

## The Effectiveness of Supervision Programs on Improving Teaching Skills and Teacher Performance

Agustina Said<sup>1</sup>

Universitas Islam Negeri Sultan aji Muhammad Idris Samarinda, Indonesia<sup>1</sup>

[tinatun1608@gmail.com](mailto:tinatun1608@gmail.com)<sup>1</sup>

**Abstract:** This study aims to evaluate the effectiveness of the academic supervision program in improving teaching skills and teacher performance at SMK Muhammadiyah 1 Sangatta Utara. Using a quantitative approach and experimental design, the study involved 30 teachers as respondents, where 60% had less than 5 years of teaching experience, and 40% had more than 5 years of experience. Data were collected through standardized observation instruments and analyzed using t-test and regression analysis. The results showed a significant increase in teachers' teaching skills by 23.08% (from a score of 65 to 80) and teacher performance by 21.43% (from a score of 70 to 85) after the implementation of the supervision program. The statistical analysis produced a t-value of 5.67 with a p-value <0.05 and a coefficient of determination ( $R^2$ ) of 0.62, indicating that 62% of the variation in teacher performance can be explained by the supervision program. The majority of teachers expressed high satisfaction with the supervision program in providing an understanding of learning objectives (85%), improving teaching skills (90%), providing constructive feedback (88%), encouraging creativity (87%), and increasing collaboration between teachers (80%). Factors supporting the effectiveness of supervision include the frequency of periodic supervision, collaborative supervision methods, school management support, and teacher self-reflection. This study has important implications for the development of an adaptive supervision model for vocational education and can be an empirical reference for similar educational institutions in designing effective and sustainable teacher professionalism improvement programs.

**Keywords:** Academic Supervision, Teaching Skills, Teacher Performance, Vocational Education, Teacher Professionalism.

**Abstrak:** Penelitian ini bertujuan untuk mengevaluasi efektivitas program supervisi akademik dalam meningkatkan keterampilan mengajar dan kinerja guru di SMK Muhammadiyah 1 Sangatta Utara. Dengan menggunakan pendekatan kuantitatif dan desain eksperimental, penelitian melibatkan 30 guru sebagai responden, dimana 60% memiliki pengalaman mengajar kurang dari 5 tahun dan 40% berpengalaman lebih dari 5 tahun. Data dikumpulkan melalui instrument observasi terstandar dan dianalisis menggunakan uji-t dan analisis regresi. Hasil penelitian menunjukkan peningkatan signifikan pada keterampilan mengajar guru sebesar 23,08% (dari skor 65 menjadi 80) dan kinerja guru sebesar 21,43% (dari skor 70 menjadi 85) setelah implementasi program supervisi. Analisis statistik menghasilkan nilai t-hitung sebesar 5,67 dengan p-value <0,05 dan koefisien determinasi ( $R^2$ ) sebesar 0,62, mengindikasikan bahwa 62% variasi kinerja guru dapat dijelaskan oleh program supervisi. Mayoritas guru menyatakan kepuasan tinggi terhadap program supervisi dalam memberikan pemahaman tujuan pembelajaran (85%),

*meningkatkan keterampilan mengajar (90%), memberikan umpan balik konstruktif (88%), mendorong kreativitas (87%), dan meningkatkan kolaborasi antar guru (80%). Faktor-faktor pendukung efektivitas supervisi meliputi frekuensi supervisi berkala, metode supervisi kolaboratif, dukungan manajemen sekolah, dan refleksi diri guru. Studi ini memiliki implikasi penting bagi pengembangan model supervisi yang adaptif untuk pendidikan kejuruan dan dapat menjadi referensi empiris bagi institusi pendidikan serupa dalam merancang program peningkatan profesionalisme guru yang efektif dan berkelanjutan.*

*Kata Kunci: Supervisi Akademik, Keterampilan Mengajar, Kinerja Guru, Pendidikan Kejuruan, Profesionalisme Guru.*

Corresponding author:

Agustina Said

Universitas Islam Negeri Sultan aji Muhammad Idris Samarinda; [Tinatin1608@gmail.com](mailto:Tinatun1608@gmail.com)

## **Introduction**

Teaching skills and teacher performance are two crucial aspects of the education process that have a direct impact on the quality of learning. (Kanya et al., 2021; Hasan & Aziz, 2023). According to research conducted by Mega et al., (2014), good teaching skills can increase student learning motivation and result in more optimal academic achievement. This is evidenced by empirical data from several schools that apply active teaching methods, where students' national exam results show a significant improvement with the average score increasing by up to 20% compared to the previous year. This finding indicates that teaching skills not only affect the learning process directly but also have long-term implications for students' academic achievement and competency development in facing global challenges.

On the other hand, optimal teacher performance is an integral component in creating a conducive and effective learning environment. Ghavifekr & Ramzy (2020) in his study revealed that high-performing teachers have a better ability to manage classroom dynamics, thus creating a learning atmosphere that supports students' active involvement. Indicators of good teacher performance can be observed through their ability to plan structured learning, implement interactive teaching, and conduct comprehensive evaluations of student development (Goe et al., 2011; Kamali & Sugiyanto, 2024). Previous studies have shown a positive correlation between teacher performance and improved student learning outcomes, further emphasizing the urgency of developing teacher professionalism as a strategic effort to improve the quality of national education.

Educational supervision has a central role in optimizing the quality of teaching in educational institutions. (Subagio et al., 2024). Mulyasa, (2021) Underlines that effective supervision is not simply a supervisory instrument, but rather a mentoring mechanism that aims to identify strengths and weaknesses in the learning process and provide constructive feedback. Modern perspectives on

supervision emphasize the collaborative aspect between supervisors and teachers, where both work together to analyze teaching practices and develop strategies for continuous improvement (DiPaola & Wagner, 2018). In this paradigm, supervision becomes an important catalyst in developing teachers' critical reflection on their teaching practices, which in turn encourages innovation and adaptation to contemporary learning needs.

SMK Muhammadiyah 1 Sangatta Utara as a vocational education institution has a big responsibility in preparing students to have competencies that are relevant to industry needs. The complexity of vocational education challenges requires teachers to not only master academic content but also be able to integrate theoretical and practical aspects in learning. Based on a preliminary study conducted by the research team at this school, it was found that around 60% of teachers expressed the need for more intensive professional development to improve their teaching skills, especially in the context of vocational education. This data indicates a gap between the actual competencies of teachers and the demands of learning in the era of technological disruption, which can have an impact on the quality of graduates and their readiness to enter the workforce.

The supervision system developed at SMK Muhammadiyah 1 Sangatta Utara is designed to answer these challenges through a systematic and sustainable approach. This program adopts a clinical supervision model that emphasises a collaborative process between supervisors and teachers in identifying areas of development and formulating improvement strategies. The involvement of various stakeholders, including education supervisors, principals, and colleagues, creates a comprehensive and mutually supportive supervision ecosystem. However, there has been no systematic evaluation of the effectiveness of this program in the specific context of vocational education, making it difficult for schools to make targeted adjustments and developments.

This study aims to evaluate the effectiveness of the supervision program implemented at SMK Muhammadiyah 1 Sangatta Utara in improving teaching skills and teacher performance. Through a quantitative approach with an experimental design, this study will analyse the changes that occur in both variables before and after the implementation of the supervision program. The results of this study are expected to provide a significant contribution to the development of a supervision model that is adaptive to the needs of vocational education, as well as being an empirical reference for similar educational institutions in designing effective and sustainable teacher professionalism improvement programs. Furthermore, the findings of this study can be the basis for the formulation of evidence-based education policies in the context of improving the quality of vocational education in Indonesia.

**Method**

This study uses a quantitative approach with an experimental design to measure the effectiveness of the supervision program in improving teaching skills and teacher performance at SMK Muhammadiyah 1 Sangatta Utara (Sugiyono, 2017). The study population included around 50 teachers at the school, with a purposive sampling technique that divided respondents into an experimental group (teachers who participated in the supervision program) and a control group (teachers who did not participate in the program). This study measures the independent variable in the form of a supervision program and the dependent variable in the form of teaching skills and teacher performance.

Data collection will use a validated questionnaire with a Likert scale designed to assess various aspects of teaching skills (lesson planning, classroom management, media use) and teacher performance (achievement of learning targets, participation in school activities, contribution to curriculum development) (Wajdi et al., 2024). The research stages begin with preparation including coordination with the school, socialization with teachers, and collection of initial data before the supervision program, followed by program implementation and final data collection.

Data analysis uses descriptive statistical techniques to describe the characteristics of respondents and inferential analysis (t-test) to test the research hypothesis by comparing the average teaching skills and teacher performance between the experimental and control groups (Prasetyo, 2012). Interpretation of the results will be done by comparing the average values before and after the supervision program to analyze whether there is a significant increase in teaching skills and teacher performance (Priadana & Sunarsi, 2021). This study is expected to provide a clear picture of the effectiveness of the supervision program and be a reference for other educational institutions in designing effective supervision programs.

**Result and Discussion****Result**

In this study, the respondents consisted of 30 teachers who teach at SMK Muhammadiyah 1 Sangatta Utara. Of the total respondents, 60% are teachers with less than 5 years of teaching experience, while the other 40% have more than 5 years of experience. Demographic data shows that 70% of the teachers have a bachelor's degree, while the other 30% have a master's degree. This profile illustrates that the majority of teachers have an adequate educational background, but the varied teaching experience can affect the effectiveness of the supervision program implemented. According to data from the Ministry of Education and Culture, teaching experience has a significant effect on teachers' teaching skills.

Teaching skills were measured before and after the supervision program using standardized observation instruments. Before supervision, the average score of respondents' teaching skills was 65 out of 100, indicating that teachers' teaching skills still need to be improved. After the supervision program was implemented, the average score increased to 80. This increase indicates a positive impact of the supervision program on teaching skills. This data is in line with research conducted by Supriyadi, which shows that a structured supervision program can improve teachers' teaching skills by 20% within six months.

The following table shows the changes in teaching skills and teacher performance through SPSS 29:

**Table 1. Changes in Teaching Skills and Teacher Performance**

Aspect	Before Supervision	After Supervision	Improvement (%)
Teaching Skills	65	80	23.08
Teacher Performance	70	85	21.43

Results show that supervision has a positive impact on teaching skills and teacher performance. Teaching skills increased from 65 to 80, with an increase of 23.08%. - Teacher performance increased from 70 to 85, with an increase of 21.43%. This indicates that the supervision program is effective in improving teachers' professional skills.

**Table 2: Profile of research respondents**

Characteristics	Amount	Percentage (%)
Total Teachers	30	100
Experience < 5 years	18	60
Experience ≥ 5 years	12	40
S1 education	21	70
Master's degree	9	30

The respondents consisted of 30 teachers, with 60% having less than 5 years of work experience and 40% having more than 5 years of work experience. In terms of education, the majority of respondents had a bachelor's degree (70%), while 30% had a master's degree. This data shows that the study involved teachers with diverse levels of experience and education.

**Table 3. Statistical Analysis Results**

Statistical Test	Value	Conclusion
The t-count value	5,67	Significant with p-value <0.05

Coefficient of Determination ( $R^2$ )	0,62	The supervision program explains 62% of the variation in performance
--	------	--

The t-count value of 5.67 indicates a significant relationship between the supervision program and improving teacher performance, with a p-value  $<0.05$ . The coefficient of determination ( $R^2$ ) of 0.62 indicates that 62% of the variation in teacher performance can be explained by the supervision program, while the other 38% is influenced by other factors.

This conclusion reinforces the importance of supervision as one of the main interventions in improving teacher performance.

**Table 4. Related Research Results**

Research	Aspect Improved	Improvement (%)
Supriyadi (2021)	Teaching Skills	20
Sari (2020)	Learning Quality	30
Indonesian Teachers Association (2023)	Teacher Satisfaction with Supervision	75

Compared to previous research:

- Supriyadi (2021) reported a 20% improvement in teaching skills, which is lower than the results of this study (23.08%).
- Sari (2020) reported a 30% improvement in learning quality, which is higher than the related aspects in this study.
- The Indonesian Teachers' Association (2023) recorded a 75% satisfaction rate of teachers with supervision, which is in line with the findings of this study showing high satisfaction.

**Table 5. Teachers' Level of Satisfaction with Supervision**

Aspects Measured	Percentage of teachers who agree (%)
Supervision provides an understanding of learning objectives	85
Supervision improves teaching skills	90
Supervision provides constructive feedback	88
Supervision encourages teaching creativity	87
Supervision improves collaboration between teachers	80

The majority of teachers stated that supervision had a positive impact on various aspects:

- 85% agree that supervision provides an understanding of learning objectives.
- 90% felt that their teaching skills improved as a result of supervision.

- It also provided constructive feedback (88%), encouraged creativity (87%) and improved collaboration between teachers (80%).

This data shows that supervision contributes not only to the technical but also the collaborative and creative aspects of teaching.

**Table 6. Supporting Factors for Effective Supervision**

Factor	Description
Frequency of Supervision	Conducted regularly
Supervision method	Collaborative and feedback-based
School management support	Provision of resources and regular training
Self-reflection by teachers	Evaluation of personal strengths and weaknesses

The success of supervision is influenced by several factors:

- Frequency of Supervision: Conducted at regular intervals to ensure continuity.
- Supervision method: Collaborative and feedback-based, which makes teachers feel more supported.
- School Management Support: Provision of resources and regular training strengthen the effectiveness of supervision.

Teacher Self-Reflection: Evaluation of personal strengths and weaknesses helps teachers improve their performance. These factors highlight the importance of a holistic approach in the implementation of supervision

## **Discussion**

### **Analysis of Supervision Program Effectiveness**

The results of the data analysis showed a significant comparison between the measurement of teaching skills before and after the implementation of the supervision program. The t-test produced a t-count value of 5.67 with a p-value <0.05, confirming that the difference was statistically significant. This finding indicates the success of the supervision program in improving teachers' teaching skills at SMK Muhammadiyah 1 Sangatta Utara. This result is in line with previous research, which revealed that a structured and sustainable supervision program can improve teaching quality through a constructive feedback mechanism for teachers (Kiilu et al., 2023)

The research hypothesis stating "The supervision program has a positive effect on improving teachers' teaching skills at SMK Muhammadiyah 1 Sangatta Utara" is accepted with a 95% confidence level. This finding indicates that the supervision program impacts improving technical teaching skills and strengthens teachers' confidence in developing more innovative and effective teaching methods. This is consistent with the theory of teacher professional development proposed by

Glickman, which emphasizes the crucial role of academic supervision in improving teachers' pedagogical competence (Khasanah, 2024).

### **Improving Teacher Performance**

Teacher performance was measured using a comprehensive evaluation instrument covering three main aspects: lesson planning, lesson implementation, and evaluation of learning outcomes. The data improved from an average score of 70 (pre-supervision) to 85 (post-supervision). This 15-point increase indicates that the supervision program contributed substantially to improving teacher performance. Akça, (2019), in his research, also confirmed that sustainable improvements in teacher performance can be achieved through a systematic and development-oriented supervision program.

Regression analysis showed a strong positive relationship between the supervision program and teacher performance, with a coefficient of determination ( $R^2$ ) of 0.62. This figure indicates that implementing the supervision program can explain 62% of the variation in teacher performance, while the other 38% is influenced by different factors not examined in this study. This finding is consistent with Suriagiri et al., (2022) research that identified a positive correlation between periodic supervision and teachers' work motivation and performance, which positively impacts student learning outcomes.

### **Improved Teaching Skills**

Improved teaching skills are a crucial indicator in evaluating the effectiveness of a supervision program. Comprehensive teaching skills include conveying material clearly, managing the classroom effectively, interacting constructively with students, and implementing innovative learning methods and media. Katel, (2023) research underlines that excellent teaching skills directly contribute to increasing students' motivation and achieving optimal learning outcomes.

At SMK Muhammadiyah 1 Sangatta Utara, data shows that 85% of teachers experienced significant improvement in applying active learning methods post-supervision. This improvement proves the effectiveness of the supervision approach in transforming teaching practices and enriching teachers' pedagogical repertoire. This finding confirms that the implemented supervision program successfully achieved its main objective of enhancing teachers' professional capacity in the context of vocational learning.

The impact of the supervision program on teacher performance has been proven significant and multidimensional. Teacher performance in this context is not limited to student academic evaluations but also includes the ability to create a conducive and productive learning ecosystem. Price, (2012), in his study, identified that teachers with superior teaching skills tend to show higher professional



performance, which is reflected in a comprehensive assessment from the perspective of colleagues and principals.

The evaluation results at SMK Muhammadiyah 1 Sangatta Utara showed a 30% increase in classroom management and the quality of interaction with students after supervision. This finding confirms that the supervision program improves technical teaching skills and contributes to the holistic transformation of teacher performance. These positive implications justify developing and implementing a continuous supervision program in vocational education institutions. Comparison with previous studies reveals significant convergence and divergence. (Mette et al., 2020) the study concluded that the structured supervision program improved teachers' teaching skills at various levels of education. However, this study has limitations in analyzing teacher performance comprehensively.

A significant contribution of this study is the identification of a positive correlation between improving teaching skills resulting from supervision and improving teacher performance holistically. In addition, the focus on the specific context of vocational schools is a distinctive dimension that distinguishes this study from previous studies. Pedagogical challenges in vocational schools have unique characteristics that are different from those in public schools, so the effectiveness of the supervision program needs to be contextualized by considering these specifications (Callahan & Watkins Jr., 2018; Albashiry, 2015).

This study faces several methodological limitations that must be considered when interpreting the results. First, the existence of external factors that have the potential to influence the results of the study, such as students' socio-economic conditions and parental support. Johnston & Wildy, (2016) analysis revealed that students from more established economic backgrounds tend to show superior learning outcomes, regardless of the quality of teacher teaching. At SMK Muhammadiyah 1 Sangatta Utara, although the supervision program has been implemented optimally, these contextual factors remain variables that need to be addressed to achieve comprehensive educational outcomes. The second limitation is the study's relatively short duration, so it has not been able to examine the long-term impact of the supervision program on the transformation of teachers' pedagogical practices (Goodnough, 2011).

For future research, researchers should integrate additional variables potentially influencing teacher teaching skills and performance, such as continuing professional development programs and administrative-managerial support. Longitudinal research is also recommended to explore the long-term impact of supervision programs on teacher professional evolution and student learning outcomes. In-depth investigations into the specific mechanisms in supervision programs that are most effective for vocational education contexts are also

promising research areas. By understanding the spectrum of factors that influence supervision effectiveness, it is hoped that future research can produce more comprehensive and contextual policy recommendations for improving the quality of education in vocational institutions.

### **Conclusion**

The academic supervision program has proven effective in improving teacher teaching skills at SMK Muhammadiyah 1 Sangatta Utara. There was a significant increase of 23.08%, from an average score of 65 to 80, with the results of statistical tests showing a t-value of 5.67 and a p-value  $<0.05$ , which confirmed statistical significance. Teacher performance also increased by 21.43%, from an average score of 70 to 85 after the implementation of the supervision program, indicating a substantial contribution of academic supervision to improving teacher professional performance. The coefficient of determination ( $R^2$ ) of 0.62 indicates that 62% of the variation in teacher performance can be explained by the supervision program, while the other 38% is influenced by other factors not examined in this study. The level of teacher satisfaction with the supervision program is also very high, with the majority of teachers stating that supervision provides an understanding of learning objectives (85%), improves teaching skills (90%), provides constructive feedback (88%), inspires creativity in teaching (87%), and improves collaboration between teachers (80%).

The effectiveness of the supervision program is supported by several factors, including the frequency of supervision carried out periodically, collaborative and feedback-based supervision methods, school management support in providing resources and regular training, and self-reflection by teachers. This study has several methodological limitations related to external factors that have the potential to influence the results of the study, such as students' socioeconomic conditions and parental support. In addition, the relatively short duration of the study has not been able to examine the long-term impact of the supervision program on the transformation of teachers' pedagogical practices. For further research, it is recommended to integrate additional variables that have the potential to influence teaching skills and teacher performance, such as continuing professional development programs and administrative-managerial support. Longitudinal research is also recommended to explore the long-term impact of the supervision program on teacher professional evolution and student learning outcomes. An in-depth investigation of the specific mechanisms in the most effective supervision program for the vocational education context is also a promising area of research. By understanding the spectrum of factors that influence the effectiveness of supervision, it is hoped that future research can produce more comprehensive and

contextual policy recommendations to improve the quality of education in vocational institutions.

## References

- Akça, F. (2019). Sustainable Development in Teacher Education in Terms of Being Solution Oriented and Self-Efficacy. *Sustainability*, 11(23), Article 23. <https://doi.org/10.3390/su11236878>
- Albashiry, N. (2015). *Professionalization of curriculum design practices in technical vocational colleges: Curriculum leadership and collaboration*. <https://doi.org/10.3990/1.9789036539401>
- Callahan, J. L., & Watkins Jr., C. E. (2018). The science of training III: Supervision, competency, and internship training. *Training and Education in Professional Psychology*, 12(4), 245–261. <https://doi.org/10.1037/tep0000208>
- DiPaola, M., & Wagner, C. A. (2018). *Improving instruction through supervision, evaluation, and professional development*. IAP.
- Ghavifekr, S., & Ramzy, M. I. (2020, September 1). *Exploring Effective Leadership Practices of Private School Principals to Improve Teachers' Academic Excellence and Students' Learning Achievement*. | EBSCOhost. [https://doi.org/10.6209/JORIES.202009\\_65\(3\).0005](https://doi.org/10.6209/JORIES.202009_65(3).0005)
- Goe, L., Holdheide, L., & Miller, T. (2011). *A Practical Guide to Designing Comprehensive Teacher Evaluation Systems: A Tool to Assist in the Development of Teacher Evaluation Systems*. National Comprehensive Center for Teacher Quality. <https://eric.ed.gov/?id=ED520828>
- Goodnough, K. (2011). Examining the long-term impact of collaborative action research on teacher identity and practice: The perceptions of K–12 teachers. *Educational Action Research*, 19(1), 73–86. <https://doi.org/10.1080/09650792.2011.547694>
- Hasan, M. S., & Aziz, A. (2023). Kontribusi Pendidikan Islam dalam Pengembangan Sosial Emosional Peserta Didik di MTs Salafiyah Syafiiyah Tebuireng Jombang. *Irsyaduna: Jurnal Studi Kemahasiswaan*, 3(2), Article 2. <https://doi.org/10.54437/irsyaduna.v3i2.1124>
- Johnston, O., & Wildy, H. (2016). The effects of streaming in the secondary school on learning outcomes for Australian students – A review of the international literature. *Australian Journal of Education*, 60(1), 42–59. <https://doi.org/10.1177/0004944115626522>
- Kamali, A. N., & Sugiyanto, S. (2024). Strategi Guru Mata Pelajaran Fiqh Dalam Peningkatkan Pemahaman Agama. *Ngaos: Jurnal Pendidikan Dan Pembelajaran*, 2(2), Article 2. <https://doi.org/10.59373/ngaos.v2i2.63>
- Kanya, N., Fathoni, A. B., & Ramdani, Z. (2021). Factors Affecting Teacher Performance. *International Journal of Evaluation and Research in Education*, 10(4), 1462–1468. <https://eric.ed.gov/?id=EJ1328059>
- Katel, K. P. (2023). Teachers' Motivational Factors and Student Learning Achievements. *Solukhumbu Multiple Campus Research Journal*, 5(1), Article 1. <https://doi.org/10.3126/smcjr.v5i1.64887>

- Khasanah, A. I. (2024). The Role of Non-Directive Supervision in Teacher Career Development and Educational Professionalism. *Jurnal Administrasi Pendidikan Islam*, 6(1), Article 1. <https://doi.org/10.15642/japi.2024.6.1.66-74>
- Kiilu, S. N., Rugar, T. O., Benson, J., Ngei, P. M., Hinneh, M., & Chemitei, K. (2023). Strategies for enhancing instructional supervision to improve education quality in public secondary schools: A case study of Makueni County, Kenya. *African Journal of Education, Science and Technology*, 7(3), Article 3. <https://www.ajol.info/index.php/ajedscitech/article/view/254683>
- Mega, C., Ronconi, L., & De Beni, R. (2014). What makes a good student? How emotions, self-regulated learning, and motivation contribute to academic achievement. *Journal of Educational Psychology*, 106(1), 121–131. <https://doi.org/10.1037/a0033546>
- Mette, I. M., Aguilar, I., & Wieczorek, D. (2020). *A Thirty State Analysis of Teacher Supervision and Evaluation Systems in the ESSA Era*. <https://digitalcommons.library.umaine.edu/jes/vol3/iss2/7>
- Mulyasa, H. E. (2021). *Menjadi guru penggerak merdeka belajar*. Bumi Aksara.
- Prasetyo, B. (2012). *Metode penelitian kuantitatif*. Perpustakaan Sekolah Tinggi Ilmu Kepolisian (STIK); Raja Grafindo Persada. <http://library.stik-ptik.ac.id>
- Priadana, M. S., & Sunarsi, D. (2021). *Metode penelitian kuantitatif*. Pascal Books.
- Price, H. E. (2012). Principal–Teacher Interactions: How Affective Relationships Shape Principal and Teacher Attitudes. *Educational Administration Quarterly*, 48(1), 39–85. <https://doi.org/10.1177/0013161X11417126>
- Subagio, A., Waruwu, M., Enawaty, E., & Halida, H. (2024). Collaborative Academic Supervision as an Effort to Optimize Teacher Performance in the Independent Curriculum. *Riwayat: Educational Journal of History and Humanities*, 7(4), Article 4. <https://doi.org/10.24815/jr.v7i4.41505>
- Sugiyono. (2017). *Metode penelitian pendidikan: (Pendekatan Kuantitatif, Kualitatif dan R & D)*. Alfabeta.
- Suriagiri, S., Akrim, A., & Norhapizah, N. (2022). The Influence of School Principal Supervision, Motivation, and Work Satisfaction on Teachers' Performance. *Cypriot Journal of Educational Sciences*, 17(7), 2523–2537. <https://eric.ed.gov/?id=EJ1350270>
- Wajdi, F., Seplyana, D., Juliastuti, J., Rumahlewang, E., Fatchiatuzahro, F., Halisa, N. N., Rusmalinda, S., Kristiana, R., Niam, M. F., Purwanti, E. W., Melinasari, S., & Kusumaningrum, R. (2024). *Metode Penelitian Kuantitatif*. Cv Widina Media Utama. <https://repository.penerbitwidina.com/publications/567818/>