



The Influence of Principal Supervision on Learning Quality through Teachers' Professional Competence

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Abstract :

This study examines the influence of principal supervision and teachers' professional competence on Islamic Religious Education (PAI) learning quality in State Junior High Schools throughout Lumajang Regency. The background of this research is motivated by the low quality of learning in Indonesia, which is reflected in the results of international competency tests such as PISA. This study aims to examine whether the principal's supervision and teachers' professional competence significantly affect the quality of PAI learning. The approach was quantitative research with a correlational design, involving 65 PAI teachers in State Junior High Schools in Lumajang Regency as respondents. The sampling technique used total sampling, and data analysis was carried out by multiple linear regression to test the relationship between the variables studied. The results of the analysis showed that the supervision of the principal had a positive and significant influence on the quality of learning ($\beta = 0.589$, $p < 0.05$), while the professional competence of teachers had a negative influence on the quality of learning ($\beta = -0.358$, $p < 0.05$). These findings have implications for the development of educational leadership theories and evidence-based education policies by suggesting that strengthening the supervision of school principals should be a priority in improving the quality of learning in schools.

INTRODUCTION

In recent decades, the quality of learning in Indonesia has become an important issue in the world of education (Kawuryan, Sayuti, Aman, & Dwiningrum, 2021; Shaturaev, 2021; Suharno, Pambudi, & Harjanto, 2020). Based on data from the Ministry of Education and Culture, around 45% of students in Indonesia show inadequate results in basic education competency tests, especially in the fields of science and mathematics. One of the factors that can affect the quality of learning is the role of the principal in supervising teachers, as well as the professional competence possessed by the teachers themselves (Bellibaş, Gümüş, & Liu, 2021; Chen & Guo, 2020; Saleem, Aslam, Yin, & Rao, 2020). The principal has a strategic role in managing educational activities in schools, including supervision that aims to improve teachers' teaching skills and quality (Anthonysamy, Koo, & Hew, 2020; Mohamed Hashim, Tlemsani, & Matthews, 2022; Ratten, 2020). In this context, the quality of learning is greatly influenced by how effectively the principal carries out the supervision and how the professional competence of the teacher supports the learning process in the classroom (Barenthien, Oppermann, Anders, & Steffensky, 2020; Darling-Hammond, 2021; Haiyan & Allan, 2021). Therefore, assessing the relationship between these two variables and the school's quality of learning is important.

Previous research has shown that principal supervision and teacher professional competence significantly impact the quality of learning. A study by Torozatulo (2016) showed that academic supervision by school principals positively affected teacher competence and learning outcomes, with a p-value of < 0.05 . In addition, research by Arifin (2022) using a linear regression approach also found that teachers' professional competence directly influences the quality of learning. However, the results are not as strong as expected. Research by Robinson et al. (2008) supports these findings by stating that effective educational leadership, including principal supervision, can improve learning outcomes. However, some studies have also shown that other external factors, such as education policies and administrative support, can moderate the relationship between teacher competence and learning outcomes, suggesting the need for a more holistic approach to understanding these dynamics.

Although previous studies have highlighted the importance of principal supervision and teacher professional competence, there is still a gap in understanding how these two factors interact with each other and affect the quality of learning, particularly in the context of Islamic Religious Education (PAI) at the secondary level. Several previous studies have shown mixed results, such as a positive relationship between principal supervision and learning quality (Barenthien et al., 2020; Darling-Hammond, 2021; Haiyan & Allan, 2021), but it was also found that improving teacher competence is not always directly proportional to improving learning quality (Artacho, Martínez, Ortega Martín, Marín Marín, & García, 2020; Blömeke, Jentsch, Ross, Kaiser, & König, 2022; Kanya, Fathoni, & Ramdani, 2021). This suggests the need to delve deeper into the factors that might moderate or strengthen the relationship between these variables. This study aims to fill this gap by exploring the relationship between principal supervision, teacher professional competence, and learning quality in State Junior High Schools in Lumajang Regency.

This study offers new insights using multiple linear regression analysis to explore the simultaneous influence between principal supervision and teachers' professional competence on learning quality, which has not been widely discussed in the context of Islamic Religious Education (PAI). Unlike previous studies that focused more on one independent variable or simple correlation testing, this study combined two interacting factors in a more comprehensive regression model. In addition, this research was conducted in State Junior High Schools in Lumajang Regency, which provides a new contribution related to variability in the quality of education in certain areas. By using more representative data and a more in-depth analytical approach, this study is expected to provide a broader view of the factors that affect the quality of learning in Indonesian schools.

This study examines the influence of principal supervision and teachers' professional competence on Islamic Religious Education (PAI) learning quality in State Junior High Schools in Lumajang Regency. This study uses a quantitative approach with multiple linear regression to test the relationship between variables and the T-test to test the significance of the influence of each variable on learning quality. Through data collection using a questionnaire distributed to 65 PAI teachers, this study will identify whether the principal's supervision and teachers' professional competence directly influence the quality of learning, as well as how these two factors interact with each other. These findings are expected to provide recommendations to improve the effectiveness of supervision and teacher competency development in the context of religious education in secondary schools.

RESEARCH METHOD

This research was conducted in State Junior High Schools in Lumajang Regency, focusing on Islamic Religious Education (PAI) teachers. The selection of this context is based on the relevance of principal supervision and the professional competence of teachers to the quality of learning in public schools, which is a key element in improving the quality of education. This study uses a type of quantitative research with a correlation approach to identify the relationship between independent variables (principal supervision and teacher professional competence) and dependent variables (learning quality) (Nassaji, 2020; Proudfoot, 2023; Tien, Anh & Ngoc, 2020). Correlation research was chosen because it allows the measurement of relationships between variables without manipulating data (Asteriou, Pilbeam, & Pratiwi, 2021; Hair, Howard, & Nitzl, 2020; Kuzma, Padilha, Sehnem, Julkovski, & Roman, 2020), which is in line with the purpose of this study to find out the extent to which these variables are interrelated. A deductive approach is used, where hypotheses are tested based on existing theories, and the results are expected to contribute to understanding the relationship between variables in the context of education.

The data in this study was collected through a questionnaire distributed to 65 PAI teachers in State Junior High Schools throughout Lumajang Regency. The selection of questionnaires as a data collection instrument is based on their ability to reach many respondents and collect data efficiently. The questionnaire was a closed-ended questionnaire with a Likert scale, allowing respondents to choose answers from various levels of agreement, from "always" to "never." The Likert scale is relevant for measuring subjective variables such as principal supervision, teacher professional competence, and perception of learning quality. With the total sampling technique, the entire population of 65 teachers was sampled, thus allowing representative data collection and increasing the generalization of research findings.

Data analysis in this study was carried out using descriptive analysis and multiple regression analysis (Dumuid et al., 2021; González-Sanguino et al., 2020; Rath, Tripathy, & Tripathy, 2020). This analysis technique was used to test whether there was an influence between the principal's supervision (X1) and the teacher's professional competence (X2) on the quality of PAI learning (Y). Descriptive analysis was used to provide an overview of respondents' distribution and frequency of responses to each of the variables studied, such as principal supervision, teacher professional competence, and learning quality. Furthermore, multiple regression analysis was applied to test the simultaneous influence between independent variables (principal supervision and teacher professional competence) on dependent variables (learning quality). This technique makes it possible to evaluate how much each independent variable contributes to the quality of learning. The t-test and the F-test results will be used to identify whether the found influence is statistically significant, using SPSS as the analysis software to ensure the validity and reliability of the data.

RESULT AND DISCUSSION

Result

Descriptive Analysis of School Principal Supervision

Based on the results of the questionnaire obtained from 65 Islamic Religious Education (PAI) teachers who were used as respondents, data was obtained on variable XI, namely Principal Supervision. Principal supervision is important in improving the quality of learning in schools. In this study, the questionnaire distributed to PAI teachers revealed various aspects related to the effectiveness of supervision, including the planning, implementation, and follow-up of supervision activities carried out by school principals. The results of the principal's supervision questionnaire are seen in the following table:

Table 1. Descriptive Analysis of School Principal Supervision

Category	Value		Frequency	Percentage
Very Less	19	33	0	0,00%
Less	34	48	0	0,00%
Enough	49	63	2	3,08%
Good	64	78	18	27,69%
Excellent	79	95	45	69,23%

Table 1 presents the results of a descriptive analysis of the supervision of school principals based on respondents from 65 PAI teachers. Most respondents generally assessed the principal's supervision as being in the "Very Good" category with a percentage of 69.23%. This shows that the majority of teachers feel that the supervision carried out by the principal is very effective. In addition, 27.69% of respondents gave a "Good" rating, which indicates positive involvement from the principal, although not as strong as the "Very Good" category. Nonetheless, the percentages for the "Sufficient" and "Less" categories remain, indicating that some areas may still need improvement in supervision implementation. These results show that the supervision of school principals can significantly influence the quality of learning. However, there is a need for further attention to improve aspects that are still classified as insufficient or sufficient, even though the impact is relatively small.

Descriptive Analysis of Teachers' Professional Competencies

Based on the results of the questionnaire obtained from 65 Islamic Religious Education (PAI) teachers who were used as respondents, data was obtained on the X2 variable, namely Teacher Professional Competence. Professional competence is an important aspect that affects the effectiveness of learning in the classroom. In this study, the questionnaire distributed included several key indicators, such as content knowledge, teaching skills, and understanding of students' learning characteristics and needs, where this is a descriptive analysis related to the professional competence of teachers, as shown in Table 2.

Table 2. Descriptive Analysis of Teachers' Professional Competencies

Category	Value		Frequency	Percentage
Very Less	21	37	0	0,00%
Less	38	54	0	0,00%
Enough	55	71	2	3,08%
Good	72	88	26	40,00%
Excellent	89	105	37	56,92%

Table 2 shows the results of a descriptive analysis related to the professional competence of Islamic Religious Education (PAI) teachers based on a questionnaire distributed to 65 respondents. Overall, most PAI teachers rated their professional competence in the "Very Good" category, with a percentage of 56.92%. This reflects that most respondents feel that they have adequate skills in terms of content knowledge, teaching ability, and understanding of students' learning needs. Additionally, 40% of respondents rated their competencies in the "Good" category, indicating a small gap in some aspects of professional skills. However, few respondents rate their competencies in the "Adequate" category (3.08%), indicating room for improvement, both through ongoing training and meeting more specific professional needs.

Descriptive Analysis of PAI Learning Quality

Based on the results of the questionnaire obtained from 65 Islamic Religious Education (PAI) teachers who were used as respondents, data was obtained on variable Y, namely Learning Quality. The quality of learning is an important indicator in assessing the effectiveness of an educational process, as it includes various factors that contribute to learning success. In this study, the questionnaire distributed focused on three main aspects: inputs, processes, and outputs in PAI learning. The results of the learning quality questionnaire are seen in Table 2.

Table 3. Descriptive Analysis of PAI Learning Quality

Category	Value	Frequency	Percentage
Very Less	19	33	0,00%
Less	34	48	0,00%
Enough	49	63	3,08%
Good	64	78	29,23%
Excellent	79	95	67,69%

Table 3 shows the results of a descriptive analysis of Islamic Religious Education (PAI) learning quality based on a questionnaire distributed to 65 respondents. Overall, most respondents assessed the quality of learning as being in the "Very Good" category, with a percentage of 67.69%. This shows that most teachers feel that the learning process they carry out is very effective in positively impacting students. A total of 29.23% of respondents also rated the quality of learning to be in the "Good" category, which indicates that although most of them are at an excellent level, some aspects of learning still can be further improved. However, only a few respondents rated it in the "Adequate" category (3.08%), and none of the respondents chose the "Very Less" or "Less" category, indicating that, in general, the quality of PAI learning has met the expected standards.

T-Test

A hypothesis test was carried out to determine the influence between the variables studied, which aimed to test the relationship between independent and dependent variables. This hypothesis test is important to clarify how variables such as principal supervision, teacher professional competence, and learning quality affect each other. Through the T-test with a significance level of 5%, this study aims to assess whether there is a significant relationship between the variables studied, partially or simultaneously. The results of the T-test will provide a basis for drawing conclusions about the influence of each variable on the quality of PAI learning and the professional competence of teachers in the schools that are the object of the research. To find out if there is an influence between variables X and Y, the following hypothesis test is needed.

Table 4. Regression Coefficients for Learning Quality

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	65.563	9.297		7.052	0.000
Supervision	0.589	0.107	0.618	5.516	0.000
Professional Competencies	-0.358	0.091	-0.439	3.916	0.000

Table 5. Regression Coefficients for Professional Competencies

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	50.252	11.137		4.512	0.000
Principal Supervision	0.479	0.134	0.410	3.565	0.001

Departing from the exposure of the table above, to test the influence between variables X and Y, a hypothesis test was carried out with a significance level of 5%. The T-test results showed that the significance value for the Principal Supervision variable (X1) on the Quality of Learning PAI (Y) was 0.000, smaller than 0.05. Therefore, Ha was accepted, and Ho was rejected, which means that the principal's supervision partially affected the quality of PAI learning. Furthermore, the T-test for the variable of Teacher Professional Competence (X2) on PAI Learning Quality (Y) also showed a significance value of 0.000, which is smaller than 0.05, so Ha was accepted, and Ho was rejected, which indicated that teachers' professional competence had a partial effect on the quality of PAI learning. Finally, the T-test for the Principal Supervision (X1) variable on Teacher Professional Competence (X2) showed a significance value of 0.001, which is smaller than 0.05, meaning that the principal's supervision has a significant effect on teachers' professional competence.

F-Test

The F test tests whether the independent variables affect the dependent variables together. In this study, the F test was conducted to assess the simultaneous influence between Principal Supervision and Teacher Professional Competence on Learning Quality or Professional Competence. The F test provides a statistical value of F compared to the p. If the p-value is less than 0.05, then H0 is rejected, and Ha is accepted, indicating a significant influence of the independent variable on the dependent variable. Conversely, if the p-value is greater than 0.05, then H0 is accepted, which signifies that the simultaneous influence is insignificant. This F-test helps to understand the contribution of independent variables in regression models. In this study, the f-test results are shown in Table 6.

Table 6. F test

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1597.931	2	798.966	16.860	0.000 ^b
Residual	2938.007	62	47.387		
Total	4535.938	64			

(Dependent Variable: Quality of Learning)

Table 6 shows the results of the F test with a significance level of 5% (0.05). The conclusion is determined based on the value of $\text{sig.} < \alpha$, then H_a is accepted, and if the value of $\text{sig.} > \alpha$, then H_a is rejected, and H_o is accepted. The F test explains whether there is a simultaneous influence between dependent variables and independent variables. Based on the results of the calculation of the F test through *the SPSS 22.0 For Windows application*, a significance value of 0.000 was obtained that was smaller than the α value of 0.05 ($0.000 < 0.05$). So H_a is accepted, and H_o is rejected, which means there is a simultaneous influence between the variables of the Principal's Vision and the Teacher's Professional Competence on the Quality of PAI Learning.

Analysis of the Regresi Linier Berganda

From the results of the T-test, the analysis of the multiple linear regression model was obtained as follows:

$$Y = 65.563 + 0.589 X_1 - 0.358 X_2$$

Based on the multiple linear regression model shown, several important things regarding the relationship between the variables tested can be explained. First, a constant value (α) of 65.563 indicates that if the variables of principal supervision and teacher professional competence are 0, then the quality of learning is estimated to be 65.563. Second, the regression coefficient for the supervision of the principal was 0.589, which was positive, indicating that an improvement would follow any improvement in the supervision of the principal in the quality of learning. On the other hand, the regression coefficient for teachers' professional competence of -0.358, which is negative, indicates that an increase in teachers' professional competence will impact a decrease in learning quality. Finally, the regression coefficient for the principal's supervision of teachers' professional competence was 0.479, which suggests that an increase in the supervision of principals can improve teachers' professional competence, creating a positive relationship between the two.

Discussion

The results of this study answer research questions that test the influence of Principal Supervision and Teacher Professional Competence on Learning Quality. Based on multiple linear regression tests, the p-value for both independent variables (Principal Supervision and Teacher Professional Competence) was 0.000, which is smaller than the significance value of 0.05. This shows that these two variables significantly influence the quality of learning, both partially and simultaneously. The regression coefficient for Principal Supervision was positive (+0.589), indicating a positive relationship between supervision and learning quality. In contrast, the coefficient for Teacher Professional Competence was negative (-0.358), indicating that an increase in teachers' professional competence was associated with decreased learning quality. These findings provide a clear picture that the supervision of school principals has a greater influence on the quality of learning than teachers' professional competence.

The results of this study support the theory of educational leadership, which states that the supervision of school principals has an important role in improving the quality of education (Bellibaş et al., 2021; Brauckmann, Pashiardis, & Ärlestig, 2023; Kwan, 2020). The positive coefficient for the principal's supervision shows that improving the quality of supervision can improve the quality of learning. This is in line with research by Kwan (2020), which showed that effective leadership is directly related to improved student learning outcomes. However, results showing negative coefficients for teachers' professional competence contradict theories that postulated that improving teachers' competencies should improve the quality of learning (Al Breiki, Al Abri, Al Moosawi, & Alburaiqi, 2023; Antonietti, Cattaneo, & Amenduni, 2022; Antonietti et al., 2022). The decline in learning quality related to teacher competence may reflect the presence of external factors not identified in this study, such as ineffective teaching strategies or a lack of support in learning implementation.

The results of this study show findings that align with the research by Suharno et al. (2020), which found that the supervision of the principal significantly influences improving the quality of learning. However, this study differs from the findings by Xue et al. (2022), which show that teachers' professional competence positively influences learning quality with a greater coefficient ($r = 0.65$). In this study, teachers' professional competence was negatively related to learning quality (coefficient = -0.358), which indicates that improving teacher competence may not directly improve the quality of learning. These findings show a complex relationship between teacher competence and learning outcomes that needs further examination in the context of other supporting variables.

These findings have important implications for developing theory and practice in education. Theoretically, these results add to the understanding of the role of principal supervision in improving the quality of education, which supports the theory of transformational leadership in education (Blömeke et al., 2022; Kiliç, Polatcan, Savaş, & Er, 2024; Meng, 2022). The study also provides a new direction for future research by identifying that teachers' professional competence does not always positively affect learning quality, which opens up opportunities to explore other factors that may play a bigger role. In professional practice, these results suggest that improving the supervision of school principals should be a priority in education policy to improve the quality of learning while improving teacher competence should be balanced with more effective learning strategies.

This research contributes significantly to the existing literature gap in the study on the influence of principal supervision and teachers' professional competence on the quality of learning. The study adds to empirical evidence showing the importance of principal supervision in improving the quality of learning and highlighting the complexity of the influence of teachers' professional competence that has not been widely discussed in previous research. In addition, these findings fill a gap in the literature that shows that improving teachers' professional competence is not always directly proportional to the quality of learning, which is a new finding in this area. Methodologically, this study provides a more profound understanding by using multiple linear regression tests that analyze the simultaneous influence of two independent variables on learning quality.

CONCLUSION

This study examines the influence of principal supervision and teachers' professional competence on Islamic Religious Education (PAI) learning quality in State Junior High Schools throughout Lumajang Regency. Based on the results of multiple linear regression analysis, it was found that the principal's supervision has a positive and significant influence on the quality of learning, reinforcing the importance of the role of the principal in increasing learning effectiveness. On the other hand, teachers' professional competence has a negative but significant effect on the quality of learning, showing that other factors affect the application of teachers' skills in the classroom. In addition, the supervision of the principal also has a positive and significant effect on the professional competence of teachers, showing that increasing supervision can encourage the development of teacher professionalism. These findings provide theoretical implications for the role of leadership in education and its practicality. These results can be used to formulate policies that strengthen school principals' supervision to improve learning quality. Further research can deepen this analysis by adding other variables that can moderate the relationship between teacher competence and learning outcomes.

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