The Influence of Academic Supervision, Work Motivation, and Pedagogical Competence on the Quality of Learning Implementation

[1]Tanti Apriliyanti, [2]A.Y Soegeng Ysh, [3]Bunyamin
Universitas PGRI Semarang, Indonesia
Email: tantiapriliyanti14@guru.sd.belajar.id,

Abstract
This study analyzes the influence of academic supervision, work motivation, and pedagogical competence on the quality of learning at public elementary schools in Temanggung Subdistrict, Temanggung Regency. Using a quantitative approach and correlational design, data were collected through questionnaires from 173 elementary school teachers and analyzed using multiple linear regression. The results show that all three variables have a significant impact on the quality of learning, with academic supervision contributing 29.2%, work motivation 25.4%, and pedagogical competence 41.1%. Simultaneously, these three variables contribute 49.6%. The multiple regression test indicates a significant improvement with an F-value of 57.459 and a significance level of 0.000. It is recommended that school principals enhance academic supervision and teacher competency development*.
Keywords: Academic supervision, work motivation, pedagogical competence, quality of learning implementation*.

Abstrak
Penelitian ini menganalisis pengaruh supervisi akademik, motivasi kerja, dan kompetensi pedagogik terhadap kualitas pembelajaran di SD negeri Kecamatan Temanggung, Kabupaten Temanggung. Menggunakan pendekatan kuantitatif dan desain korelasional, data dikumpulkan melalui kuesioner pada 173 guru SD dan dianalisis dengan regresi linier berganda. Hasil penelitian menunjukkan bahwa ketiga variabel berpengaruh signifikan terhadap kualitas pembelajaran, dengan kontribusi supervisi akademik 29,2%, motivasi kerja 25,4%, dan kompetensi pedagogik 41,1%. Secara simultan, ketiganya memberikan kontribusi 49,6%. Uji regresi berganda menunjukkan peningkatan signifikan dengan nilai F 57,459 dan signifikansi 0,000. Disarankan agar kepala sekolah meningkatkan supervisi akademik dan pengembangan kompetensi guru.
Kata Kunci: *Supervisi Akademik, Motivasi Kerja, Kompetensi Pedagogik, Kualitas Pelaksanaan Pembelajaran*

INTRODUCTION

Quality learning is the key to producing students who not only excel academically but also develop socially and personally. Achieving quality learning is the result of optimal collaboration between school principals,

teachers, students, and parents. Quality learning can only be achieved if all these parties perform their roles and functions effectively. Teachers, as the main factor in the quality of learning, play an important role in achieving educational goals. Teachers must be able to optimize their role in guiding students to engage in intellectual and aesthetic activities throughout the learning process. Teachers who successfully motivate students during the learning process will be able to enhance the quality of learning implementation[12]. The role of the teacher is crucial in improving the quality of learning and student achievement. One of the key competencies expected from teachers is the ability to teach effectively in order to achieve learning objectives. Mastery of the subject matter and the selection of appropriate teaching techniques are key factors in achieving instructional goals[3].

However, the quality of education in Temanggung Regency still does not meet expectations. According to the 2023 Education Report Card, the quality of learning implementation at public elementary schools in Temanggung Subdistrict shows unsatisfactory results. Only 50% of schools have achieved good learning implementation quality, indicating weaknesses in the learning process in the region. Previous research indicates that utilizing Education Report Cards in data-driven education planning can be a method to uncover root problems and improve the quality of learning implementation. However, based on the researcher's observations, the role of teachers in improving the quality of learning implementation at public elementary schools in Temanggung Subdistrict has not yet reached its optimal level, with several issues that need to be addressed, such as limited teaching strategies, less conducive classrooms, and underutilized technology.

Another factor affecting the quality of learning is academic supervision by the school principal. Academic supervision is the principal's effort to evaluate and guide teachers in order to improve the quality of teaching. Although academic supervision has been carried out, it is still not optimal at the public elementary schools in Temanggung Subdistrict, with results far from expectations. Based on observations, the planning and implementation of academic supervision by principals averages only 63%, far from the expected target of 75%.

Furthermore, teacher work motivation also affects the quality of learning. Suboptimal teacher work motivation can result in low enthusiasm and creativity in teaching. Data shows that the average teacher work motivation at public elementary schools in Temanggung Subdistrict is only

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[1] Dimyati, M. 2022. *Strategi Pembelajaran untuk Meningkatkan Kualitas Pendidikan*. Jakarta: Rineka Cipta.

[2] Mulyasa, E. 2018. *Manajemen Pendidikan di Era Global*. Jakarta: Bumi Aksara.

[3] Sanjaya, W. 2015. *Kurikulum dan Pembelajaran: Teori dan Praktik*. Jakarta: Kencana.

61.5%, still far from the desired target.Pedagogical competence, which includes the ability to manage learning, is also an important factor in the quality of learning. However, based on surveys of teachers in public elementary schools in Temanggung Subdistrict, their pedagogical competence is still not optimal, with an average score of 69.42%. The quality of learning implementation is a key factor in achieving educational goals. The school principal plays an important role in managing and improving the quality of learning at school by acting as a leader, supervisor, administrator, and manager. The principal is responsible for mentoring teachers, assisting them in overcoming challenges in implementing teaching, and creating a conducive learning environment[4]. Quality refers to the ability of a product or service to meet user needs, which in the educational context can be translated as the school's ability to enhance students' learning capacity[5] [6]. In education, the quality of learning refers to the school's ability to improve "better students' learning capacity" by organizing input elements such as educators, curriculum, facilities, and learning media. The quality of learning implementation can be measured by the intensity of interaction between teachers, students, the learning climate, and learning media[78]. Furthermore, the quality of learning implementation is also influenced by the teacher's ability to manage the classroom, use appropriate methods, and facilitate effective teacher-student interactions.

The quality of learning implementation is an important factor in achieving optimal educational goals. This quality can be measured by examining various dimensions that influence the success of the learning process. Teacher performance in the classroom is one of the key indicators of learning quality. Teachers who can clearly deliver material, engage students in participation, and use appropriate methods can significantly improve the quality of learning. In addition, adequate learning facilities, including the use of effective media and a supportive learning environment, are also determining factors. A conducive classroom climate and harmonious relationships between teachers and students are essential in creating a positive learning atmosphere. Students' attitudes and learning motivation also play a significant role in determining the success of learning, as motivated students will be more active and engaged in the learning process. Finally, using teaching strategies and methods that align with students' characteristics and the learning material is

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[4] Mulyasa, E. 2018. *Manajemen Pendidikan di Era Global*

[5] Tjiptono, F. 2015. *Service, Quality and Customer Satisfaction*. Yogyakarta: Andi Offset.

[6] Kotler, P. 2015. *Marketing Management*. 15th ed. New Jersey: Pearson.

[7] Hasanudin, U. 2017. *Peningkatan Kualitas Pembelajaran: Konsep dan Implementasi*. Yogyakarta: Pustaka Pelajar.

[8] Haryati, D., and I. Rochman. 2012. "Kualitas Pembelajaran di Sekolah: Teori dan Praktik." *Jurnal Pendidikan* 2 (1): 2-10.

crucial to achieving educational objectives. These dimensions include teacher performance in the classroom, learning facilities, classroom climate, students' attitudes and motivation, as well as teaching strategies and methods[9][10][11].

Academic supervision is a process of guidance conducted by the school principal to improve the quality of teaching. As part of the managerial role, academic supervision aims to enhance teachers' professional abilities in planning, implementing, and evaluating learning outcomes. This supervision also includes providing technical assistance to help teachers in carrying out their teaching duties and improving the quality of their teaching[12]. The Ministry of Education, Culture, Research, and Technology Regulation No. 40 of 2021 stipulates the school principal's duties to conduct academic supervision for teachers to improve the quality of learning at schools. Academic supervision is carried out in three main stages: planning, implementation, and follow-up, with the goal of helping teachers develop their abilities and encourage continuous improvement in the learning process[13][14].

Academic supervision is a developmental activity conducted by the school principal to improve the quality of teaching carried out by teachers. This supervision aims to provide technical assistance in the planning, implementation, and evaluation of teaching. Effective academic supervision planning includes setting clear objectives and goals, choosing the appropriate supervision techniques, and determining the right timing for supervision implementation. During the supervision process, the principal directly monitors the learning process, provides constructive feedback to teachers, and helps them overcome challenges they face in classroom management. Evaluation and follow-up of academic supervision are also crucial to ensure continuous improvements in the quality of learning. The dimensions of academic supervision include planning, implementation, evaluation, and follow-up[15][16]. In this context, academic supervision aims not only to improve teachers' classroom management skills but also to enhance the overall quality of education through ongoing improvements.

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[9] Widiyoko, M. 2020. *Strategi Pembelajaran yang Efektif*. Yogyakarta: Pustaka Pelajar.

[10] Hasanudin, U. 2017. *Peningkatan Kualitas Pembelajaran: Konsep dan Implementasi*. Yogyakarta: Pustaka Pelajar

[11] Sanjaya, W. 2015. *Kurikulum dan Pembelajaran: Teori dan Praktik*.

[12] Sagala, S. 2018. *Konsep dan Implementasi Supervisi Akademik di Sekolah*. Jakarta: PT Remaja Rosdakarya.

[13] Hartanto, A., et al. 2019. *Supervisi Akademik untuk Peningkatan Kualitas Pembelajaran*. Jakarta: Kementerian Pendidikan dan Kebudayaan

[14] Purwanto, E. 2019. "Manajemen Pembelajaran dan Peningkatan Kualitas Pembelajaran." *Jurnal Pendidikan* 77: 75-80.

[15] Prasojo, S., and A. Sudiyono. 2017. "Pengembangan Supervisi Akademik di Sekolah." *Jurnal Pendidikan* 48: 47-58.

[16] Makawimbang, I. 2021. "Indikator Supervisi Akademik dalam Pembelajaran." *Jurnal Pendidikan dan Pengajaran* 86 (1): 80-90.

Teacher work motivation is an important factor in improving the quality of learning. Work motivation can be understood as the drive or enthusiasm that influences teachers to carry out their tasks with dedication and strive to achieve learning objectives[17]. Work motivation can arise from internal factors, such as a sense of responsibility and personal satisfaction, as well as external factors, such as incentives and rewards[18]. High motivation among teachers will lead to better performance in carrying out teaching duties, which, in turn, improves the quality of learning in the classroom[19].

Teacher work motivation is a significant factor that influences the quality of learning implementation. Work motivation can arise from internal factors, such as a sense of responsibility and personal satisfaction in carrying out tasks, as well as external factors, such as incentives and recognition from superiors or institutions. Teachers with high motivation tend to be more enthusiastic in performing their duties, leading to better teaching performance, which positively impacts student learning. The dimensions of teacher work motivation are divided into internal and external motivation. Internal motivation includes the teacher's responsibility in carrying out tasks, involvement in achieving challenging goals, and personal satisfaction in working. Meanwhile, external motivation includes the expectation of rewards, incentives, and recognition for achievements. Both dimensions of motivation influence each other, and high motivation in teachers will lead to improved quality of learning[20] [21].

Pedagogical competence refers to a teacher's ability to manage the learning process to achieve educational goals. A professional teacher must master pedagogical competence, which includes understanding students, planning and implementing learning, and evaluating learning outcomes. This competence includes a teacher's ability to design and implement learning that meets students' needs, use appropriate learning media, and conduct fair and objective assessments.

The dimensions of pedagogical competence include understanding student characteristics, managing effective learning, and conducting evaluations and assessments centered on students[22] [23]. Teachers who can

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[17] Wardan, A. 2020. *Manajemen Sumber Daya Manusia dalam Pendidikan*. Jakarta: Bumi Aksara.

[18] Uno, H. B. 2018. *Teori Motivasi dan Pengukuran Motivasi Kerja*. Jakarta: PT Bumi Aksara

[19] Rayyan, M., and S. Paryanti. 2021. "Dimensi dan Indikator Motivasi Kerja pada Guru." *Jurnal Pendidikan dan Sosial* 11 (1): 11-20.

[20] Uno, H. B. 2018. *Teori Motivasi dan Pengukuran Motivasi Kerja.*

[21] Rayyan, M., and S. Paryanti. 2021. "Dimensi dan Indikator Motivasi Kerja pada Guru."

[22] Hendayana, U. 2017. "Kompetensi Pedagogik dalam Pengelolaan Pembelajaran." *Jurnal Pendidikan Dasar* 6 (1): 5-12.

[23] Sagala, S. 2018. *Konsep dan Implementasi Supervisi Akademik di Sekolah.*

manage the classroom well, use appropriate methods, and assess learning accurately will create a conducive and effective learning environment to achieve the desired educational objectives[24]. Pedagogical competence is a skill that a teacher must possess to manage the learning process effectively, ensuring that educational objectives are met. This competence includes understanding students, planning and implementing learning, and evaluating learning outcomes. Understanding students' characteristics is crucial, as teachers who understand learning styles, social backgrounds, and challenges students face can design more effective learning that meets students' needs. Effective planning and implementation of learning involve selecting the right methods, developing relevant learning materials, and using supportive media. Moreover, the ability to evaluate learning processes and outcomes is an essential part of pedagogical competence. These dimensions focus on achieving optimal educational goals, and teachers with good pedagogical competence will be able to create effective learning and foster the development of students' potential[25] [26].

The novelty of this research lies in its exploration of the relationship between academic supervision, teacher work motivation, and pedagogical competence, specifically in the context of public elementary schools in Temanggung Subdistrict. While previous studies have explored these factors individually, this research uniquely combines them to assess how they collectively contribute to improving the quality of learning. Additionally, this study focuses on a specific region, where the challenges of learning implementation are unique, making it a valuable case for understanding localized educational dynamics. By analyzing the interplay between these variables, the study provides new insights into how educational leadership and teacher development can work together to enhance learning quality in a context where many traditional strategies have not yet achieved optimal results.

METHOD

This study uses a quantitative approach with a correlational research design, aimed at examining the relationships between the variables under investigation through the collection of statistical data. The study employs an ex post facto approach, meaning that no treatment is applied to the research

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[24] Arifin, Z. 2016. *Evaluasi Pembelajaran dalam Konteks Pendidikan Indonesia*. Jakarta: Bumi Aksara.

[25] Sagala, S. 2018. *Konsep dan Implementasi Supervisi Akademik di Sekolah*.

[26] Hendayana, U. 2017. "Kompetensi Pedagogik dalam Pengelolaan Pembelajaran."

variables, but rather it investigates facts that have already occurred[27]. In this study, there are three independent variables, namely academic supervision, teacher work motivation, and pedagogical competence, and one dependent variable, which is the quality of learning implementation.

The research design used is a correlational quantitative research, where the researcher links two or more variables based on the facts available in the field[28]. The purpose of this study is to determine the extent of the influence of academic supervision, teacher work motivation, and pedagogical competence on the quality of learning implementation at public elementary schools in Temanggung Subdistrict, Temanggung Regency[29].

This research was conducted at public elementary schools in Temanggung Subdistrict, Temanggung Regency, with a research period from September 2024 to February 2025. The study uses an explanatory research design, which aims to explain the position of the variables under study and the relationships between these variables[30]. To test the influence of two or more independent variables on the dependent variable, multiple linear regression is used.

The variables studied in this research include academic supervision, teacher work motivation, pedagogical competence, and the quality of learning implementation. Academic supervision is measured through the dimensions of planning, implementation, and evaluation of supervision. Teacher work motivation is measured through three dimensions: achievement needs, affiliation, and power. Pedagogical competence is measured through the dimensions of managing a safe and comfortable learning environment, student-centered learning, and assessment management. The quality of learning implementation is measured through the dimensions of opening the lesson, delivering material, and closing the lesson.

The population in this study consists of 306 public elementary school teachers in Temanggung Subdistrict, Temanggung Regency, distributed across 36 schools. The sample size was calculated using Slovin's formula with a 5% margin of error, resulting in a sample of 173 teachers. The sampling technique used was nonprobability sampling with a saturated sampling technique, where all members of the population were included in the sample (Sugiyono, 2016). Additionally, a pilot test of the instrument was conducted with 30 respondents selected from outside the population.

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[27] Ibrahim, A., and S. Alwi. 2018. *Metode Penelitian Kuantitatif: Pendekatan Korelasional dalam Pendidikan*. Yogyakarta: Penerbit Andi.

[28] Ibrahim, A., and S. Alwi. 2018. *Metode Penelitian Kuantitatif: Pendekatan Korelasional dalam Pendidikan*.

[29] Syahza, Z. 2021. *Penelitian Korelasional dalam Pendidikan: Teori dan Praktik*. Jakarta: Pustaka Pelajar

[30] Sugiyono, S. 2017. *Metode Penelitian Kuantitatif, Kualitatif dan R&D (Edisi Revisi)*. Bandung: Alfabeta.

The research instrument used was a closed-ended questionnaire with a Likert scale, consisting of five response options. This questionnaire was used to measure respondents' perceptions of academic supervision, teacher work motivation, pedagogical competence, and the quality of learning implementation. Measurement was done using an ordinal scale, with a score of 1 for "strongly disagree" to a score of 5 for "strongly agree"[31] [32].

To ensure the validity and reliability of the instrument, a validity test was performed using the Pearson product-moment correlation formula, and a reliability test was carried out using the Cronbach's alpha formula. The results of the validity test indicated that most of the questionnaire items were valid, and the research instrument was deemed reliable with a Cronbach's alpha value greater than 0.6 for all variables.

Data analysis was performed using descriptive analysis and inferential statistics. Normality testing was conducted to ensure that the data were normally distributed, using the Kolmogorov-Smirnov test. Multicollinearity, linearity, and heteroskedasticity tests were also conducted to ensure that the regression model used was free from issues. To test the hypotheses, t-tests and F-tests were used to examine the partial and simultaneous effects between the independent and dependent variables, using the SPSS application.

RESULT AND DISCUSSION

This study was conducted involving 173 respondents consisting of public elementary school teachers in Temanggung Subdistrict, Temanggung Regency. Based on descriptive analysis of the data obtained, the variable Quality of Learning Implementation (Y) showed an average score of 119.35 with a standard deviation of 10.98. The minimum score was 100 and the maximum score was 151, indicating that the majority of perceptions regarding the quality of learning implementation fell under the "Fair" category. Meanwhile, the variable Academic Supervision (X1) had an average score of 131.80 with a standard deviation of 12.95, with a minimum score of 107 and a maximum score of 169. This indicates that the majority of respondents rated academic supervision as "Fair". The variable Teacher Work Motivation (X2) had an average score of 138.94 with a standard deviation of 17.39, with a minimum score of 100 and a maximum score of 179, suggesting that work motivation was predominantly in the "Fair" category. The variable Pedagogical Competence (X3) had an average score of 125.79 with a standard deviation of 10.34, with a minimum score of 101 and a maximum score of 160, indicating that teachers' pedagogical competence was largely in the "Fair" category.

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[31] Sugiyono, S. 2017. *Metode Penelitian Kuantitatif, Kualitatif dan R&D (Edisi Revisi)*.

[32] Riduwan, R. 2017. *Skala Pengukuran dalam Penelitian Pendidikan*. Jakarta: Alfabeta.

To assess the contribution of each dimension to the research variables, a dimensional test was conducted using Principal Component Analysis (PCA). The dimensional analysis of the Quality of Learning Implementation (Y) showed that the dimension of material delivery had the highest score of 0.605, while the dimension of opening the lesson had the lowest score of 0.474. For the Academic Supervision variable (X1), the dimension of supervision planning had the highest score of 0.913, while the dimension of supervision implementation had the lowest score of 0.754. For the Teacher Work Motivation (X2) variable, the affiliation need dimension showed the highest score of 0.726, while the achievement need dimension had the lowest score of 0.426. On the other hand, for Pedagogical Competence (X3), the student-centered assessment and reporting dimension had the highest score of 0.819, while the safe and comfortable learning environment management dimension had the lowest score of 0.668.

Before proceeding to regression analysis, several prerequisite tests were conducted to ensure that the data met the necessary criteria. The normality test results indicated that all data for the variables Quality of Learning Implementation (Y), Academic Supervision (X1), Teacher Work Motivation (X2), and Pedagogical Competence (X3) were normally distributed, as the Exact Sig. values for each were greater than 0.05, namely 0.215 (Y), 0.284 (X1), 0.435 (X2), and 0.211 (X3). The multicollinearity test showed no multicollinearity symptoms among the independent variables, with the VIF values for Academic Supervision (X1) at 1.683, Teacher Work Motivation (X2) at 1.647, and Pedagogical Competence (X3) at 1.329, all VIF values being less than 10. The linearity test for the relationships between independent and dependent variables indicated linear results, as the F-calculated values for each linearity test (X1 to Y, X2 to Y, and X3 to Y) were smaller than the F-table values and their significance levels were greater than 0.05, indicating that the relationships between the variables were linear. The heteroscedasticity test using the Glejser method showed no heteroscedasticity issues in the data, as the significance values for all variables were greater than 0.05, specifically 0.098 (X1), 0.086 (X2), and 0.677 (X3).

To test the hypotheses, simple and multiple regression tests were conducted: (1) Simple Regression Test: (a) the effect of Academic Supervision (X1) on the Quality of Learning Implementation (Y): Regression coefficient = 0.458, t-calculated = 8.388 > t-table = 1.9739, with a significance value of 0.000 (less than 0.05), indicating that Academic Supervision significantly affects the Quality of Learning Implementation. The contribution of Academic Supervision to the Quality of Learning Implementation was 29.2% (R^2 = 0.292).

Tabel 1 Results of the Determination Test X1 on Y

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,540ª	,292	,287	9,267

a. Predictors: (Constant), Academic Supervision

(b) The effect of Work Motivation (X2) on the Quality of Learning Implementation (Y): Regression coefficient = 0.318, t-calculated = 7.622 > t-table = 1.9739, with a significance value of 0.000 (less than 0.05), indicating that Work Motivation has a significant effect on the Quality of Learning Implementation. The contribution of Work Motivation to the Quality of Learning Implementation is 25.4% (R^2 = 0.254)

Tabel 2. Results of the Determination Test X2 on Y

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,504ª	,254	,249	9,512

a. Predictors: (Constant), Work Motivation

(c) The effect of Pedagogical Competence (X3) on the Quality of Learning Implementation (Y): Regression coefficient = 0.680, t-calculated = 10.924 > t-table = 1.9739, with a significance value of 0.000 (less than 0.05), indicating that Pedagogical Competence has a significant effect on the Quality of Learning Implementation. The contribution of Pedagogical Competence to the Quality of Learning Implementation is 41.1% (R^2 = 0.411).

Tabel 3. Results of the Determination Test X3 on Y

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,641ª	,411	,408	8,449

a. Predictors: (Constant), Kompetensi Pedagogik

(2) Multiple Regression Test: (a) The obtained multiple regression equation is $\hat{Y} = 17.161 + 0.196X1 + 0.103X2 + 0.494X3$. (b) F-calculated = 57.459 > F-table = 2.66, with a significance value of 0.000 (less than 0.05), indicating that the variables Academic Supervision, Work Motivation, and Pedagogical Competence simultaneously have a significant effect on the Quality of Learning Implementation. (c) Adjusted R^2 = 0.496, which indicates that the three independent variables contribute 49.6% to the Quality of Learning Implementation, while the remaining portion is

influenced by other factors not examined in this study

Tabel 3. Results of the Determination Test X1, X2, X3 on Y

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,711ª	,496	,505	7,792

a. Predictors: (Constant), Kompetensi Pedagogik, Motivasi Kerja, Supervisi Akademik

The results of this study indicate a significant effect between Academic Supervision (X1) and the Quality of Learning Implementation (Y). The correlation test conducted resulted in a calculated r value of 0.540 with a significance level of 0.000, which is less than 0.05, and a table r value of 0.1488. Based on the comparison between the calculated r and the table r, there is a moderate correlation (interval 0.400 – 0.599) between academic supervision and the quality of learning implementation. Additionally, the determination test (R^2) result of 0.292 shows that Academic Supervision contributes 29.2% to the Quality of Learning Implementation. The t-test result shows that the calculated t value of 8.388 is greater than the table t value of 1.9739, with a significance level of 0.000, indicating that Academic Supervision significantly affects the Quality of Learning Implementation. Therefore, the first hypothesis (H1) is accepted. This study aligns with the research by Muhsin, M., Sudadi, S., Mahmud, M. E., & Muadin, A.[33] , which shows that academic supervision plays an important role in improving the quality of learning by providing teachers with opportunities to enhance their competencies through systematic guidance. Academic supervision allows teachers to evaluate and improve shortcomings in the learning process. Another study by Nasmin, A.N.A., Arifin, N., and Rahman, D.[34] also reveals that academic supervision can enhance teachers' competencies in personality, pedagogical, professional, and social aspects, which are essential for achieving optimal learning quality. Moreover, Manullang[35] emphasizes that academic supervision is a process that helps teachers develop their abilities to achieve academic goals. This is also in line with the research conducted by Dharma[36], which explains that academic supervision aims to improve learning quality by helping teachers manage and enhance their capabilities.

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[33] Muhsin, M., S. Sudadi, M. E. Mahmud, and A. Muadin. 2023. "Pengaruh Supervisi Akademik terhadap Kualitas Pembelajaran." *Jurnal Pendidikan dan Pembelajaran* 9 (2): 112-120.

[34] Nasmin, A. N. A., N. Arifin, and D. Rahman. 2023. "Supervisi Akademik dan Pengembangan Kompetensi Guru." *Jurnal Pengembangan Pendidikan* 18 (2): 125-135.

[35] Manullang, I. 2015. *Teori Supervisi Akademik dalam Pendidikan*. Jakarta: Kencana.

[36] Dharma, D. 2017. "Peran Supervisi Akademik dalam Peningkatan Kualitas Pembelajaran." *Jurnal Kepemimpinan Pendidikan* 10 (1): 22-32.

The results of the study regarding Work Motivation (X2) indicate a significant effect on the Quality of Learning Implementation (Y), with a calculated r value of 0.504 and a significance level of 0.000. The calculated r value is greater than the table r value of 0.1488, indicating a significant correlation (interval 0.400 – 0.599). The determination test shows that Work Motivation contributes 25.4% to the Quality of Learning Implementation. The t-test results show that the calculated t value of 7.622 is greater than the table t value of 1.9739, with a significance level of 0.000, proving that Work Motivation significantly affects the Quality of Learning Implementation. Therefore, the second hypothesis (H2) is accepted. This study supports the findings of Nurdadiyono, Handayani, and Prihandoko[37], which indicate that teacher work motivation positively influences the quality of learning implementation. Research by Santi, Roesminingsih, Khamidi, and Hariyati[38] also reveals that high work motivation can enhance teacher effectiveness, which impacts student learning outcomes. According to Santoso, G., & Murod, M.[39], good teaching performance, influenced by work motivation, significantly determines the effectiveness of learning.

Pedagogical Competence (X3) shows a significant correlation with the Quality of Learning Implementation (Y), with a calculated r value of 0.641 and a significance level of 0.000, which is less than 0.05 and greater than the table r value of 0.1488. The determination test shows that Pedagogical Competence contributes 41.1% to the Quality of Learning Implementation. The t-test results show that the calculated t value of 10.924 is greater than the table t value of 1.9739, with a significance level of 0.000, proving that Pedagogical Competence significantly affects the Quality of Learning Implementation. Therefore, the third hypothesis (H3) is accepted. These results are consistent with the findings of Rosyada, Harapan, and Rohana[40], who state that Pedagogical Competence significantly affects the quality of learning implementation. Research by Rosni[41] also shows that pedagogical competence, along with other competencies such as personality and social competencies, is essential for effective learning implementation. Pedagogical competence includes the teacher's ability to design and manage learning that aligns with students' characteristics and maximizes their potential.

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[37] Nurdadiyono, S., R. Handayani, and W. Prihandoko. 2023. "Motivasi Kerja Guru dan Kualitas Pembelajaran." *Jurnal Pendidikan Dasar* 19 (1): 75-80

[38] Santi, R., Khamidi, R. Roesminingsih, and H. Hariyati. 2024. "Motivasi Kerja Guru dan Pengaruhnya terhadap Kualitas Pembelajaran." *Jurnal Pendidikan Dasar* 23 (1): 130-140

[39] Santoso, G., and M. Murod. 2021. "Performa Mengajar Guru dan Kualitas Pembelajaran." *Jurnal Manajemen Pendidikan* 17 (2): 54-67.

[40] Rosyada, A., R. Harapan, and N. Rohana. 2021. "Kompetensi Pedagogik dan Kualitas Pembelajaran." *Jurnal Pendidikan dan Pengajaran* 13 (2): 90-98.

[41] Rosni, A. 2021. "Pengaruh Kompetensi Pedagogik terhadap Kualitas Pembelajaran di Sekolah." *Jurnal Pendidikan Indonesia* 7 (3): 70-80.

Simultaneously, Academic Supervision (X1), Work Motivation (X2), and Pedagogical Competence (X3) significantly affect the Quality of Learning Implementation (Y). Based on the results of the multiple regression test, the Adjusted R Square value of 0.496 shows that the three independent variables contribute 49.6% to the Quality of Learning Implementation. The calculated F value of 57.459, which is greater than the F table value of 2.66, with a significance level of 0.000 (less than 0.05), indicates that Academic Supervision, Work Motivation, and Pedagogical Competence simultaneously have a significant effect on the Quality of Learning Implementation. This study strengthens previous findings, as explained by Santi, Roesminingsih, Khamidi, and Hariyati[42], who found that school principal supervision and teacher work motivation influence learning quality, as well as research by Rosyada, Harapan, and Rohana[43], which indicates the positive influence of pedagogical competence on learning quality. Additionally, research by Siahaan[44] shows that improving teachers' pedagogical competence plays a significant role in creating effective and efficient learning experiences, which in turn improves the quality of learning implementation in the classroom. Overall, this study demonstrates that academic supervision, work motivation, and pedagogical competence significantly influence the quality of learning implementation. The more effective the academic supervision, work motivation, and pedagogical competence, the higher the quality of learning implementation. This aligns with learning theories that state that the quality of learning is significantly influenced by internal factors, such as the teacher's ability to design, implement, and evaluate learning[45].

CONCLUTION

Based on the results of the study, it can be concluded that Academic Supervision, Work Motivation, and Pedagogical Competence significantly affect the Quality of Learning Implementation at public elementary schools in Temanggung Subdistrict, Temanggung Regency. Specifically, the results of the study show that Academic Supervision has a positive effect of 29.2% on the quality of learning implementation, meaning that the better the academic supervision conducted by the school principal, the higher the quality of learning implementation. In addition, Work Motivation has a positive and

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[42] Santi, R., Khamidi, R. Roesminingsih, and H. Hariyati. 2024. "Motivasi Kerja Guru dan Pengaruhnya terhadap Kualitas Pembelajaran."

[43] Rosyada, A., R. Harapan, and N. Rohana. 2021. "Kompetensi Pedagogik dan Kualitas Pembelajaran."

[44] Siahaan, M. 2022. "Peningkatan Kompetensi Pedagogik untuk Pembelajaran yang Efektif." *Jurnal Pendidikan Dasar* 21 (3): 142-150.

[45] Slameto, A. 2017. *Belajar dan Faktor-Faktor yang Mempengaruhinya*. Jakarta: Rineka Cipta.

significant effect of 25.4% on the quality of learning implementation. Pedagogical Competence also has a significant effect on the quality of learning implementation, with a contribution of 41.1%. Simultaneously, the three variables contribute 49.6% to the quality of learning implementation, indicating that academic supervision, work motivation, and pedagogical competence play a significant role in determining the quality of learning at public elementary schools in Temanggung Subdistrict.

However, this study has several limitations. First, the research focused on public elementary schools in Temanggung Subdistrict, which may not be representative of other regions or school types. Therefore, the findings may not be generalizable to other areas or educational contexts. Second, this study only considered three variables (academic supervision, work motivation, and pedagogical competence), which means that other important factors such as the socio-economic status of students, curriculum design, and teaching resources were not explored. Future research could explore these additional factors to provide a more comprehensive understanding of the determinants of learning quality. Third, the study used a cross-sectional design, which limits the ability to make causal inferences. Longitudinal studies would be beneficial to track changes over time and identify long-term impacts of these factors on the quality of learning. Lastly, this research relied on self-reported data from teachers and school principals, which may be subject to bias. Future studies could incorporate objective measures of learning quality or include classroom observations to complement the self-reported data.

Based on the results of the study, several recommendations can be made for various parties involved in improving the quality of learning implementation. First, for the Department of Education, Youth, and Sports of Temanggung Regency, there needs to be increased support for school principals in implementing Academic Supervision. This can be achieved through a continuous training program for school principals on effective supervision techniques, thereby further improving the quality of learning. The Department of Education should also focus on enhancing teacher work motivation through awards and incentives that can encourage teachers to excel in their teaching. Furthermore, there needs to be a program focused on developing teachers' Pedagogical Competence to better meet the needs of students, which are continuously evolving in the digital era.

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