	0.353	2.833
Teacher Work Discipline	0.466	2.144

Conclusion: Since all VIF values are less than 10 and all Tolerance values are greater than 0.1, there is no indication of multicollinearity among the independent variables. Therefore, these variables can be considered mutually independent and appropriate for inclusion in the regression model.

d. Heteroscedasticity Test

The heteroscedasticity test aims to determine whether there is an unequal variance of residuals across observations. A good regression model exhibits homoscedasticity, where the residuals have constant variance (Subhaktiyasa, 2024).

Table 6. Heteroscedasticity Test

Variable	Sig. Value
Academic Supervision	0.748
Role of *Guru Penggerak*	0.986
Teacher Work Discipline	1.620

Conclusion: All significance values are greater than 0.05, indicating that no heteroscedasticity

is present in the regression model.

Hypothesis Test Results

Hypothesis testing was conducted using simple and multiple linear regression analysis to facilitate data analysis. All data processing was carried out using SPSS version 21.0 and Microsoft Office Excel 2013 (Husdi & Dalai, 2023).

a. The Influence of Academic Supervision on School Quality of Public Elementary Schools in Gunungpati District, Semarang City. The first hypothesis tested in this study is as follows:
   1. Ha = There is an influence of academic supervision on school quality in public elementary schools in Gunungpati District, Semarang City.
   2. H0 = There is no influence of academic supervision on school quality in public elementary schools in Gunungpati District, Semarang City.

The result of the Pearson product-moment correlation to determine the relationship between academic supervision and school quality is as follows:

Table 7. Correlation between Academic Supervision and School Quality

Academic Supervision	School Quality (Pearson Correlation)	Sig. (2-tailed)	N
	0.809	0.000	161

Source: SPSS Output

Based on the table above, the correlation coefficient between academic supervision and school quality is 0.809. When converted according to the interpretation table (Table 3.12), it indicates a very strong relationship between academic supervision and school quality. To determine whether the hypothesis is accepted or rejected, refer to the following coefficients table:

Table 8. The Influence of Academic Supervision on School Quality

Model	Unstandardized Coefficients (B)	Std. Error	Beta	t	Sig.
(Constant)	43.052	5.015		8.585	0.000
Academic Supervision	0.713	0.041	0.809	17.362	0.000

Source: SPSS Output

The results from the table show that the t-value for academic supervision is 17.362, while the t-table value is 1.9750. Since 17.362 > 1.9750 and the significance value is 0.000 < 0.05, H0 is rejected and Ha is accepted. This means that academic supervision has a significant influence on the quality of public elementary schools in Gunungpati District, Semarang City.

To determine the magnitude of the contribution, the coefficient of determination (R-squared) is used and expressed as a percentage.

Table 9. Contribution of Academic Supervision to School Quality

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.809	0.655	0.653	11.589

Source: SPSS Output

The result shows an R-square value of 0.655, which means academic supervision has a strong influence on school quality. This indicates that academic supervision contributes 65.5% to school quality, while the remaining 34.5% is influenced by other variables not examined in this study.

Based on Table 8, the constant coefficient is 43.052, and the regression coefficient for academic supervision (X1) is 0.713, resulting in the following regression equation:

$Y=\alpha+\beta X_1$

$Y = 43.052 + 0.713X_1$

This regression equation implies that when academic supervision equals zero, the school quality score is 43.052. The positive coefficient (0.713) indicates a positive directional relationship, meaning that every increase in academic supervision will increase school quality by 0.713. Therefore, the higher the academic supervision, the higher the school quality.

b. The Influence of the Role of Teacher Leaders on School Quality of Public Elementary Schools in Gunungpati District, Semarang City

The second hypothesis tested in this study is as follows:

1. Ha = There is an influence of the role of teacher leaders on school quality in public elementary schools in Gunungpati District, Semarang City.
2. H0 = There is no influence of the role of teacher leaders on school quality in public elementary schools in Gunungpati District, Semarang City.

The result of the Pearson product-moment correlation to determine the relationship between the role of teacher leaders and school quality is as follows:

Table 10. Correlation between the Role of Teacher Leaders and School Quality

Role of Teacher Leaders	School Quality (Pearson Correlation)	Sig. (2-tailed)	N
	0.749	0.000	161

Source: SPSS Output

Based on the table above, the correlation coefficient between the role of teacher leaders and school quality is 0.749. This value indicates a strong relationship. To verify the hypothesis, refer to the following coefficients table:

Table 11. The Influence of the Role of Teacher Leaders on School Quality

Model	Unstandardized Coefficients (B)	Std. Error	Beta	t	Sig.
(Constant)	46.515	5.849		7.953	0.000
Role of Teacher Leaders	0.683	0.048	0.749	14.267	0.000

Source: SPSS Output

The results show that the t-value for the role of teacher leaders is 14.267, while the t-table value is 1.9750. Since 14.267 > 1.9750 and the significance value is 0.000 < 0.05, H0 is rejected and Ha is accepted. This indicates that the role of teacher leaders has a significant influence on school quality in public elementary schools in Gunungpati District, Semarang City.

To determine the magnitude of the influence, the R-squared value is used and expressed as a percentage.

Table 12. Contribution of the Role of Teacher Leaders to School Quality

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.749	0.561	0.559	13.060

Source: SPSS Output

The result shows an R-square value of 0.561, meaning the role of teacher leaders contributes 56.1% to school quality, while the remaining 43.9% is influenced by other variables not studied in this research. Based on Table 11, the constant coefficient is 46.515, and the regression coefficient for the role of teacher leaders (X2) is 0.683, resulting in the following regression equation:

$Y=\alpha+\beta X_2$

$Y = 46.515 + 0.683X_2$

This equation indicates that when the role of teacher leaders equals zero, the school quality score is 46.515. The positive regression coefficient (0.683) indicates a positive directional relationship, meaning that every increase in the role of teacher leaders increases school quality by 0.683. Hence, the greater the role of teacher leaders, the higher the school quality.

c. The Influence of Teacher Work Discipline on the Quality of Public Elementary Schools in Gunungpati District, Semarang City

The third hypothesis tested in this study is as follows:

1. *Ha* = There is an influence of teacher work discipline on the quality of public elementary schools in Gunungpati District, Semarang City.
2. H_0 = *There* is no influence of teacher work discipline on the quality of public elementary schools in Gunungpati District, Semarang City.

The Pearson product-moment correlation coefficient was used to determine the relationship

between teacher work discipline and school quality, as shown below:

Table 13. Correlation between Teacher Work Discipline and School Quality

	School Quality
Teacher Work Discipline	**Pearson Correlation: 0.770**
	Sig. (2-tailed): 0.000
	N = 161

Source: SPSS Output

Based on Table 13, the correlation coefficient between teacher work discipline and school quality is 0.770. According to the interpretation table (Table 3.12), this indicates a strong relationship between teacher work discipline and school quality. To determine whether the hypothesis is accepted or rejected, the coefficients table is examined as follows:

Table 14. The Influence of Teacher Work Discipline on School Quality

Model	**Unstandardized Coefficients**	**Standardized Coefficients**		
	B	**Std. Error**	**Beta**	**t**
(Constant)	41.337	5.831		7.089
Teacher Work Discipline	0.738	0.049	0.770	15.198

Source: SPSS Output

The results from Table 14 show that the *t*-value for teacher work discipline is 15.198, while the *t*-table value is 1.9750 (15.198 > 1.9750), with a significance value of 0.000 < 0.05. Thus, H_0 is rejected and Ha is accepted, indicating that teacher work discipline has a significant influence on the quality of public elementary schools in Gunungpati District, Semarang City.

To determine the magnitude of the influence of teacher work discipline on school quality, the coefficient of determination (R-square) is used, expressed as a percentage:

Table 15. Contribution of Teacher Work Discipline to School Quality

R	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
0.770	0.592	0.590	12.593

Source: SPSS Output

The results of the determination coefficient test in the table above show that the R-square value is 0.592, indicating that teacher work discipline has a fairly strong influence on school quality. This result means that teacher work discipline contributes 59.2% to the quality of public elementary schools in Gunungpati District, Semarang City, while the remaining 40.8% may be influenced by other variables not examined in this study.

Based on Table 14, the value of the constant coefficient is 41.337, and the coefficient of the teacher work discipline variable (X_3) is 0.738. The regression equation is as follows:

$Y=\alpha+\beta X_3$

$Y = 41.337 + 0.738X_3$

The regression equation shows that teacher work discipline has a positive influence on school quality. A unit increase in work discipline is associated with a 0.738-point increase in school quality, indicating that better teacher discipline leads to improved school performance.

d. The Influence of Academic Supervision, the Role of Teacher Leaders, and Teacher Work Discipline on the Quality of Public Elementary Schools in Gunungpati District, Semarang City.

The fourth hypothesis tested in this study is as follows:

Ha = There is an influence of academic supervision, the role of teacher leaders, and teacher work discipline on the quality of public elementary schools in Gunungpati District, Semarang City.

H_0 = There is no influence of academic supervision, the role of teacher leaders, and teacher work discipline on the quality of public elementary schools in Gunungpati District, Semarang City.

The Pearson product-moment multiple correlation coefficient was used to determine the relationship between academic supervision, the role of teacher leaders, and teacher work discipline with school quality, as shown below:

Table 16. Multiple Correlation

R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	f1	f2	Sig. F Change
0.869	0.755	0.750	9.832	0.755	160.931	3	157	0.000

Source: SPSS Output

Based on Table 16, the correlation coefficient between academic supervision, the role of teacher leaders, and teacher work discipline with school quality is 0.869. According to the interpretation table (Table 3.12), this indicates a very strong relationship. To determine whether the hypothesis is accepted or rejected, the following ANOVA table is examined:

Table 17. The Influence of Academic Supervision, Role of Teacher Leaders, and Teacher Work Discipline on School Quality

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	46,666.640	3	15,555.547	160.931	0.000
Residual	15,175.571	157	96.660		
Total	61,842.211	160			

Source: SPSS Output

The results from Table 17 show that the calculated F-value is 160.931, while the F-table value is 2.66 (160.931 > 2.66), with a significance value of 0.000 < 0.05. Therefore, H_0 is rejected and Ha is accepted, indicating that academic supervision, the role of teacher leaders, and teacher work discipline collectively have a significant influence on the quality of public elementary schools in Gunungpati District, Semarang City.

To determine the magnitude of the contribution, the R-square value is used and expressed as a percentage:

Table 18. Contribution of Academic Supervision, Role of Teacher Leaders, and Teacher Work Discipline to School Quality

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.869	0.755	0.750	9.832

Source: SPSS Output

The results of the coefficient of determination test in the table above indicate that the R-square value is 0.755. This means that academic supervision, the role of teacher leaders, and teacher work discipline collectively contribute 75.5% to school quality. The remaining 24.5% may be influenced by other variables not examined in this study. To determine the regression equation, the coefficients table is used:

Table 19. Coefficients of Academic Supervision, Role of Teacher Leaders, and Teacher Work Discipline on School Quality

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	
(Constant)	23.551	4.911		4.795
Academic Supervision	0.393	0.057	0.446	6.874
Role of Teacher Leaders	0.144	0.061	0.158	2.367
Teacher Work Discipline	0.344	0.055	0.358	6.193

Source: SPSS Output

Based on Table 19, the multiple linear regression analysis results in the following regression model:

$Y=\alpha+\beta X_1+\beta X_2+\beta X_3$

$Y = 23.551 + 0.393X_1 + 0.144X_2 + 0.344X_3$

The regression analysis shows that when all independent variables—academic supervision, the role of teacher leaders, and teacher work discipline—are zero, the predicted school quality score

is 23.551. Each variable has a positive effect on school quality: a one-unit increase in academic supervision raises the score by 0.393, the role of teacher leaders by 0.144, and teacher work discipline by 0.344. These coefficients indicate that improvements in any of these factors are directly associated with higher school quality.

Overall, the findings confirm that the quality of public elementary schools in Gunungpati District is significantly influenced by the effectiveness of academic supervision, teacher leadership, and work discipline. The better these internal factors are managed, the higher the resulting school quality.

Discussion

This section presents the study's findings on the influence of principal academic supervision, the role of teacher leaders (*Guru Penggerak*), and teacher work discipline on the quality of public elementary schools in Gunungpati District, Semarang City. The results show that all three independent variables significantly affect school quality, both individually and collectively. These findings confirm that improving school quality is closely tied to the principal's strategic role in academic supervision, the contribution of teacher leaders in instructional leadership, and the level of teacher discipline in fulfilling professional duties.

Based on data analysis, academic supervision by the principal has a very strong influence on school quality, with a coefficient of determination (R^2) of 0.655 or 65.5%, and a correlation coefficient of 0.809. This means that more than half of the variation in school quality can be explained by the effectiveness of the principal's academic supervision. These findings indicate that academic supervision designed systematically, implemented consistently, and followed up with concrete actions can have a positive impact on improving learning quality, teacher professionalism, and overall institutional performance. This result is consistent with the findings of (Kholil & Harahap, 2023), who reported that academic supervision contributes significantly to school quality improvement. Similarly, studies by Fahmi Addini et al., (2022) and Sari & Huzairin, (2021) emphasize that academic supervision contributes to the quality of teaching, even though its implementation is often the weakest aspect. This implies that even weak supervision has some positive impact, but greater results can be achieved if it is conducted intensively and systematically.

Furthermore, the findings also demonstrate that the role of teacher leaders has a significant influence on school quality, with an R^2 value of 0.561, equivalent to a 56.1% contribution. The high correlation coefficient indicates a strong relationship between the presence of teacher leaders and

the improvement of educational quality. Teacher leaders who perform their roles effectively are able to inspire their peers, build learning communities, and create a student-centered learning environment. This finding is supported by Damayanti et al., (2024), who reported that the presence of teacher leaders significantly enhances education quality in schools. Likewise, Bagas Aviyanto et al., (2024) found that the core values of teacher leaders, such as student-centeredness, reflectiveness, and innovation, have been implemented effectively in several elementary schools. Studies by Siregar et al., (2023) and Ambawani et al., (2024) also state that teacher leaders are learning leaders who foster collaboration and serve as change agents in realizing the profile of Pancasila Students. Therefore, this study strengthens the view that teacher leaders are vital components in the transformation of school quality.

Teacher work discipline has also been proven to significantly affect school quality, with an R^2 value of 0.592 or 59.2% and a correlation coefficient of 0.749. This indicates that disciplined teachers are more consistent in performing their duties, managing classrooms, and delivering high-quality learning services. Discipline reflects the professional responsibility of teachers and directly impacts the learning climate and students' academic achievements. These results are supported by a study by Wijayanti, (2022), which found that teacher work discipline contributes 83.5% to education quality. Lestari Prasilowati, (2024) also emphasized that discipline is key to a teacher's success in creating a conducive learning environment and in serving as a role model for students. Hasibuan & Munasib, (2020) stated that disciplined teachers produce disciplined, creative, and high-achieving students. Research by Sheptea Mardhiyah Putri et al., (2024) also supports the conclusion that teacher work discipline significantly influences the quality of elementary schools.

Simultaneously, academic supervision, the role of teacher leaders, and teacher work discipline jointly contribute 75.5% to school quality, with a correlation coefficient of 0.869. These findings indicate that the three variables collectively have a very strong and significant relationship with school quality. Thus, it can be concluded that improving school quality cannot be done partially but requires a holistic approach that integrates academic leadership, instructional leadership by teacher leaders, and strong teacher work ethics. These three aspects create a complementary synergy that accelerates the achievement of comprehensive educational quality.

The implications of this research are that elementary schools aiming to improve their quality must give serious attention to strengthening the academic supervision function of school principals, optimizing the role of teacher leaders, and fostering a strong culture of work discipline among

teachers. If these three aspects are developed collectively, they will create a healthy, collaborative educational ecosystem focused on high-quality student learning outcomes. These findings support the results of studies by Eru Ugi & Armin (2023) and Sunarya (2022), who state that the synergy between school leadership, organizational climate, and teacher work motivation is the key to achieving excellent school quality. In the context of Indonesian education, which still faces quality challenges, this study contributes significantly to the formulation of school quality improvement strategies based on the strengthening of internal school capacities.

CONCLUSION

This study affirms that the quality of elementary schools is significantly influenced by internal school factors, which include academic supervision by the principal, the role of teacher leaders (*Guru Penggerak*), and teacher work discipline. When these three factors are strategically and integratively managed, they can form a strong, effective, and sustainable educational management framework. Academic supervision provides direction and oversight for instructional implementation, teacher leaders serve as drivers of educational innovation and change, while teacher discipline ensures order, consistency, and professional responsibility in the execution of duties. Together, these elements form a mutually reinforcing system that supports the achievement of optimal educational quality. More broadly, these findings illustrate that improving school quality cannot be achieved solely through structural policy changes; it also requires a transformation of the working culture within schools. The implementation of instructional leadership, the strengthening of professional learning communities, and the enforcement of discipline based on intrinsic awareness are key to creating a productive school ecosystem. Therefore, if academic supervision is carried out in a scheduled and meaningful manner, the role of teacher leaders is systemically strengthened, and teacher discipline is consistently upheld, schools will be well-positioned to serve as primary agents in realizing the goals of national education. This research not only expands theoretical insight into educational quality management but also provides practical contributions for policymakers and education practitioners at the elementary school level.

REFERENCES

Alwy Yusuf, M., Abraham, A., Rukmana, H., Negeri Makassar, U., P Pettarani, J. A., Rappocini, K., Makassar, K., & Selatan, S. (2024). Analisis Regresi Linier Sederhana dan Berganda Beserta Penerapannya. *Journal on Education*, *06*(02).

Bagas Aviyanto, M., Zumrotun, E., & Muhaimin, M. (2024). *Analisis Hambatan Guru dalam Mengikuti Program Guru Penggerak: Studi Kasus di Sekolah Dasar Negeri 1 Sukosono* (Vol. 9, Issue Tahun).

Client, K., Matutes, B., Pauline, A., Panoril, C., Galaroza, J. Q., & Fragata, J. P. (2021). An Ex Post Facto Study on Student Performance of Elementary Education Students of Initao College during the First Year of Flexible Learning Implementation. *Journal of Education & Social Policy*, *8*(2). https://doi.org/10.30845/jesp.v8n2p11

Damayanti, D., Asbari, M., & Zaharantika, A. (2024). Guru Penggerak: Pengembangan Pendidikan melalui Kepemimpinan Guru. *Journal of Information Systems and Management*, *03*(02). https://jisma.org

Eru Ugi, L., & Armin, R. (2023). Pengaruh Motivasi Belajar terhadap Prestasi Belajar Matematika Siswa. In *Elips: Jurnal Pendidikan Matematika* (Vol. 4, Issue 1). http://journal.unpacti.ac.id/index.php/Elips

Fahmi Addini, A., Fairuz Husna, A., Alfira Damayanti, B., Istif Fani, B., Wardah Nihayati, C., Andika Daniswara, D., Fitri Susanti, D., & Imron, A. (2022). https://jurnal.unigal.ac.id/index.php/jwp Konsep Dasar Supervisi Pendidikan. *Jurnal Wahana Pendidikan*, *9*(2), 179–186. https://jurnal.unigal.ac.id/index.php/jwp

Fatimah, S., & Rosyidah, I. (2021). *Implementasi Supervisi Akademik Kepala Madrasah dalam Meningkatkan Mutupendidik dI MTs SA Miftahul Hikmah Parengan Tuban* (Vol. 3, Issue 1).

Fitriyanti, E., & Sholeh, M. (2024). *Strategi Kepala Sekolah dalam Meningkatkan Budaya Mutu di Madrasah Aliyah Amanatul Ummah*. *5*(1), 74–83. http://ejournal.undhari.ac.id/index.php/de_journal

Güngör, M., & Geçikli, M. (2021). An Ex-Post Facto Study on the Affective Domain of the 5th Grade English Language Teaching Curriculum. *Kuramsal Eğitimbilim*, *14*(3), 411–431. https://doi.org/10.30831/akukeg.882400

Hardani MSi, A., Ustiawaty, J., & Juliana Sukmana, D. (2020). *Buku Metode Penelitian Kualitatif & Kuantitatif*. https://www.researchgate.net/publication/340021548

Hasibuan, H., & Munasib, A. (2020). *Manegggio: Jurnal Ilmiah Magister Manajemen Pengaruh Kepemimpinan Motivasi dan Disiplin Kerja Terhadap Kinerja Karyawan*. *3*(2). https://doi.org/10.30596/maneggio.v3i2.5042

Husdi, H., & Dalai, H. (2023). Penerapan Metode Regresi Linear untuk Prediksi Jumlah Bahan Baku Produksi Selai Bilfagi. *Jurnal Informatika*, *10*(2), 129–135. https://doi.org/10.31294/inf.v10i2.14129

Indahri, Y. (2021). Asesmen Nasional sebagai Pilihan Evaluasi Sistem Pendidikan Nasional. *Aspirasi: Jurnal Masalah-Masalah Sosial*, *12*(2). https://doi.org/10.46807/aspirasi.v12i2.2364

Kholil, M., & Harahap, N. (2023). The Relationship of Academic Supervision and Managerial Supervision in Vocational High Schools. *Scaffolding: Jurnal Pendidikan Islam Dan Multikulturalisme*, *5*(3), 846–865. https://doi.org/10.37680/scaffolding.v5i3.3941

Lestari Prasilowati, S. (2024). Pengaruh Gaya Kepemimpinan Partisipatif dan Disiplin Kerja Terhadap Kinerja Guru dengan Budaya Organisasi Sebagai Variabel Moderating. *Tax and Business Journal*, *292*(2).

Mardiatmoko, G.-. (2020). Pentingnya Uji Asumsi Klasik pada Analisis Regresi Linier Berganda. *Barekeng: Jurnal Ilmu Matematika Dan Terapan*, *14*(3), 333–342. https://doi.org/10.30598/barekengvol14iss3pp333-342

Muflihah, A., & Khofya Haqiqi, A. (2019). *Peran Kepala Sekolah dalam Meningkatkan Manajemen Mutu Pendidikan di Madrasah Ibtidaiyah* (Vol. 7, Issue 2).

Mujiburrahman, M., Kartiani, B. S., & Parhanuddin, L. (2023). Asesmen Pembelajaran Sekolah Dasar dalam Kurikulum Merdeka. *Pena Anda: Jurnal Pendidikan Sekolah Dasar*, *1*(1), 39–48. https://doi.org/10.33830/penaanda.v1i1.5019

Muliantara, I. K., & Suarni, N. K. (2022). Strategi Menguatkan Literasi dan Numerasi untuk Mendukung Merdeka Belajar di Sekolah Dasar. *Edukatif: Jurnal Ilmu Pendidikan*, *4*(3), 4847–4855. https://doi.org/10.31004/edukatif.v4i3.2847

Mursyd, D., Arisandy Eka Putra Sembiring, D., Yusuf, M., Mira Rangkuty, S., Biologi, P., & Keguruan dan Ilmu Pendidikan Universitas Jambi, F. (n.d.). *An Ex Post Facto Study: Students' Learning Styles in Biology Education at Universitas Jambi*. https://jurnal.unimed.ac.id/2012/index.php/pelita/index

Mushthofa, A., Munastiwi, E., & Dinana, A. (2022). Manajemen Pembiayaan Pendidikan Berbasis Bebas Sumbangan Pembinaan Pendidikan. *Jurnal Akuntabilitas Manajemen Pendidikan*, *10*(1), 64–76. https://doi.org/10.21831/jamp.v10i1.46994

Mustapa, M. (2024). Peningkatan Kemampuan Literasi Numerasi Peserta Didik Sekolah Dasar melalui Program Kampus Mengajar. *Jurnal Basicedu*, *8*(5), 4043–4050. https://doi.org/10.31004/basicedu.v8i5.8581

Negeri, F. S., & Sumatera Selatan, R. (2023). Peran Komite Sekolah di Era Merdeka Belajar. In *Jurnal Bintang Pendidikan Indonesia (JUBPI)* (Vol. 1, Issue 1).

Nur Laksmi Astutiningtyas, D., & Kusumaningsih, W. (2025). Transforming Education: How Teacher Performance Management and Appreciative Inquiry Leadership Improve Learning Quality. *Jurnal Pendidikan*, *17*(2), 1938–1954. https://doi.org/10.35445/alishlah.v17i2.7069

Rizky, M., Saputra, H., Ramadhan Basuki, R., & Muhtadin, I. A. (2024). Analissi Regresi pada (Saputra, dkk) Madani. *Jurnal Ilmiah Multidisipline*, *307*(1), 307–314. https://doi.org/10.5281/zenodo.10537197

Rubiherlan, Y., Pristi, M., Nursanti, F. E., Handayani, S., & Muchtar, H. S. (n.d.). *Pemanfaatan Rapor Pendidikan Pada Pengembangan Program di SDN Puncak 2*. https://raporpendidikan.kemdikbud.go.id?login,

Sari, Y. M., & Huzairin, A. (2021). *Manajemen Supervisi Dalam Lembaga PAUD di TK Negeri Pembina Nasal*. *10*(2), 187–196. https://doi.org/10.26877/paudia.v9i1.8166

Sawji, H., Murtini, W., Akbarini, N. R., Permansah, S., & Rusmana, D. (2024). Exploratory factor an Instrument for Self-Assessment of Computation Thinking Skills and Collaboration Skills. *International Journal of Evaluation and Research in Education*, *13*(2), 1045–1060. https://doi.org/10.11591/ijere.v13i2.25734

Shandilia Latunusa Ambawani, C., Saputra, I., Meista Mulya Kusuma, T., Sumardjoko, B., Fathoni, A., Pendidikan, A., Kunci, K., Transformasional, K., Sekolah Penggerak, K., Guru, K., & Pembelajaran, K. (2024). Implementasi Kepemimpinan Transformasional Kepala Sekolah Penggerak di TK. In *Journal of Education Research* (Vol. 5, Issue 4).

Sheptea Mardhiyah Putri, Neyna Fakhira Salsabila, Muhammad Akmal Firdaus, & Hesti Kusumaningrum. (2024). Membangun Budaya Organisasi Positif: Manajemen Lingkungan Internal Sekolah. *Harmoni Pendidikan: Jurnal Ilmu Pendidikan*, *2*(1), 49–62. https://doi.org/10.62383/hardik.v2i1.948

Siahaan, A., Akmalia, R., Ul, A., Ray, M., Sembiring, A. W., Yunita, E., Negeri, U. I., Utara, S., William, J., Ps, I. V, Estate, M., Percut, K., Tuan, S., & Serdang, D. (2023). Upaya Meningkatan Mutu Pendidikan di Indonesia. *Journal on Education*, *05*(03).

Silalahi, R. A., Hafsari, A. A., Situmorang, D., Emaninta, N., Ginting, B., Girsang, A. B., Martin, M.,

Febriyansi, E., & Ompusunggu, P. (2024). Hasil Perhitungan Asumsi Klasik: Tentang Uji Autokorelasi, Normalitas, dan Heterokedatisitas. In *Jurnal Ilmiah Multidisipliner (JIM)* (Vol. 8, Issue 12).

Siregar, W. M., Prawijaya, S., Setiawan, F., & Putri, S. R. (2023). Peran Guru Penggerak sebagai Agen Perubahan Pendidikan. *Jurnal Guru Kita PGSD*, *8*(1), 1. https://doi.org/10.24114/jgk.v8i1.51136

Subhaktiyasa, P. G. (2024). Menentukan Populasi dan Sampel: Pendekatan Metodologi Penelitian Kuantitatif dan Kualitatif. *Jurnal Ilmiah Profesi Pendidikan*, *9*(4), 2721–2731. https://doi.org/10.29303/jipp.v9i4.2657

Sugiyanto, S., Egar, N., & Abdullah, G. (2025). The Influence of School Principal Leadership and School Organizational Climate on the Performance of Public Elementary School Teachers. *Scaffolding: Jurnal Pendidikan Islam dan Multikulturalisme*, *7*(2), 68–89. https://doi.org/10.37680/scaffolding.v7i2.7395

Sunarya, F. R. (2022). Implementasi Teori Motivasi Frederick Herzberg dalam Sebuah Organisasi. *SALAM: Jurnal Sosial dan Budaya Syar-i*, *9*(3), 909–920. https://doi.org/10.15408/sjsbs.v9i3.25915

Suwartini, S., & Sutama, S. (2023). Input-Process-Output-Outcome Quality in Managing Education in Elementary Schools. *Primary: Jurnal Pendidikan Guru Sekolah Dasar*, *12*(2), 510. https://doi.org/10.33578/jpfkip.v12i2.9620

Syamsuddin, M. A., & Harianto, B. T. (2023). *Analisis Rapor Pendidikan Sebagai Dasar Penyusunan Program Berbasis Data*. *7*. https://doi.org/10.37250/newkiki.v4i1.207

Wijayanti SMP Negeri, I. (2022). *Pengaruh Disiplin dan Motivasi Kerja Guru Terhadap Kinerja Guru SMP Se-Kecamatan Kedungwuni Kabupaten Pekalongan* (Vol. 2, Issue 4).

Yam, J. H., & Taufik, R. (2021). *Hipotesis Penelitian Kuantitatif*. *3*(2).