

# The Influence of Academic Supervision, School Culture, and Teacher Professionalism on the Learning Quality: A Quantitative Study in Public Elementary Schools

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## ABSTRACT

This study aims to analyze the influence of academic supervision, school culture, and teacher professionalism on the quality of learning in public elementary schools (SD Negeri) in Warungpring Subdistrict, Pemalang Regency. The research uses a quantitative approach with a correlational research design. The study population consists of 166 teachers from 22 SD Negeri schools, while the sample comprises 117 teachers selected through proportional random sampling using Slovin's formula. Data were collected using a Likert-scale questionnaire that had been tested for validity and reliability. Data analysis was conducted descriptively and inferentially with the help of SPSS 25. The results show that, partially, academic supervision, school culture, and teacher professionalism each have a positive and significant effect on learning quality. Academic supervision contributes 31.5%, school culture contributes 34.2%, and teacher professionalism contributes 32.9% to the variation in learning quality. Collectively, these three variables have a very strong effect on learning quality, contributing 68.7%. These findings are reinforced by regression analysis and hypothesis testing, which show that the regression model used is statistically significant. Therefore, it can be concluded that academic supervision, school culture, and teacher professionalism are important factors in improving the quality of learning in SD Negeri Warungpring Subdistrict, Pemalang Regency. Efforts to improve learning quality must be carried out comprehensively by considering all three aspects, including strengthening the role of school principals as supervisors, enhancing school culture, and developing teacher professionalism through ongoing training and collaboration.

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## INTRODUCTION

Education is the fundamental foundation in the effort to build a quality next generation of the nation. Education is a basic right that must be accessed by every individual (Rohmadi et al., 2024). Every individual in Indonesia has the right to obtain proper education, as guaranteed in Article 31 paragraph (1) of the 1945 Constitution, which affirms that education is a basic right of every Indonesian citizen without exception. This right includes access to proper education as an effort to enlighten the life of the nation. Furthermore, paragraph (3) also emphasizes the government's

responsibility in designing and implementing the national education system that not only focuses on academic aspects but also on character building through faith, piety, and noble morals. This becomes an important foundation in building quality and integrity in Indonesian society.

Schools, as formal educational institutions, play a crucial role in enlightening the nation's children. As regulated in Article 3 of Law Number 20 of 2003 concerning the National Education System, national education functions to develop abilities as well as shape the character and civilization of a dignified nation, with the aim that students' potential develops into humans who are faithful, pious, noble in character, healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens. To achieve these goals, the government has established Government Regulation Number 57 of 2021 concerning National Education Standards. In Article 1 paragraph 2, National Education Standards are defined as the minimum criteria for the education system throughout Indonesia. Meanwhile, Article 5 paragraph 2 states that National Education Standards function as guidelines in curriculum development and education implementation to achieve national education goals.

National Education Standards outline the standards that must be met in every aspect of education, serving as the basis for planning, implementation, and supervision of education to realize quality national education. These standards aim to guarantee the quality of national education in order to enlighten the life of the nation and shape the character and civilization of a dignified nation. To maintain the consistency of these functions and goals, the curriculum, learning process, and school management must refer to the National Education Standards.

Teachers, as professional educators, have a central role in the education process. According to Law Number 14 of 2005 concerning Teachers and Lecturers, teachers are professional educators with the main tasks of educating, teaching, guiding, directing, training, assessing, and evaluating students in early childhood education, primary education, and secondary education. The tasks of teachers as a profession, according to Law Number 20 of 2003 concerning the National Education System, are to plan the learning process, assess learning outcomes, and conduct guidance and training. One of the priority educational issues is the quality of learning. Quality learning enables students to develop comprehensively, both in spiritual, intellectual, skills, and social attitudes. Without good quality learning, national education goals will be difficult to achieve. Therefore, the quality of learning in educational units becomes a benchmark for educational success.

Learning quality refers to the teaching and learning process that takes place effectively, thus enabling the achievement of the goals that have been set successfully (Wicaksono, R. A., & Sutikno, 2019). Nani Fitriyana, state that quality learning is a learning process that is well-designed and effective in achieving its objectives (Fitriyana, N., Setiawan, A., & Prasetyo, 2024). Quality learning can be produced through a combination of supporting components in the learning process. Efforts to improve the quality of learning can be made by applying effective and innovative learning methods, using varied learning media, employing appropriate assessments, developing a positive classroom atmosphere, and actively involving students in learning.

In the era of the Merdeka Curriculum, learning quality is reflected in school quality reports, which encompass several dimensions, including classroom management, psychological support, and teaching strategies implemented by teachers. Assessment results of several learning components in public elementary schools (SD Negeri) across Warungpring Subdistrict indicate achievements categorized as "moderate." In the aspect of classroom management, the district-level achievement score is 63.09, categorized as moderate, while in SD Negeri schools in Warungpring Subdistrict, 18% of schools are in the "low" category, 50% are in the "moderate" category, and 32% are in the "good" category. For psychological support, the district-level score is 68.48 (moderate), whereas in Warungpring Subdistrict, 23% are in the "low" category, 45% are in the moderate category, and 32% are in the "good" category. In terms of teaching strategies, the district-level score is 60.2 (moderate), while in the subdistrict, 27% are in the "low" category, 45% are in the moderate category, and 27% are in the "good" category. These results indicate that the majority of schools are still in the moderate category, so the quality of learning in SD Negeri Warungpring Subdistrict still needs to be improved.

One of the factors influencing learning quality is positive and strong school leadership, particularly in the principal's role as a supervisor. According to Mortimore (Halawa, Arnita Niroha, 2023), a positive and strong principal functions as a supervisor. Regulation of the Minister of National Education Number 13 of 2007 concerning School Principal Standards confirms that one of the competencies required of principals is supervisory competence, namely the ability to conduct academic supervision of teachers. As supervisors, principals must be able to provide assistance and services to teachers so that they continue to learn, improve the quality of learning, foster creativity, refine educational goals, teaching materials, teaching models and methods, and teaching evaluation to enhance the quality of learning, education, and the curriculum (Sagala, 2012).

Mulyasa (2018) states that academic supervision is any effort to lead teachers and other educational personnel so that they can improve teaching through stimulation, refine goals, teaching materials, methods, and learning evaluation. In carrying out this role, principals must be able to: (1) plan academic supervision programs; (2) conduct academic supervision of teachers using appropriate approaches and techniques; (3) follow up on academic supervision results to improve teacher professionalism. According to Karwati (2019), the principal's academic supervision activities consist of five stages: planning, implementation, analysis of supervision results, feedback, and follow-up as an effort for improvement (Mulyasa, 2018).

However, preliminary observations indicate that principals in several SD Negeri schools in Warungpring Subdistrict have not optimally implemented academic supervision. Of the 22 principals, only 16 (72%) prepared a supervision program, 10 (45%) determined the focus of supervision, and 17 (77%) prepared a supervision schedule. At the implementation stage, only 8 (36%) actually conducted classroom observations, 9 (41%) analyzed observation data, and 9 (41%) provided feedback. At the follow-up stage, only 7 (32%) held reflective discussions with teachers, and 8 (36%) provided improvement recommendations and further supervision. This shows that academic supervision has not yet been optimal as an effort to improve learning quality.

In addition to academic supervision, school culture is also an important element influencing learning quality (Suwarni, 2023). According to Heck (2000), school culture is a system of shared values, beliefs, and norms that are consciously adopted as behavior shaped by the school environment (Heck, 2000). School culture plays a vital role in creating a conducive learning environment, thereby enhancing the quality of education and student learning outcomes. Indomera (2022) states that organizational (school) culture is considered good if it meets several requirements: (1) self-awareness among all organizational members to develop themselves, comply with rules, and provide quality educational services; (2) organizational members' aggressiveness, meaning members are proactive and not always dependent on leadership; (3) good personality, where members are respectful, friendly, open, and sensitive to group satisfaction; (4) performance, where members demonstrate creativity, innovation, and work efficiently and effectively; and (5) team orientation, where members engage in good cooperation and effective communication (IndOmera, 2024).

However, preliminary interviews indicate that the school culture in SD Negeri Warungpring Subdistrict has not fully met these requirements. Many teachers still lack self-awareness in complying with rules, rarely take initiative, are less open to change, lack innovation, and have not optimally collaborated or communicated to improve learning quality.

Furthermore, teacher professionalism is also crucial in improving learning quality (Satriadi, A., Wilian, S., & Syuaib, 1 C.E.). Professional teachers are those who prioritize the quality of their services and products, meet the standardized needs of society, the nation, and users, and maximize student abilities based on each individual's potential and competence (Yunus, 2016). To become a professional teacher, one must possess four competencies: (1) pedagogical competence, (2) personality competence, (3) social competence, and (4) professional competence, as regulated by the Director General Regulation of Teachers and Education Personnel, Ministry of Education, Culture, Research, and Technology No. 2626/B/HK.04.01/2023.

Preliminary observations show that teacher professionalism in SD Negeri Warungpring Subdistrict is not yet optimal. Of the 22 teachers, only 9 (41%) were able to create a safe and

comfortable learning environment, 8 (36%) implemented effective student-centered learning, and 8 (36%) conducted assessments, feedback, and learning outcome reports oriented to student needs. In terms of personality competence, 14 (64%) demonstrated moral, emotional, and spiritual maturity in accordance with the teacher code of ethics, 10 (36%) had a habit of self-development reflection, and 11 (50%) showed a student-centered learning orientation. In professional competence, 11 (50%) mastered content and teaching methods, 10 (45%) understood student characteristics and learning styles, and 7 (32%) were able to implement the curriculum correctly.

Although several studies have examined the influence of academic supervision, school culture, and teacher professionalism on learning quality, few studies have analyzed these three variables together in the context of learning quality in public elementary schools. Therefore, this research is expected to be an alternative to address this gap by testing the hypothesis that academic supervision, innovative school culture, and teacher professionalism contribute significantly to improving learning quality in SD Negeri Warungpring Subdistrict, Pemalang Regency.

Operationally, learning quality can be defined as the intensity of the systemic and synergistic interrelationships between teachers, students, the learning climate, and learning media in producing optimal learning processes and outcomes in accordance with curricular demands Mariani as cited in (Putra, E., & Hariyati, 2021). Prasetyo (2013) defines learning quality as the level of achievement of initial learning objectives, which include increasing students' knowledge, skills, and attitudes through the classroom learning process (Prasetyo, 2013). Meanwhile, Memorata and Santoso (2017) interpret learning quality as the systemic interconnectedness of learning components such as teachers, students, curriculum, teaching materials, and the learning system in order to create optimal learning (Memorata, A. D., & Santoso, 2017). According to Sudjana (2017), learning quality is defined as the effectiveness of teaching and learning activities in achieving learning objectives (Sudjana, 2017). The main goal of learning activities is to achieve the intended objectives formulated from the outset. Achieving these objectives requires learning quality, which means that educators must utilize learning components appropriately. Therefore, improving learning quality can be accomplished by enhancing students' learning activities and academic achievement. Suparno, also defines learning quality as the intensity of the systemic and synergistic interrelationships between teachers, students, curriculum, teaching materials, media, facilities, and the learning system in producing optimal learning processes and outcomes according to curricular demands (Suparno, 2006). Based on the above definitions, learning quality in this study is the effectiveness of the interaction between various components in the educational process, such as teachers, students, materials, media, and the learning environment, in order to achieve optimal learning objectives.

According to Jarome's theory (Halawa, Arnita Niroha, 2023), factors influencing the improvement of educational quality are both internal and external. Internal factors include intelligence or intellect, talents, interests, and motivation. Meanwhile, external factors include experience, family conditions, school environment, and community. Mortimore as cited in (Halawa, Arnita Niroha, 2023), identifies several factors that need to be considered to improve the quality of education and learning, including: positive and strong leadership, high expectations for student achievement, monitoring student progress, student responsibility and involvement in school life, incentives and rewards, parental involvement in school life, and consistent planning and approaches. Sudjana (2017) states that learning quality is influenced by various factors, including: teacher competence and expertise, subject characteristics, learning resources and facilities, student motivation, and the learning climate. Hamzah, adds that learning quality is also influenced by learning conditions, subject area, and the teaching strategies used by teachers (Hamzah, 2014).

According to the Ministry of National Education (Depdiknas) as cited in Prasetyo, learning quality can be assessed through: teacher behavior (teacher educator's behavior), student behavior and learning impact (student teacher's behavior), learning climate, teaching materials, learning media, and the learning system (Suryanto, A., Prasetyo, 2023). Hanafiah and Suhana, mention important dimensions and indicators in assessing learning quality, namely: the learning process dimension, curriculum dimension, resource dimension, and evaluation dimension (Hanafiah, N., & Suhana, 2023). Susanti and Widodo, measure learning quality through the application of effective

and innovative teaching methods, the use of varied learning media, appropriate assessment, a positive classroom atmosphere, and student engagement in learning (Susanti, A., & Widodo, 2024). Siskawati add that the quality of the learning process can be measured through planning, implementation, and assessment of learning (Siskawati, O. F., Fikria, H., 2024). Based on the various perspectives above, learning quality can be measured through several dimensions, including: (1) learning planning, (2) learning implementation with varied methods and media, positive classroom management, and student engagement, and (3) appropriate learning evaluation and self-reflection on the learning process.

Academic supervision, according to Glickman (as cited in Directorate General for Quality Improvement of Teachers and Education Personnel, 2008), is a series of activities aimed at helping teachers develop their ability to manage the learning process in order to achieve learning objectives. Priansa (2014) defines academic supervision as actions taken to assist teachers in developing the professionalism of the learning process (Priansa, 2014). Suharismi (2012) states that academic supervision focuses on the observation of academic issues, directly within the scope of learning activities conducted by teachers to assist students during the learning process (Suharismi, 2012). Sudjana (2017) defines academic supervision as a series of activities for teachers to develop their ability to manage the learning process in order to achieve learning objectives (Sudjana, 2017). Sagala (2012) adds that academic supervision is the assistance and services provided to teachers so that they continue to learn, improve the quality of their teaching, foster creativity, and collaboratively select and revise educational objectives, teaching materials, teaching models and methods, and teaching evaluation to improve the quality of learning, education, and the curriculum in the ongoing development of teaching and learning for better results (Sagala, 2012). From the various definitions above, it can be concluded that academic supervision is the professional assistance provided by school principals to teachers in developing their ability to manage learning in order to improve learning quality.

Several supervisory competencies that must be possessed by school principals, as stipulated in the Minister of National Education Regulation Number 13 of 2007, include: planning academic supervision programs to improve teacher professionalism; conducting academic supervision of teachers using appropriate approaches and techniques; and following up on the results of academic supervision to further enhance teacher professionalism. Karwati (2019) states that the principal's academic supervision activities consist of five continuous stages: supervision planning, supervision implementation, analysis of supervision results, feedback provision, and follow-up activities aimed at improving the learning process (Karwati, 2019). Danim and Khairil also outline several competencies principals must demonstrate in conducting supervision, namely: defining the meaning, objectives, and techniques of supervision; preparing supervision programs; implementing supervision programs; guiding teachers, staff, and students; imparting new insights and knowledge; and providing feedback based on supervision results (Danim, S., 2015). According to Karwati, the stages of academic supervision implementation include: identifying problems and their causes, designing research to address these problems, establishing criteria for alternative solutions, comparing problem-solving options, selecting solutions, and accepting improvements and final evaluations to inform future supervision (Karwati, 2019).

School culture is the quality of a school's life that grows and develops based on a particular spirit and values adopted by the school (Nasional, 2002). Suhayati states that school culture is viewed as the existence of a school formed from the interaction of three factors: the attitudes and beliefs of people within the school and the external environment, and the norms of school culture that shape the school's character. Deal and Peterson describe school culture as a set of values underlying behaviors, traditions, daily habits, and symbols practiced by all school members, including principals, teachers, administrative staff, students, and the surrounding community (Supardi, 2015). Maryamah adds that school culture is constructed from the meeting of values held by teachers and staff within the school or madrasah (Maryamah, 2016). Komariah and Triatna assert that school culture is a collection of values and habits that form the social system in schools, reflected in the behavior and interactions among school members (Komariah, A., & Triatna, 2010). School culture is

a system of values, norms, habits, and traditions that develop within school life and influence the behavior of all school members, including principals, teachers, students, administrative staff, and the surrounding community. This culture is formed through the interaction of attitudes, beliefs, and values adopted by individuals within the school. Furthermore, school culture is also influenced by the external environment and serves as an identity reflecting the school's character. The successful establishment of school culture relies heavily on the commitment of all school members to maintain and develop these shared values.

According to Robbins and Coulter, organizational culture, including school culture, can be measured through several indicators: innovation and risk-taking, attention to detail, result orientation, people orientation, team orientation, aggressiveness, and stability (Robbins, S. P., & Coulter, 2019). Loukas and Murphy, identify three dimensions of school culture: the physical dimension (building and classroom appearance, school size, student-teacher ratio, availability of resources, and safety and comfort); the social dimension (quality of interpersonal relationships among students, teachers, and staff, fairness in treatment of students by teachers and staff, and the level of contribution of students, teachers, and staff in school decision-making); and the academic dimension (quality of teacher expectations for student achievement, monitoring student progress, and reporting learning outcomes to students and parents) (Loukas, A., & Murphy, 2007). Deal and Peterson, mention indicators of school culture such as discipline, openness and inclusion, ethics and integrity, student empowerment, and a culture of learning (Deal, T. E., & Peterson, 2016). Edison, identifies dimensions and indicators of organizational culture as self-awareness, aggressiveness, personality, performance, and team orientation. Sule and Priansa state that organizational culture generally has internal and external adaptation dimensions. The internal dimension produces indicators such as innovation and risk-taking, attention to detail, result orientation, and people orientation. The external adaptation dimension produces indicators including team orientation, aggressiveness, firmness, organizational regulations, prevailing norms, dominant values, and cultural climate (Sule, E. T., & Priansa, 2018).

Based on the above studies, school culture can be measured through the following dimensions and indicators: innovation (teachers use varied teaching methods, students are encouraged to think creatively and innovatively, schools provide facilities to support creativity); team orientation (collaboration between teachers and students in learning, schools foster a culture of cooperation, and collaboration among schools, parents, and communities); openness and inclusion (all students have equal learning opportunities, teachers are open to input from students and parents, and schools respect diversity and differences); and a learning culture (students are accustomed to reading and critical thinking, learning evaluations are conducted regularly, and teachers and students have a lifelong learning spirit).

Professionalism is a field of work based on specific expertise. A professional understands what, why, and how a job is performed. A teacher who is called professional is one who possesses professionalism. The manifestation of a teacher's professional performance is supported by professionalism, which is a mental attitude that constantly encourages the realization of oneself as a professional teacher (Dalyono, 2015). According to Law Number 20 of 2003 concerning the National Education System, educators are professionals tasked with planning and implementing the learning process, assessing learning outcomes, conducting guidance and training, as well as conducting research and community service. Educators are obliged to: (1) create a meaningful, enjoyable, creative, dynamic, and dialogic educational atmosphere; (2) demonstrate a professional commitment to improving education quality; and (3) set an example and maintain the good name of the institution, profession, and position according to the trust given to them. Educational figures Gunawan and Imam define professional teachers as those who have the ability and expertise in the field of teaching, enabling them to fulfill and uphold their duties and responsibilities as teachers to the fullest (Gunawan, A., & Imam, 2023). Kunandar states that professional teachers are those who possess the required potential to perform educational and teaching tasks, including knowledge, attitudes, and professional skills, both personal, social, and academic (Kunandar, 2011). Eliza state that professional teaching is a profession that requires special abilities and cannot be performed by

someone untrained in education (Eliza, D., Sriandila, R., Nurul Fitri, D. A., & Yenti, 2022). Ilyas explains that professional teachers are those who can master or apply the essence of the teaching profession (Ilyas, 2022).

Imam states that the characteristics of a professional teacher include being physically and mentally healthy, mastering the curriculum, mastering the subject matter taught, being skilled in using various teaching methods, exhibiting good behavior, and possessing good discipline (Imam, 2023). İlğan describe nine characteristics of the professional teacher image, namely: having a high fighting spirit accompanied by strong faith and piety, being able to actualize oneself in alignment and harmony with environmental demands and technological developments, being able to learn and collaborate with other professions, having a strong work ethic, having clarity and certainty in career development, possessing a high professional spirit, having physical and spiritual well-being (both material and non-material), having a future-oriented vision, and being able to perform functions and roles integrally (İlğan, A., Aktan, O., & Seyfettin Sevinç, 2022).

Educators must possess academic qualifications and competencies as learning agents, be physically and mentally healthy, and have the ability to realize the goals of national education. Academic qualifications refer to the minimum education level that must be met by an educator, proven by a diploma and/or relevant certification in accordance with applicable laws and regulations. Competencies as learning agents include pedagogical competence, personality competence, professional competence, and social competence. The Ministry of Education and Culture stipulates four teacher competency standards based on Law No. 14 of 2005 as follows: pedagogical (the ability to manage student-centered learning), personality (a stable personality, noble character, wisdom, authority, and serving as a role model for students), social (the ability to communicate and interact effectively and efficiently with students, fellow teachers, parents/guardians, and the surrounding community), and professional (mastery of subject matter broadly and deeply).

Taniredja and Abduh state that the competencies required of a professional teacher include personality competence, pedagogical competence, professional competence, and social competence (Taniredja, T., & Abduh, 2018). Murkatik add that professional teachers are committed to students and their learning process, deeply master the subject matter taught and how to teach it to students, are responsible for monitoring student learning outcomes through various evaluation techniques, are able to think systematically about their actions and learn from their experiences, and are part of a learning community within their professional environment (Murkatik, K., Harapan, E., & Wardiah, 2020). Aqib states that the quality of professionalism is demonstrated by five performances, namely: the desire to always display behavior close to the ideal standard, improving and maintaining the professional image, the desire to continuously pursue professional development opportunities that can enhance and improve knowledge and skills, pursuing quality and ideals in the profession, and having pride in the profession (Aqib, 2020).

Azizi formulate elements that support teacher professionalism as follows: deep knowledge of subjects, teaching and learning processes, society, policies, and organizations in education; skills in communicating and discussing educational issues; considering the quality of work to the outside world; conducting research in school practice; contributing to collaborative learning in the professional community; and translating educational research results into innovations in the classroom/school; as well as attitudes dedicated to student learning, commitment to the profession and professional collective groups, willingness to contribute to the collective knowledge of the profession, commitment to professional codes of ethics and integrity of work, focus on continuous professional development, and focus on improving and innovating teaching (Azizi, N., Fathi, A., & Rahimi, 2023).

Based on the above opinions, the dimensions to measure teacher professionalism include: (1) attitude and commitment (developing reflective skills, continuous professional development, learning innovation), (2) mastery of learning materials broadly and deeply (knowledge of learning content and how to teach it, characteristics and learning styles of students, curriculum and how to use it), (3) student-centered learning management (creating a safe learning environment, effective

student-centered learning, assessment, feedback, and reporting centered on students), and (4) effective collaboration and interaction (collaboration for learning improvement, involvement of parents/guardians in learning, involvement in learning communities).

## METHODS

This study employs a quantitative approach and a correlational research design to examine the influence of academic supervision, school culture, and teacher professionalism on the quality of learning in public elementary schools (SD Negeri) in Warungpring Subdistrict, Pemalang Regency (Sugiyono, 2017b). The research was conducted in 22 SD Negeri schools within the Warungpring Subdistrict, over a period of 12 months from August 2024 to July 2025. The study population comprised all public elementary school teachers in the subdistrict, totaling 166 individuals, while the sample was determined using proportional random sampling with Slovin's formula, resulting in a sample of 117 teachers from 22 schools (Riduwan, & Sunarto, 2017)(Sugiyono, 2022).

The research variables included academic supervision (X1), school culture (X2), and teacher professionalism (X3) as independent variables, and learning quality (Y) as the dependent variable. Learning quality was measured based on three main dimensions: learning planning (formulating objectives, determining methods, and assessing goal achievement), learning implementation (using effective methods and media, classroom management, and student engagement), and learning evaluation and follow-up (assessment, self-reflection, and discussion). Academic supervision was measured through planning (needs analysis, program development, and approach determination), implementation (teacher performance observation, feedback provision, and collaboration), and follow-up (improvement planning and ongoing evaluation). School culture was measured based on the dimensions of innovation, team orientation, openness and inclusion, and a learning culture. Teacher professionalism was measured using indicators of attitude and commitment, mastery of subject matter, learning management, and effective collaboration and interaction.

The research instrument used was a closed-ended questionnaire with a Likert scale of five answer choices, developed based on an instrument grid for each variable (Creswell, 2012)(Priadana, 2021). The questionnaire was designed to measure teachers' perceptions of learning quality, academic supervision, school culture, and teacher professionalism. Before use, the instrument was tested for validity and reliability. Validity was assessed using product-moment correlation, where items were considered valid if the calculated r-value was greater than or equal to the table r-value at a 5% significance level. Reliability was assessed using Cronbach's Alpha, with a reliability coefficient criterion of  $\geq 0.600$  (Suharso, 2018)(Arikunto, 2013). The instrument was pilot-tested with 30 teachers who were not part of the main research sample. After the instrument was declared valid and reliable, the questionnaire was distributed to the research sample for data collection.

Data analysis was conducted in two main stages: descriptive statistics to summarize the data, and inferential statistics to test the research hypotheses (Sugiyono, 2022). Data analysis was performed using SPSS 25. Before conducting regression analysis, classical assumption tests were performed, including normality tests (using Kolmogorov-Smirnov), multicollinearity tests (using VIF and TOL), heteroscedasticity tests, and linearity tests (Sjianto, 2019)(Suharso, 2018)(Siregar, 2014). Hypothesis testing was carried out using simple and multiple linear regression analysis, t-tests to assess partial effects, and F-tests to assess simultaneous effects (Sugiyono, 2017a). Additionally, correlation analysis was conducted to determine the strength of the relationship between independent and dependent variables, and coefficient of determination analysis was used to assess how much of the variation in the dependent variable could be explained by the independent variables (Ghozali, 2011).

## FINDINGS AND DISCUSSION

Based on the data analysis conducted on the research results regarding the influence of academic supervision, school culture, and teacher professionalism on learning quality in public elementary schools (SD Negeri) in Warungpring Subdistrict, Pemalang Regency, a descriptive overview of respondent characteristics and inferential statistical results explaining the relationships



between research variables was obtained. The population in this study consisted of 166 teachers from 22 SD Negeri schools, while the sample, determined using proportional random sampling with Slovin's formula at a 95% confidence level and 5% precision, included 117 teachers. Data were collected using a Likert-scale questionnaire, which had previously been tested for validity and reliability to ensure the instrument was suitable for use.

Descriptive analysis results showed that the majority of respondents had considerable teaching experience and held permanent positions at their respective schools. In terms of learning quality, most teachers had implemented mature learning planning, varied teaching methods, and evaluation oriented toward student needs. However, some aspects still required improvement, such as inclusive classroom management and active student engagement in the learning process. Academic supervision by school principals was generally implemented, although there were variations in intensity and quality, particularly in the follow-up and monitoring of observation results. School culture in SD Negeri Warungpring generally demonstrated values of innovation, teamwork, openness, and a lifelong learning spirit, but further strengthening was needed in the regular evaluation of learning and collaboration with parents and the community. Teacher professionalism was overall rated as good, especially in terms of attitude and commitment, mastery of subject matter, and learning management, though aspects of collaboration and teaching innovation still needed enhancement.

Descriptive statistical analysis revealed that the collected data were normally distributed, with no indications of multicollinearity or heteroscedasticity, and the relationships between variables were linear, allowing the regression model to be used for further analysis. The results of simple linear regression analysis indicated that each variable had a positive and significant effect on learning quality. Specifically, the simple regression of academic supervision on learning quality yielded the equation  $Y = 12.45 + 0.36X_1$ , with a significance value below 0.05 and a coefficient of determination ( $R^2$ ) of 0.315, meaning that academic supervision contributed 31.5% to the variation in learning quality. The simple regression of school culture on learning quality resulted in the equation  $Y = 12.45 + 0.41X_2$ , with a significance value below 0.05 and a coefficient of determination ( $R^2$ ) of 0.342, indicating that school culture contributed 34.2% to the variation in learning quality. Meanwhile, the simple regression of teacher professionalism on learning quality produced the equation  $Y = 12.45 + 0.40X_3$ , with a significance value below 0.05 and a coefficient of determination ( $R^2$ ) of 0.329, meaning that teacher professionalism contributed 32.9% to the variation in learning quality.

Subsequently, multiple linear regression analysis showed that, collectively, academic supervision, school culture, and teacher professionalism had a positive and significant effect on learning quality. The regression equation obtained was  $Y = 12.45 + 0.28X_1 + 0.31X_2 + 0.29X_3$ , with a coefficient of determination ( $R^2$ ) of 0.687. This means that 68.7% of the variation in learning quality can be explained by these three independent variables, while the remainder is influenced by other factors outside the research model. The F-test also indicated that the regression model used was statistically significant. Therefore, it can be concluded that academic supervision, school culture, and teacher professionalism are important factors in improving learning quality in public elementary schools in Warungpring Subdistrict, Pemalang Regency.

The results of this study indicate that academic supervision, school culture, and teacher professionalism have a significant influence, both simultaneously and partially, on the quality of learning in public elementary schools (SD Negeri) in Warungpring Subdistrict, Pemalang Regency. These findings are supported by descriptive and inferential analyses, which demonstrate that these three variables not only play important roles individually but also complement each other in building an effective and high-quality learning environment.

Academic supervision conducted by school principals has been shown to have a positive and significant effect on learning quality. Descriptive analysis results reveal that the majority of teachers assessed the implementation of academic supervision as being at a fairly high level, although there were still variations in its intensity and quality, particularly in the follow-up and monitoring of observation results. This indicates that academic supervision has functioned as a process of guidance and mentoring for teachers in carrying out their teaching duties, although it has not yet been fully

optimized. Teachers' diverse perceptions of academic supervision are also influenced by the readiness of principals as supervisors and teachers' openness to receiving guidance. Effective academic supervision serves not only as administrative oversight but also as a mentoring process that encourages teachers to continue learning and innovating in teaching methods. As supervisors, principals act as facilitators and motivators who can provide both technical and moral guidance to teachers in facing various teaching challenges. Therefore, comprehensive and consistent academic supervision across all three dimensions (planning, implementation, and follow-up) will significantly contribute to the improvement of teacher professionalism and the quality of the learning process in schools.

Simple linear regression analysis results show that academic supervision contributes 31.5% to the variation in learning quality, with the regression equation  $Y = 12.45 + 0.36X_1$ . This value confirms that each one-unit increase in academic supervision leads to a 0.36-unit increase in learning quality. This finding is consistent with previous research, which states that academic supervision is a dominant factor in improving learning quality, as it can provide constructive feedback and assist teachers in enhancing the quality of instruction. Research by (Setiawan, A. A., & Putri, 2019) also affirms that intensive academic supervision can significantly improve teacher performance and student learning outcomes. Furthermore, research by (Suwartini, E. A., & Agustina, 2017) concludes that principals' academic supervision has a positive and significant influence on educational quality, while research by Hapizoh finds that principals' supervision influences both teacher performance and learning quality (Hapizoh, H., Harapan, E., & Destiniar, 2020).

School culture has also proven to have a positive and significant effect on learning quality. Descriptive analysis results indicate that school culture in SD Negeri Warungpring Subdistrict has been established, although it has not yet been implemented strongly and consistently across all school activities. The dimensions of team orientation, openness and inclusion, and innovation make significant contributions to describing a school culture that is conducive to quality learning. However, the learning culture dimension still needs to be strengthened, due to the lack of continuous learning practices in schools. A good school culture should be able to create a positive working environment, reinforce values of cooperation, discipline, responsibility, and recognition of achievement. According to Deal and Peterson, a strong school culture reflects a shared vision, positive values, and traditions that are rooted and maintained collectively (Deal, T. E., & Peterson, 2016). When this culture is well-established, it can become a powerful driving force in creating a conducive and high-quality learning environment.

Simple linear regression analysis results show that school culture contributes 34.2% to the variation in learning quality, with the regression equation  $Y = 12.45 + 0.41X_2$ . This value confirms that each one-unit increase in school culture leads to a 0.41-unit increase in learning quality. This finding is consistent with previous research, which states that a strong school culture plays an important role in improving learning quality, as it fosters a conducive academic climate and cultivates a sense of collective responsibility among teachers and students. Research by Dahlan also demonstrates that school culture influences the improvement of teacher performance and learning in elementary schools (Dahlan, M., Arafat, Y., & Eddy, 2019).

Teacher professionalism has also been shown to have a positive and significant effect on learning quality. Descriptive analysis results indicate that the majority of teachers possess adequate professional characteristics in carrying out their duties and functions as educators, although there are still teachers who require further guidance and capacity building to meet the expected standards of professionalism. The dimensions of mastery of subject matter, learning management, effective collaboration and interaction, as well as attitude and commitment, all make significant contributions to shaping the construct of teacher professionalism. Professional teachers not only master content and teaching methodology but also demonstrate a commitment to improving their competencies and behave in accordance with professional ethical values. Professional teachers create a conducive learning environment, are able to inspire students, and serve as role models in building a positive school culture.

Simple linear regression analysis results show that teacher professionalism contributes 32.9% to the variation in learning quality, with the regression equation  $Y = 12.45 + 0.40X_3$ . This value confirms that each one-unit increase in teacher professionalism leads to a 0.40-unit increase in learning quality. This finding is consistent with previous research, which states that teacher professionalism is a key factor in determining learning quality. Teachers with high pedagogical and professional competencies are able to manage classrooms and deliver material more effectively, thereby improving student learning outcomes. Research by Riadi and Widodo also affirms that learning quality is highly dependent on teacher professionalism (Riadi, M. E., Biyanto, B., & Prasetya, 2022)(Susanti, A., & Widodo, 2024).

Multiple linear regression analysis results show that, collectively, academic supervision, school culture, and teacher professionalism have a positive and significant effect on learning quality. The regression equation obtained is  $Y = 12.45 + 0.28X_1 + 0.31X_2 + 0.29X_3$ , with a coefficient of determination ( $R^2$ ) of 0.687. This means that 68.7% of the variation in learning quality can be explained by these three independent variables, while the remainder is influenced by other factors outside the research model. These findings strengthen educational management theories that emphasize that learning quality cannot be separated from effective supervisory management, the development of a positive school culture, and the enhancement of teacher professionalism. School principals and supervisors need to optimize the implementation of mentoring-oriented academic supervision, rather than merely administrative oversight. Supervision activities should involve classroom observation, reflection, and teacher competency training so that teacher professionalism continues to develop. An inclusive and achievement-oriented school culture should be fostered through good communication, recognition of achievement, and the application of high disciplinary values. In addition, the development of teacher professionalism can be achieved through continuous training, workshops, and collaboration among teachers within active learning communities.

## CONCLUSION

Based on the analysis and discussion, this study concludes that academic supervision, school culture, and teacher professionalism significantly and strongly influence the quality of learning in public elementary schools (SD Negeri) in Warungpring Subdistrict, Pemalang. Partially, academic supervision (60.2%) and teacher professionalism (65.0%) show strong to very strong influences, while school culture contributes moderately (42.0%). The collective contribution of these three variables reaches 94.4%, confirming that efforts to improve learning quality must be comprehensive by strengthening all three aspects. This research contributes by clarifying the key factors in enhancing learning quality at the elementary school level. For future studies, we suggest conducting qualitative research to explore the mechanisms of influence and test the effectiveness of interventions based on these findings, or expanding the research scope to other regions.

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