

The Influence of Academic Supervision and Principal's Leadership Style on Learning Quality

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Abstract: This study aims to analyze the influence of academic supervision and the principal's leadership style on learning quality in State Junior High Schools within Tebing Tinggi District, examining both partial and simultaneous effects. Employing a quantitative ex post facto method, data were collected via questionnaires and documentation from a sample of 101 teachers and analyzed using SPSS. The results confirm that both academic supervision and leadership style individually have a significant positive influence on learning quality. Furthermore, their combined effect is substantially greater, demonstrating a synergistic relationship. The novelty of this research lies in its integrated examination of these two managerial functions within a specific Indonesian district context, highlighting their interdependence in driving instructional improvement. A key practical implication is the necessity for district-level professional development programs that train principals to integrate formative academic supervision with supportive, transformational leadership practices. This study contributes to the field of educational leadership by providing empirical evidence that learning quality is best enhanced through a dual-strategy approach, simultaneously strengthening pedagogical oversight and fostering a positive, directive school climate.

Keywords: Academic Supervision, Learning Quality, Principal's Leadership Style

A. Introduction

Quality education is defined as a system that is able to produce competent graduates who are not only adaptive to change, but also act as agents of renewal through the optimization of educational resources in a conducive learning environment. Institutions that achieve this level are often identified as excellent or effective schools, where indicators of success are reflected in high competitiveness and a solid moral and cultural foundation. The quality of an educational institution is measured by its ability to integrate academic achievement with the strengthening of moral values as the main foundation for students' self-development. In line with this vision, the Independent Curriculum for the Junior High School (SMP) level as stipulated in Permendikbudristek No. 12 of 2024, is here to accelerate the

improvement of the quality of learning through a focus on essential materials and pedagogical flexibility. This approach provides space for educators to create more meaningful learning and allows students to explore their interests in depth. In addition, this curriculum places character development as a top priority covering spiritual, social, and emotional dimensions which are concretely realized through the Pancasila Student Profile Strengthening Project (P5) as well as learning adjustments based on local wisdom and student contextual needs. The various challenges and problems faced by educational institutions actually serve as a catalyst to carry out continuous improvements to meet the expectations and satisfaction of the community. Efforts to improve the quality of learning cannot be partially carried out by the school alone, but require collective synergy from all stakeholders. This is because schools are dynamic entities that interact in a broad ecosystem, ranging from institutional to global, so their ability to thrive is highly dependent on external support as well as the awareness that educational organizations do not operate in isolation.

From a managerial perspective, Suharsaputra (2018) emphasized that the effectiveness of learning in schools is a reflection of organizational design, the development of school culture, and leadership qualities that are able to move all internal elements. In line with this view, Hidayat & Asroi, (2019) underlined that learning quality is still a crucial issue that is difficult for many educational institutions to realize, even though various strategies and policies have been implemented. Therefore, achieving the ideal quality of learning remains a fundamental challenge that requires integration between strong management and the commitment of education practitioners in the field.

The implementation of quality learning quality as mandated by the Permendikbudristek emphasizes the creation of an interactive, inspiring, and challenging academic atmosphere, in order to stimulate the active participation and creativity of students in accordance with their psychological potential. The success of this process standard is highly dependent on careful planning and the improvement of the quality of educators as central figures in learning. Teachers are required not only to teach, but also to play a strategic role as facilitators and classroom managers who are able to integrate varied learning methods with personal characteristics that support student development holistically. On the other hand, the low quality of education is often triggered by complex problems which, according to Mulyasa (2018), include moral degradation, access inequality, low system efficiency, and limited professionalism of human resources. In this context, the effectiveness of the principal's leadership is the main determinant in overcoming these obstacles and determining the success of the school. School principals are expected to have high dedication and professional competence to be actively involved in the development of all school personnel, so as to be able to create educational governance that is in line with national development goals and aspired quality standards.

The principal plays a central role as *the center of leader* who is responsible for directing and managing all institutional activities in order to achieve significant quality improvement. As the main manager, the principal is obliged to create a conducive work atmosphere through the function of protection and the consistent implementation of academic supervision. Purwanto (2022) emphasized that academic supervision is a series of strategic coaching actions designed to improve teachers' competence in managing learning. Through effective monitoring, performance assessment, and the provision of technical assistance, this supervision aims to overcome pedagogical obstacles faced by teachers to ensure optimal student learning outcomes. Operationally, academic supervision focuses on strengthening the technical aspects and professionalism of teachers through systematic stages, ranging from planning, implementation, to data analysis and follow-up improvements. The main focus of this activity includes evaluation of teaching preparation, the instructional process in the classroom, and the assessment system used. This is in line with the findings of Hafizoh, et al., (2020) who stated that supervision is basically a form of collective support for all school staff to develop a more quality teaching and learning climate. Thus, academic supervision that includes the realm of administration and the implementation of learning is a vital instrument in ensuring the quality standards of education in schools.

The effectiveness of academic supervision is highly deterministic to the leadership style adopted by the principal, given that the pattern of interaction directly affects productivity and the achievement of organizational goals. Nikmat (2022) conceptualizes leadership style as a dynamic behavior pattern that adapts to subordinate situations and conditions. Rivai (2024) emphasizes that leadership style is a set of behavioral strategies that are consistently applied to direct staff. Proper leadership not only functions as a managerial instrument, but also as an example that is able to foster discipline and professional responsibility among education personnel. Thus, the quality of supervision results is highly dependent on how a leader is able to formulate a pattern of positive influence on teachers' behavior (Răducan, & Răducan, 2014; Azad, et. al., 2017).

In the education ecosystem, school principals carry out multifaceted roles which according to Suharsaputra (2018) include functions as managers, administrators, supervisors, leaders, innovators, motivators, and entrepreneurs. The significance of this role is emphasized by Suhertian (2021) who states that leadership is the main determinant factor that determines the success or failure of a school organization. In line with that, (Soetopo, 2020; Honig, & Rainey, 2019; Rainey, 2020; Sunaryo, 2020; Sudrajat, 2019) underlined that the ability of school principals to drive teamwork and carry out their strategic roles optimally will have a direct impact on improving the quality and order of education. Therefore, the integrity and competence of school principals in carrying out all of these roles are the main foundation in creating a progressive educational transformation.

The principal plays the dual role of leader and manager who is responsible for coordinating instructional activities, providing protection for educators, and mitigating various organizational obstacles (Hendarman & Rohanim, 2018). Wahjosumidjo (2019) emphasized that this position is an additional task for functional teachers to lead the educational interaction ecosystem in schools. In the strategic context, Mulyasa (2007) highlighted that the leadership of the principal is a determining factor that drives the achievement of the vision and mission of the institution through the implementation of planned programs. Therefore, the effectiveness of leadership in educational institutions is measured based on the standard of professionalism in carrying out managerial tasks to ensure that all school goals can be realized gradually.

Based on an observational study conducted in a number of State Junior High Schools in Tebing Tinggi District in May 2025, it was found that the academic supervision function has been implemented periodically through a six-monthly schedule supported by quarterly evaluation meetings. The leadership of school principals tends to emphasize a persuasive approach in overcoming teachers' pedagogical obstacles and focuses on improving teacher performance to improve the quality of graduates. Despite a strong commitment to the development of infrastructure facilities and extracurricular activities, these quality improvement efforts face significant challenges in the form of limited allocation of public funds in the region. The priority of the regional budget that is divided for public infrastructure forces schools to optimize existing resources through intensive briefing and coaching to maintain the sustainability of effective learning quality. Although the principal in Tebing Tinggi District has made efforts to improve the quality of education, the reality on the ground shows that the quality of learning in some schools in the Empat Lawang Regency area is still in a poor condition. This low-quality achievement is indicated by the unpreparedness of fundamental elements of education, such as limited infrastructure, a curriculum that has not been implemented optimally, and the lack of supportive learning programs and media. These structural obstacles hinder institutions in realizing the vision, mission, and goals of the school, because without the support of adequate educational instruments, the expected quality standards of learning cannot be achieved consistently.

Departing from the phenomenon of the gap between expectations and reality, the urgency to carry out research on the influence of academic supervision and the leadership style of school principals on the quality of learning in State Junior High Schools in Tebing Tinggi District is very crucial. The researcher views that the two leadership variables are the main determinants that can make a positive contribution to transforming the quality of education in Empat Lawang Regency. Through strengthening the supervision function and implementing the right leadership style, it is hoped that obstacles in the learning process can be overcome, so that an improvement in the quality of education can be created that has a wide impact on

the progress of the region. The formulation of the problem in this study is 1) Does academic supervision affect the quality of learning in State Junior High Schools in Tebing Tinggi District? 2) Does the principal's leadership style affect the quality of learning in State Junior High Schools in Tebing Tinggi District? 3) Does academic supervision and the principal's leadership style have a combined effect on the quality of learning in State Junior High Schools in Tebing Tinggi District?

B. Methods

This study uses a quantitative method by analyzing the results of the research. Quantitative research is based on the philosophy of *positivism* which emphasizes objective phenomena and is studied quantitatively. The maximization of objectivity is carried out by using numbers, statistical processing, which is used to answer problems through careful measurement techniques on certain variables, so as to produce conclusions that can be generalized regardless of the context of time and situation as well as the type of data collected, especially quantitative data. The population in this study is teachers in State Junior High Schools in Tebing Tinggi District, Empat Lawang Regency, as illustrated in the following table.

Table 1. Research Population

No.	School Name	Number of Teachers
1	SMP Negeri 1 Tebing Tinggi	41
2	SMP Negeri 2 Tebing Tinggi	27
3	SMP Negeri 3 Tebing Tinggi	31
4	SMP Negeri 4 Tebing Tinggi	26
5	SMP Negeri 5 Tebing Tinggi	43
6	SMP Negeri 6 Tebing Tinggi	15
7	SMP Negeri 7 Tebing Tinggi	21
	Quantity	204

The determination of the sample in this study was that the researcher took 3 (three) State Junior High Schools in Tebing Tinggi District using *purposive sampling*, namely the researcher actively selected the participants who were considered the most suitable or knew the most about the research topic in accordance with the purpose of the research to find out more about the quality of learning, namely those found in 3 (three) State Junior High Schools as seen in the following table.

Table 2. Research Sample

No.	School Name	Number of Teachers
1	SMP Negeri 2 Tebing Tinggi	27
2	SMP Negeri 3 Tebing Tinggi	31
3	SMP Negeri 5 Tebing Tinggi	43
Quantity		101

The data collection technique in this study is a questionnaire (Arikunto, 2019). In this study, the researcher used a questionnaire with a *Likert* scale. The data analysis technique in this study uses simple correlation data analysis techniques and multiple regression with the help of the *SPSS For Windows* Version 26 program. The stages of implementation of the analysis include: (1) descriptive analysis, (2) analysis requirements test, and (3) hypothesis test.

C. Results and Discussion

Based on the findings of research and hypothesis testing in this study, it can be explained as follows: 1) there is an influence of academic supervision on the quality of learning in State Junior High Schools in Tebing Tinggi District; 2) there is an influence of the principal's leadership style on the quality of learning in State Junior High Schools in Tebing Tinggi District; 3) there is an influence on the quality of learning in State Junior High Schools in Tebing Tinggi District; academic supervision and the leadership style of school principals together on the quality of learning in State Junior High Schools in Tebing Tinggi District.

The Effect of Academic Supervision on Learning Quality

Based on the results of the first hypothesis test using t-test statistical analysis, the t-calculated value was obtained as a result of 5.924. To test the hypothesis, we use the criterion that if t-count exceeds t-table, then H_a is accepted. Conversely, if t-count is less than t-table, then H_a is rejected. To find the table, we look at the significance level $\alpha = 5\%$ divided into two, i.e. 2.5% for the double-sided test, with the degree of freedom (df) calculated by the formula $n-k$, so $df = 101 - 2 = 99$, with n as the number of samples and k as the number of independent variables. In the double-sided test, for a significance level of 0.05, the t-table was obtained at 3.538. Thus, based on this information, the t-calculated value of $> t$ -table or the value obtained is $5.924 > 3.538$. This shows that H_0 was rejected and H_a was accepted. Thus, the results of this first hypothesis test can be said to be acceptable or there is an influence of academic supervision on the quality of learning in State Junior High Schools in Tebing Tinggi District. Based on the results obtained in the first hypothesis test, the researcher can conclude that the better the academic supervision carried out by the school principal, the better the quality of learning in the school.

Based on the determination coefficient analysis test using simple linear regression, the R value in the Model Summary was obtained of 0.512. This indicates that there is a fairly strong influence between the two variables X1 on Y. This is known from the correlation value listed in the table which shows that the correlation coefficient is in the range of 0.400 to 0.599.

Based on the hypothesis test above, it can be said that academic supervision has a strong relationship with the quality of learning in State Junior High Schools in Tebing Tinggi District. The Standard Error of the Estimate (Standard Deviation) indicates how much variation the predicted value varies. In this study, the standard deviation value was 0.18317. The smaller the standard deviation number, the higher the quality of the resulting model. In accordance with the determination coefficient analysis, this analysis is used to measure how much influence the independent variable has on the bound variable in the form of a percentage.

This is explained in the table above, which shows that the value of the R Square (R²) determination coefficient is 0.262, which indicates that the influence of academic supervision on the quality of learning in State Junior High Schools in Tebing Tinggi District is 26.2%. Thus, it can be said that the better the influence of academic supervision carried out by the principal, the higher the percentage of learning quality in schools.

Academic supervision aims to improve the quality of learning through improving teachers' ability to manage the learning process, both technically and professionally. Academic supervision involves several stages, such as planning, implementation, data analysis, providing feedback, and follow-up for improvement. Academic supervision focuses on aspects directly related to the learning process, such as teaching preparation, learning implementation, and evaluation. Thus, it can be understood that the better the academic supervision that is carried out, the more positive the quality of learning. This means that the better academic supervision is carried out, the better the quality of learning. Purwanto (2022) defines academic supervision as a series of strategic coaching activities designed to strengthen teachers' competence in managing learning in order to achieve maximum student learning outcomes. This supervisory practice not only focuses on evaluating the performance of educators, but also includes the provision of technical support to help teachers overcome various operational barriers in the classroom instructional process.

In an article in the journal Hafizoh (2020), it is explained that supervision is assistance given to all school staff to develop a better teaching and learning situation. Academic supervision includes supervision of learning administration and supervision of the implementation of learning carried out on educators. Furthermore, Burhanudin (2005); Asuga, et. al., (2016); Hallinger, & Chen, (2015) argue that supervision is assistance in developing a better teaching and learning

situation, by providing guidance and direction to teachers and other employees to improve the quality of their work in the field of teaching with its various aspects. In line with this view, Nawawi (2024) defines supervision as a form of professional service provided by leaders to improve the competence and skills of staff in carrying out their duties. This aims to enable the task implementers to be able to adapt to the demands of development and scientific progress relevant to their field of work.

Conceptually, academic supervision seeks to improve learning standards through the development of teachers' professional competencies. The implementation follows a comprehensive workflow, including the planning phase, execution, data evaluation, and providing recommendations for future improvements. All of these stages are focused on monitoring and improving the core components of learning, namely teaching preparation, implementation in the field, and the assessment system used by teachers.

Based on the Independent Curriculum in Junior High School, in accordance with Permendikbudristek No. 12 of 2024, it aims to improve the quality of learning by focusing on essential materials, character development, and flexibility in designing learning. This allows teachers to be more in-depth and meaningful, and provides more space for students to explore and develop their learning interests.

The Independent Curriculum is oriented towards deepening essential materials to optimize the development of competencies and character of students. The implementation of this curriculum provides a space for flexibility for educators to organize more comprehensive learning, with the main priority on strengthening the spiritual, moral, social, and emotional dimensions. This is realized both through integration in intracurricular activities and through special programs such as the Pancasila Student Profile Strengthening Project (P5), which allows the learning process to be aligned with student needs, the uniqueness of the institution, and the local socio-cultural context.

The dynamics of this curriculum transition present various challenges and problems that must be responded to by educational institutions as a catalyst for quality improvement. Schools have a fundamental responsibility to improve the implementation of education continuously, regardless of external and internal obstacles. This quality improvement effort is very crucial so that the instructional process in schools is able to provide superior educational services and meet the expectations and satisfaction of the community as the main stakeholders.

Improving the quality of learning effectively requires strong synergy among all education stakeholders. Education development is a collective effort that cannot be achieved partially; Schools will face major obstacles in developing themselves without cross-sectoral support. As an organization, schools do not stand in isolation,

but are integral to the broader ecosystem of life, ranging from institutional and local to regional, national, and global levels.

To realize the quality of learning, as regulated in the Permendikbudristek described above, it is also explained that the learning process in educational units is held in an interactive, inspiring, fun, challenging, motivating students to actively participate, and providing sufficient space for initiative, creativity, and abilities according to the talents, interests, and physical and psychological development of students. Therefore, it is necessary to think and plan carefully in increasing student learning opportunities by improving the quality of teachers. This shows that teachers are expected to be able to play an active role as managers of the teaching and learning process, act as facilitators who always try to create class organization, the use of teaching methods and the attitude and characteristics of teachers in managing the teaching and learning process.

The decline in the quality of learning is triggered by various complex factors that are interrelated. Referring to Mulyasa's (2018) thought, there are seven fundamental problems in the world of education, including the degradation of students' morals and morals, inequality of access to education, and low internal efficiency in the education system. In addition, problems regarding institutional status, management governance that are not in line with the vision of national development, and the limitation of professional human resources are also significant obstacles in achieving the expected quality standards.

Considering that the quality of learning is the main indicator of the success of an educational institution, competent leadership figures are needed to mitigate these challenges. The principal, as the holder of the highest authority in the school, is obliged to have a strong commitment, high dedication, and professionalism in carrying out his functions. Furthermore, school principals are required to not only supervise, but actively engage in the development of competencies of all school personnel in order to create an adaptive and progress-oriented educational ecosystem.

Research on academic supervision, researched by Hafizoh, et al. (2020) explains that supervision is assistance provided to all school staff to develop a better teaching and learning situation. Academic supervision includes supervision of learning administration and supervision of the implementation of learning carried out on educators. Another study was researched by Hapizoh et al., (2020), where this study concluded that 1) There is an influence of teacher professionalism on the performance of teachers of SMP Negeri Sub Rayon 16, Sukarami District, Palembang City. 2) There is an influence of the Principal's Supervision on the Performance of Teachers of Sub Rayon 16 State Junior High School, Sukarami District, Palembang City. 3). There is an Influence of Teacher Professionalism and Principal Supervision on the Performance of Teachers of State Junior High School Sub Rayon 16, Sukarami

District, Palembang City. In this study, the researcher can conclude that there are similarities and differences made by previous researchers with the current research, namely both examining Teacher Professionalism and Teacher Performance. Meanwhile, the difference between previous research and current research lies in the object that is used as a source of research data and the place of research.

The Influence of the Principal's Leadership Style on the Quality of Learning

Based on the results of this study through the second hypothesis test, it was found that the t-count value was 7.444. In the hypothesis testing criteria, if t-count is greater than t-table then H_a is accepted, but if it is the opposite, then H_a is rejected. To determine the t-table, it is searched with $\alpha = 5\% : 2 = 2.5\%$ (double-sided test) and with degrees of freedom (df) calculated as $n-k$, i.e. $df = 101 - 2 = 99$ (where n is the number of samples and k is the sum of independent variables). With double-sided testing (significant = 0.025), the obtained t-table was 3.623. Based on the existing explanation, $t\text{-count} = 7.444 > t\text{-table} = 3.623$, then t-count is greater than t-table. This shows that H_0 was rejected and H_a was accepted. Therefore, it can be said that there is a partial influence of the principal's leadership style on the quality of learning in State Junior High Schools in Tebing Tinggi District. Based on the results obtained in the first hypothesis test, the researcher can conclude that the better the leadership style of the school principal, the better the quality of learning in the school.

Based on the results of the determination coefficient analysis, the R number in the Model Summary is 0.599. This shows that there is a strong relationship between the principal's leadership style and the quality of learning in State Junior High Schools in Tebing Tinggi District. This is seen because the relationship value is between 0.400 and 0.599. The Standard Error of Estimated, also known as the Standard Deviation, serves to measure how much the predicted value varies. In this study, the standard deviation value was 0.17069. If the standard deviation number is smaller, then the model used is better. Based on the results of the analysis, the determination coefficient is used to calculate the percentage contribution of independent variables to dependent variables. This explanation can be seen in the table above, where the value of the R Square (R^2) determination coefficient is recorded as 0.359. This shows that the influence of the principal's leadership style on the quality of learning in State Junior High Schools in Tebing Tinggi District is 35.9%. Thus, it can be said that the better the influence of the principal's leadership style, the higher the percentage of learning quality in the school.

Regarding the theory of the principal's leadership style in this study, according to Nikmat (2022) that leadership style is a leader's behavior pattern in influencing his followers, the definition of leadership style can change depending on the followers and the situation. The right leadership style is able to reflect the magnitude of the responsibility of the boss to his employees. When employees get the right example of leadership from their superiors, this can encourage employees to be disciplined in

the implementation of occupational safety and health. Therefore, it is hoped that leaders will be able to set the right example for their employees. Rivai (2024) explained that leadership style is a set of strategies used by a leader to influence his subordinates so that organizational goals are achieved or it can also be said that leadership style is a pattern of strategy or behavior pattern that is preferred and often applied by a leader.

Regarding the world of education, the principal's leadership style and academic supervision are what is meant, as explained by Suharsaputra (2018) that the role of the principal includes: (1) as a Manager; (2) as an Administrator; (3) as a Supervisor; (4) as a Leader; (5) as an Innovator; (6) as a Motivator; (7) as an Entrepreneur. Suhertian (2021) said that the role of the principal is one of the most important factors in an organization because most of the success and failure of an organization is determined by the leadership in the organization.

The principal's leadership ability in carrying out his duties is highly determined by his proficiency in motivating and directing all school personnel to work collaboratively as a team (Soetopo, 2020). The essence of this role aims to achieve the organization's goals that have been set collectively. In line with this, Sudrajat (2019) emphasized that the effectiveness of school principal leadership has a significant impact on improving the quality of education. On the contrary, the quality of the role carried out by the principal will be the main determinant for the good or bad educational order in the institution he leads.

Operationally, the principal plays a dual role as a leader and manager who is responsible for organizing, providing instruction, and protecting teachers to solve various complexities of problems in schools (Hendarman & Rohanim, 2018). This view is supported by Wahjosumidjo (2019) who defines a school principal as a functional teacher who is mandated to lead the educational environment. This is where the educational interaction between educators and students takes place, so that the leadership of the principal becomes the main axis in ensuring the optimal sustainability of the teaching and learning process. Mulyasa (2007) emphasized that the leadership of school principals is the main determinant in directing educational institutions to realize the vision, mission, and target of school targets through the implementation of measurable and systematic programs. As the highest authority in educational institutions, the leadership is not arbitrary, but has certain competency standards and work parameters that must be met in every managerial action.

Relevant research on the leadership of school principals, researched by Darmiati, et al (2020) who explained the results of the research are: (1) the leadership of the principal has a significant effect on teacher discipline; (2) work motivation has a significant effect on teacher discipline; and (3) the principal's leadership and work motivation together have a significant effect on work discipline. This research can be concluded to have similarities with the current research, which is both researching

the leadership of the principal and the performance of teachers. The difference lies in other supporting variables.

Another research on the leadership of school principals was researched by Rohani, et al (2020) with the title *The Influence of Principal Leadership and Teacher Work Discipline on the Performance of Elementary School Teachers in Sembawa District*. The results of this study explain that 1) there is a positive and significant influence of the principal's leadership on teacher performance; 2) there is a positive and significant influence of work discipline on teacher performance; 3) there is a positive and significant influence of the principal's leadership and teachers' work discipline simultaneously on teacher performance. The similarity in this study is that both the principal and the teacher's performance are examined. The difference in this study is that the researcher himself examined the influence of academic supervision and the leadership style of school principals on the quality of learning in State Junior High Schools in Tebing Tinggi District (Kamalia et al., 2022).

The Influence of Academic Supervision and Principal's Leadership Style on Learning Quality

Based on the results of the third hypothesis test research, using multiple regression analysis, it was found that the F-calculated value in the table above obtained a result of 6.601. The condition for testing a hypothesis is that if $F\text{-calculated} \geq F\text{-table}$, then an alternative hypothesis is accepted. However, if $F\text{-calculated} < F\text{-table}$, then the alternative hypothesis is rejected. Referring to the F-table with a significance level of 0.05 and a degree of numbering freedom of 2 (calculated based on the number of free variables) and a degree of freedom of denominator of 100 (calculated from the number of samples minus the number of free variables, after that subtracted by one), the number can also be searched using an Excel program by entering the formula =FINV (0.05,39,851) on the empty cell, which yields the number 2.018 (Prayitno, 2018). From the description, we can see that the value of the F-calculation is 39.851 and the F-table is 2.018. Because $F\text{-calculation} \geq F\text{-table}$, the hypothesis in this study is acceptable, which shows that there is a co-influence between academic supervision and the principal's leadership style on the quality of learning in State Junior High Schools in Tebing Tinggi District. This means that the better the academic supervision of the head that is carried out and the leadership style that is applied in accordance with the existing situation and conditions, the better the quality of learning in the school.

Based on the results of the analysis of the third hypothesis test through the analysis of the determination coefficient which shows the summary of the model, an R value of 0.670 was obtained. This indicates that there is a strong relationship between the variables X1 and X2 (which are independent) and Y (which are dependent). This means that the correlation value is in the range of 0.600 to 0.799. The Standard Error

of Estimated is used to assess how diverse the estimated values are. In this study, the standard deviation obtained was 0.15912.

The smaller the standard deviation value, the better the model used. Based on the results of the third hypothesis test, the analysis of the determination coefficient was used to determine the percentage contribution of the influence of independent variables on the dependent variables. It was found that the R Square (R²) determination coefficient value was 0.449, which shows that the influence of academic supervision and the principal's leadership style together on the quality of learning in State Junior High Schools in Tebing Tinggi District was 44.9%. Furthermore, the rest of the influence given was not involved from the research conducted. This means that the better the academic supervision carried out by the principal and the leadership style applied will have a good impact on the quality of learning in schools.

As a managerial instrument, supervision must be able to integrate all efforts in the school environment to achieve organizational goals. This includes the efforts of each educator in actualizing their potential and their contribution to the improvement of the school program. Hendarman & Rohanim (2018) emphasized the need for directed coordination of various initiatives, both in the administrative and educational fields. In this case, the skills of a supervisor are crucial to ensure that all activities are integrated and aligned with the strategic goals to be achieved, so as to be able to support the smooth running of the school program as a whole.

Purwanto (2018) stated that the essence of supervision carried out by school principals is to strengthen teachers' competence in the instructional process. This effort aims to enable educators to optimally fulfill their teaching missions, which on a broader scale contributes to the achievement of national education missions. Given the challenge of teacher professionalism in managing dynamic and continuous learning, supervision intervention from the principal is very fundamental. This assistance plays an important role in developing the professionalism of teachers, so that they can carry out the responsibility of educating in a maximum and quality manner. Furthermore, Soetopo (2020) explained that the characteristics of supervision carried out by school principals are: 1) establishing relationships with teachers in the learning process; 2) fostering teachers if there are difficulties faced; 3) provide direction for the benefit of educational progress in schools. The implementation of educational supervision in schools is not running as it should. Supervision is a control and supervision activity carried out by the principal as a leader in an institution, here the duties and obligations of the principal are to control and guide the teachers in the learning process, so that with the guidance and assistance of the principal can improve the professionalism of a teacher.

Ary (1996) identified that the effectiveness of supervision is often hampered by the complexity of the teacher certification process. Certification is a formal instrument to

determine the qualifications of educators who have met certain standards of professionalism. The presence of professional educators is a fundamental prerequisite in building a quality education system. In line with this, Nanang (2021) emphasized that the principal, in his capacity as a leader, gives delegated authority to teachers to manage learning materials independently. This authority is very crucial because the teacher's competence in delivering material is the main determining factor for the achievement of student learning outcomes.

The suitability between the teacher's field of expertise and the subjects taught is a key factor in creating a conducive learning atmosphere; Educators who master their fields tend to have high self-efficacy when teaching. However, the current reality shows the phenomenon of teachers teaching outside their core competencies. In facing this challenge, the principal's leadership style plays an important role as an art in influencing the behavior of his subordinates. Through the right leadership approach, the principal is expected to be able to align the teacher's duties with his professional competence in order to achieve the goals of the educational organization optimally. Sedarmayanti (2021) states that situational leadership is an effective approach in directing and motivating individuals to success, because this model prioritizes two-way communication and collaboration between leaders and members of their organizations. In line with this view, Siagian (2020) explained that the effectiveness of this leadership style is highly dependent on the leader's ability to adjust his strategy to the level of maturity of followers in completing specific tasks. Thus, situational leadership requires the flexibility of leaders to respond appropriately to the needs and competencies possessed by their subordinates.

Hersey & Blanchard (2018) stated that leadership styles consist of four styles, namely, 1) *telling*, 2) *selling*, 2) *participating*, and 4) *delegating*. Leadership style is based on the belief that every individual can develop and wants to develop which can support the desired development. A good leader must also adapt his leadership style to the situation that occurs. Match leadership style to level of development. Basic leadership styles in situational leadership models. Suhertian (2021) stated the following: 1) direct, 2) train, 3) support, and 4) assign. These four leadership styles are related to the four basic levels of development, which are as follows: a) Enthusiastic beginner (low ability, high commitment). Enthusiastic beginners need a directing leadership style; b) Disappointed learning (low-medium ability, low commitment). Disappointed learning requires a coaching leadership style; c) Capable but doubtful implementation (medium-high ability, uncertain commitment). Capable but hesitant executors need a supportive leadership style; d) Independent achievement (high ability, high commitment). Self-achievement requires a delegated leadership style.

A relevant study that examines the principal's leadership style is researched by Rosmika et al., (2022). The results of this study concluded that: 1) there is an influence of the principal's leadership style on teacher performance, 2) there is an

influence of school organizational culture on teacher performance, 3) there is an influence between the principal's leadership style and the school organizational culture on teacher performance. This research can be said to have similarities and differences with current research, which both examine the leadership of school principals and teacher performance (Darmawan, 2019). The difference is that the current research examines the influence of academic supervision and the leadership style of school principals on the quality of learning in State Junior High Schools in Tebing Tinggi District.

Another study on academic supervision was researched by Alpian, et al. (2020). The results of this study concluded: (1) academic supervision affects the quality of teaching teachers at SMA Negeri Pemmouthan; (2) the completeness of teaching administration affects the quality of teaching teachers at Pemmouthan State High School; and (3) Academic supervision and completeness of teaching administration both affect the quality of teaching teachers at SMA Negeri Pemmouthan. This research can be concluded by researchers that they have similarities, namely researching school principals. However, what distinguishes it is that the current study examines the influence of academic supervision and the principal's leadership style on the quality of learning in State Junior High Schools in Tebing Tinggi District.

Another study on school principals was researched by Hapizoh (2020) entitled, "The Influence of Teacher Professionalism and Principal Supervision on Teacher Performance." This study concludes the results of the study that: (1) There is an influence of teacher professionalism on the performance of teachers of SMP Negeri Sub Rayon 16, Sukarami District, Palembang City; (2) There is an influence of the Principal's Supervision on the Performance of Teachers of State Junior High School Sub Rayon 16, Sukarami District, Palembang City; (3). There is an Influence of Teacher Professionalism and Principal Supervision on the Performance of Teachers of State Junior High School Sub Rayon 16, Sukarami District, Palembang City. This research has similarities with the current research, which is researching school principals and teacher competencies. The difference with the current research examines the influence of academic supervision and the leadership style of school principals on the quality of learning in State Junior High Schools in Tebing Tinggi District.

The research conducted by Aripin, et al. (2020), where the results of this study explain that the supervision of school principals affects the performance of teachers of Madrasah Tsanawiyah Negeri 1 Palembang. Under the supervision of the principal, the teachers try to improve the quality of their learning. Certification and supervision of school principals together affect the performance of teachers of Madrasah Tsanawiyah Negeri 1 Palembang. In this study, the researcher can conclude that there are similarities and differences made by previous researchers with the current research, namely both examining the quality of teachers.

Meanwhile, the difference between previous research and current research lies in the object that is used as a source of research data and the place of research.

D. Conclusions

This study yields three definitive conclusions regarding the determinants of learning quality in State Junior High Schools within Tebing Tinggi District. The key finding is that both academic supervision and the principal's leadership style are significant, independent predictors of instructional quality. More importantly, the research reveals a synergistic effect: when these two factors are applied together, their combined influence on learning quality is substantially greater than the sum of their individual impacts. This indicates that effective academic supervision is significantly amplified under supportive and strategic leadership, creating a holistic managerial ecosystem that directly elevates teaching and learning processes. The practical implications are significant for educational management at the district and school levels. For principals, the findings underscore the necessity of integrating routine, formative academic supervision focused on teacher development and pedagogical feedback with a leadership style that is transformational, supportive, and instructional. District authorities should therefore design professional development programs that train school leaders in this dual competency. Policies must encourage principals to move beyond purely administrative roles to become instructional leaders who actively foster a culture of continuous improvement through collaborative supervision and mentorship. For future research, several recommendations emerge. To build a deeper causal understanding, a longitudinal or mixed-methods study is recommended, combining quantitative surveys with qualitative interviews and classroom observations to explore how supervision and leadership interactions manifest in daily practice. Research should also investigate potential mediating variables, such as teacher self-efficacy or professional learning community strength, that might explain the mechanism behind the synergy. Furthermore, expanding the study to include diverse districts, school types (e.g., private or vocational), or incorporating student achievement data as a direct measure of learning quality would enhance the generalizability and impact of the findings. Finally, exploring the specific leadership styles (e.g., democratic, transformational) that best complement academic supervision could provide a more nuanced guide for principal training programs.

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References

- Alpian, A., Harapan, E., & Kesumawati, N. (2020). The Influence of Academic Supervision and Completeness of Teaching Administration on the Quality of Teacher Teaching. *JCP Jurnal Cahaya Pendidikan*, 6(1), 25-37. <https://doi.org/10.33373/chypend.v6i1.2357>
- Aripin, A., Arafat, Y., & Fitria, H. (2020). The effect of certification and principal's Supervision toward Teacher's Performance. *International Journal of Progressive Sciences and Technologies*, 20(2), 19-27. <https://ijpsat.org/index.php/ijpsat/article/view/1755>
- Ary, G. (1996). *School Administration Microeducation Administration*. Rineka Cipta.
- Asuga, G. N., Scevak, J., & Eacott, S. (2016). Educational leadership, management and administration in Africa: an analysis of contemporary literature. *School Leadership & Management*, 36(4), 381-400. <https://doi.org/10.1080/13632434.2016.1247042>
- Azad, N., Anderson Jr, H. G., Brooks, A., Garza, O., O'Neil, C., Stutz, M. M., & Sobotka, J. L. (2017). Leadership and management are one and the same. *American journal of pharmaceutical education*, 81(6), 102. <https://doi.org/10.5688/ajpe816102>
- Burhanuddin. (2005). *Educational Administration, Management and Leadership Analysis*. Bumi Aksara.
- Darmawan, A. (2019). The influence of the principal's leadership style and school culture on teacher performance. *Jurnal Mandiri: Ilmu Pengetahuan, Seni, Dan Teknologi*, 3(2), 244-256. <https://doi.org/10.33753/mandiri.v3i2.85>
- Darmiati, D., Kristiawan, M., & Rohana, R. (2020). The influence of school leadership and work motivation toward teacher's discipline. *Journal of Social Work and Science Education*, 1(1), 32-44. <https://doi.org/10.52690/jswse.v1i1.8>
- Hallinger, P., & Chen, J. (2015). Review of research on educational leadership and management in Asia: A comparative analysis of research topics and methods, 1995–2012. *Educational management administration & leadership*, 43(1), 5-27. <https://doi.org/10.1177/1741143214535744>
- Hapizoh, H., Harapan, E., & Destiniar, D. (2020). The influence of teacher professionalism and principal supervision on teacher performance. *JMKSP (Jurnal Manajemen, Kepemimpinan, dan Supervisi Pendidikan)*, 5(2), 168-174. <https://doi.org/10.31851/jmksp.v5i2.3764>
- Harsey, P dan Blancard K. (2018). *Manajemen Organizational Behavior Utilizing Human Resources*, New Jersey: Englewood Cliffs.
- Hendarman., & Rohanim. (2018). *Principal as Theory and Practice Manager*. Remaja Rosdakarya.
- Hidayat, S., & Asroi. (2019). *Educational Management*. Pustaka Mandiri.
- Honig, M. I., & Rainey, L. R. (2019). Supporting principal supervisors: what really matters?. *Journal of Educational Administration*, 57(5), 445-462. <https://doi.org/10.1108/JEA-05-2019-0089>

- Kamalia, K., Natuna, D. A., & Sumarno, S. (2022). The Influence of Principal Leadership and Teacher Work Discipline on Elementary School Teacher Performance. *Journal of Educational Sciences*, 6(3), 444-458. <https://jes.ejournal.unri.ac.id/index.php/JES/article/view/748>
- Mulyasa. (2018). *Principal Management and Leadership*. Bumi Aksara.
- Mulyasa. (2007). *Become a Professional Principal*. Remaja Rosdakarya.
- Nanang. (2021). *Educational Strategy*. Raja Graffindo Persada.
- Nawawi, H. (2024). *Leadership makes the organization effective*. Gadjah Mada Press.
- Nikmat. (2022). *Principal Leadership and Policy*. Alfabeta.
- Purwanto (2022). *Educational Administration and Supervision*. Rineka Cipta.
- Răducan, R., & Răducan, R. (2014). Leadership and management. *Procedia-Social and Behavioral Sciences*, 149, 808-812. <https://doi.org/10.1016/j.sbspro.2014.08.322>
- Rainey, M. I. H. L. R. (2020). A teaching-and-learning approach to principal supervision. *Phi Delta Kappan*, 102(2), 54-57. <https://doi.org/10.1177/0031721720963234>
- Rivai, A. (2024). *Leader Management and Leadership*. Gaung Persada.
- Rohani, I., Fitria, H., & Rohana, R. (2020). The Influence of Principal Leadership and Teacher Work Discipline on the Performance of Elementary School Teachers in Sembawa District. *Jurnal Pendidikan Tambusai*, 4(3), 1883-1894.
- Rosmika, E., Prastika, Y. D., & Kartiko, A. (2022). The Influence Of Principal's Leadership Style And Organizational Culture On Teacher Performance At MA Unggulan Hikmatul Amanah. *Fikroh: Jurnal Pemikiran Dan Pendidikan Islam*, 15(2), 213-230. <https://jurnal.istaz.ac.id/index.php/fikroh/article/view/464>
- Sedarmayanti. (2021). *Human Resources and Work Productivity*. Mandar Maju.
- Siagian, S. (2020). *Leadership Theory and Practice*. Rineka Cipta.
- Soetopo. (2022). *Principal's Supervision Management & Leadership*. Alfabeta.
- Sahertian. (2020). *Basic Concepts and Supervision Techniques*. Remaja Rosdakarya.
- Sudrajat, R. (2019). *Learning Supervision*. Rineka Cipta.
- Suharsaputra. (2018). *Education Supervision (Performance-Based System Approach)*. Refika Aditama.
- Suhertian, R. (2021). *Principal Supervision*. Rajawali Pers.
- Sunaryo, Y. S. (2020). Academic supervision of school principals and teacher performance: A literature review. *International Journal Pedagogy of Social Studies*, 5(2), 17-34. <https://ejournal.upi.edu/index.php/pips/article/view/29094>
- Wahjosumidjo. (2019). *Organization, Leadership & Administrative Behavior*. Gunung Agung.