



Coaching-based academic supervision to enhance teachers' pedagogical competence

Rini Susanti Gulo^{1*}, Niswanto², Ismail³, Nuri Handayani⁴

¹Universitas Syiah Kuala, Banda Aceh, Indonesia; rini24sg@mhs.usk.ac.id

²Universitas Syiah Kuala, Banda Aceh, Indonesia; niswanto@usk.ac.id

³Universitas Syiah Kuala, Banda Aceh, Indonesia; ismail.kutaradja@usk.ac.id

⁴Universitas Syiah Kuala, Banda Aceh, Indonesia; nuri24h@mhs.usk.ac.id

^{*}Corresponding author: Rini Susanti Gulo, E-mail addresses: rini24sg@mhs.usk.ac.id

Article Info

Article history:

Received November 24, 2025

Revised December 08, 2025

Accepted December 08, 2025

Available online February 15, 2026

Keywords: Academic supervision, Coaching, Constructive feedback, Pedagogical competence, Teacher reflection.

Copyright ©2026 by Author. Published by Lembaga Penelitian dan Pengabdian kepada Masyarakat (LPPM) Universitas PGRI Mahadewa Indonesia

Abstract. Conventional academic supervision often remains administrative and less effective in supporting teacher growth. Coaching offers a reflective and collaborative alternative that empowers teachers through partnership and constructive feedback. This study investigates the construct of coaching-based academic supervision, identifies critical success factors, and analyzes its impact on teachers' pedagogical competence. A qualitative descriptive design involving a population of teachers and school principals from three public junior high schools in Simeulue Regency, with a sample of 15 participants selected through purposive sampling (three principals and twelve teachers), was employed. Data were collected through interviews, classroom observations, and document analysis, then analyzed using an interactive qualitative model consisting of three stages: data reduction, data display, and conclusion drawing. The

findings revealed that coaching was implemented through three reflective and dialogic stages, namely pre-observation, observation, and post-observation. Its effectiveness was supported by teacher empowerment, collaborative leadership, a reflective culture, and openness to feedback, which led to improved lesson planning, innovative teaching strategies, and better classroom management. Based on these findings, it is recommended that schools institutionalize reflective coaching practices, provide continuous professional development for supervisors, and build a supportive school culture that fosters open dialogue and collaborative learning.

Introduction

Strengthening teachers' pedagogical competence remains a critical factor in improving learning outcomes worldwide because it integrates planning, methodology, assessment, and reflective professional judgment (Moreira et al., 2023; Langeveld, 1979). This aligns with the view of supervision as a reflective and developmental process rather than merely an administrative routine (Brookhart, 2017; Mulyasa, 2022). In the Indonesian context, this issue is reflected in the 2022 Programme for International Student Assessment (PISA) results, which show that students' literacy and numeracy performance remain below international averages (OECD, 2023). These challenges highlight the need for a supervision model that strengthens teacher agency and promotes dialogic, reflective professional growth (Villa et al., 2024; Geletu, 2023). Academic supervision in many schools still functions as a bureaucratic routine that positions teachers as

objects of evaluation, limiting its developmental impact (Shobariyah & Dwikurnaningsih, 2025; Addini et al., 2022; Purnadewi & Widana, 2023).

Despite its potential, the implementation of coaching-based supervision in Indonesian schools remains limited and often superficial. Most studies still focus on technical procedures or general teacher performance, while the reflective and dialogic dimensions of coaching remain understudied (Addini et al., 2022; Baga et al., 2024; OECD, 2023). Moreover, little is known about how coaching can be systematically integrated into academic supervision to sustainably enhance teachers' pedagogical competence. Academic supervision encompasses all aspects of learning in educational institutions and organizations. This includes the teaching preparation stage, the implementation of learning, and assessment and evaluation after the in-class teaching process (Usman et al., 2023; Singerin, 2021; Hendra et al., 2025). Supervision is an important activity that every educational institution must undertake to ensure the quality of education through coaching, mentoring, and enhancing the professionalism of teachers and school staff (Dwikurnaningsih & Paais, 2022). Academic supervision is non-negotiable for improving teacher professionalism in schools (Nuryani et al., 2022).

Training is an activity that improves employees' or members' abilities and performance in carrying out their duties by increasing skills, knowledge, attitudes, and behaviors related to work (Rivaldo & Nabella, 2023; Bai et al., 2021; Simanjuntak & Rochmat, 2025). Training is a process that shapes and equips employees by developing their skills, knowledge, and behaviors, enabling them to complete work more quickly, effectively, and rationally (Niati et al., 2021; Citrawan et al., 2024). Pedagogical competence. Pedagogical competence is one of the basic competencies that teachers must possess, encompassing the ability to manage student learning, including understanding students, designing and implementing learning activities, evaluating learning outcomes, and developing students to actualize their potential (Lestari et al., 2023; Somantri, 2021). Pedagogical competence is an educator's ability to manage the learning process related to students (Tampubolon, 2023; Ariyanti et al., 2025).

This study offers a clear contribution by focusing on the reflective and participatory mechanisms within coaching that have often been overlooked. The novelty lies in positioning coaching as an integrated, structured process within the supervisory cycle, emphasizing empowerment, reflective dialogue, and professional trust in the context of Indonesian junior high schools. Existing research has indicated coaching's potential to improve teacher performance (Wang et al., 2025; Knight, 2019; Widana et al., 2023), yet few studies have examined how these practices function within a holistic supervision framework that supports sustained pedagogical growth.

Given the persistent instructional challenges schools face, there is a growing need for practical, context-driven supervisory models that effectively support teacher development. Coaching-based academic supervision offers a participatory framework that can generate meaningful professional learning experiences and strengthen reflective teaching practices. Therefore, this research explicitly addresses the following research problems: (1) How is coaching-based academic supervision conceptualized and implemented in junior high schools? (2) What factors support or hinder its implementation? (3) How does coaching-based academic supervision influence teachers' pedagogical competence?. Based on these problems, the study aims to (a) investigate the construct and implementation stages of coaching-based academic supervision, (b) identify critical supporting and inhibiting factors, and (c) analyze its impact on strengthening teachers' pedagogical competence.

Method

This study employed a descriptive qualitative design to explore the experiences of principals and teachers in implementing coaching-based academic supervision. This design was chosen because it emphasizes meaning, participant perspectives, and interpretations of real-life practices rather than numerical measurement. Qualitative inquiry allows researchers to identify patterns, meanings, and emerging interpretations from field data (Herdiansyah, 2023). The study focused on three areas: the coaching model construct in academic supervision, factors influencing its successful implementation, and its impact on teachers' pedagogical competence.

The study was conducted in three public junior high schools in Simeulue Regency, Aceh Province, which were selected for their active use of coaching-based academic supervision. A total of 15 participants were involved: three principals and twelve teachers from various subject areas. Principals were selected because they directly supervise, while teachers participated as supervisees in the coaching process. Participant selection was based on their direct involvement in coaching-based supervision and their willingness to participate, which enabled the collection of rich, contextual data. The researcher served as the primary instrument responsible for collecting, interpreting, and validating data. Semi-structured interview guides, observation checklists, and field notes were used to maintain consistency during fieldwork. The researcher's role included conducting interviews, observing classroom practices, analyzing documents, and maintaining neutrality throughout the study.

Data were collected from June to September 2025 through three techniques: in-depth interviews, classroom observations, and document analysis. Semi-structured interviews explored participants' experiences and reflections, allowing flexibility to probe emerging issues. Classroom observations captured teaching practices, student-teacher interactions, and follow-up actions related to coaching. Document analysis, such as supervision notes, learning materials, and activity reports, served as supporting evidence to strengthen interviews and observations.

Data were analyzed concurrently with data collection using Miles et al. (2014), an interactive model, consisting of data reduction, data display, and conclusion drawing/verification. Relevant information was coded and categorized into themes related to coaching constructs, success factors, and impacts. Analysis results were displayed in narrative descriptions and matrices to illustrate relationships among categories. Conclusions were refined through iterative verification via follow-up interviews and additional observations.

Validity was ensured through source, technique, and temporal triangulation (Romdona et al., 2025). Source triangulation compared data from principals and teachers; technique triangulation combined interviews, observations, and documents; and temporal triangulation rechecked information over time. Transferability was supported by detailed contextual descriptions, dependability by an audit trail, and confirmability by supervisory review by academic advisors. Ethical procedures included obtaining informed consent, ensuring confidentiality, and allowing participants to withdraw at any stage. All data were used solely for academic purposes.

Results and Discussion

This section presents the study's empirical findings, generated through a qualitative approach that triangulated in-depth interviews, classroom observations, and document analysis. The results are structured into three main themes: (1) the construct of coaching in academic supervision, (2) the factors supporting effective implementation, and (3) the impact of coaching on the development of teachers' pedagogical competence. The analysis emphasizes the dynamics of dialogic

interaction between principals and teachers, the role of constructive feedback, and planned follow-up as integral elements of professional learning. Each sub-section begins with a concise summary of the field data, integrates representative verbatim quotes from participants, and concludes with an analytical interpretation that connects the empirical evidence to the study's conceptual framework and relevant literature.

Construct of the Coaching Model

The implementation of coaching in academic supervision unfolded through three key stages: pre-observation, observation, and post-observation. These stages were carried out in a participatory, dialogic, and reflective manner, indicating a shift from conventional supervision practices that are largely evaluative and administrative.

During the pre-observation stage, teachers and principals collaborated to clarify instructional objectives, strategies, and anticipated challenges. This process created psychological safety and mutual trust, positioning teachers as partners rather than passive recipients. One teacher expressed, *“Before the observation, I explained my plan to the principal, so I didn’t feel judged but supported”* (G-2). In the observation stage, the emphasis shifted to descriptive evidence gathering without evaluative judgment. Principals acted as observers and learning partners, which encouraged teachers to teach more authentically and confidently. A teacher noted, *“It turned out to feel like a discussion, not like being watched”* (G-7).

Finally, the post-observation stage became the core reflective space where feedback, self-assessment, and joint action planning took place. Teachers acknowledged that this stage helped them critically analyze their teaching and plan specific improvements. One teacher emphasized, *“I can rethink my strategy with the principal after the feedback session”* (G-3). This reflective cycle highlights how coaching transforms supervision into a meaningful professional learning process.

Table 1. Construct of the Coaching Model

Stage	Main Purpose	Key Activities	Reflective Prompt	Illustrative Quote
Pre-observation	Build shared focus and psychological safety	Joint planning, clarifying learning objectives	“What part of your teaching do you want me to pay attention to?”	“Before the observation, I explained my plan to the principal, so I didn’t feel judged but supported.” (G-2)
Observation	Gather descriptive evidence and foster trust	Non-evaluative classroom observation	“What did you notice about student engagement during the lesson?”	“It turned out to feel like a discussion, not like being watched.” (G-7)
Post-observation	Facilitate joint reflection and action steps	Feedback dialogue, self-assessment, planning	“What worked best today? What might you try differently next time?”	“I can rethink my strategy with the principal after the feedback session.” (G-3)

The findings summarized in Table 1 indicate a paradigm shift from traditional, compliance-oriented supervision toward a more reflective and empowering professional learning process. Through structured pre-observation dialogue, non-judgmental evidence gathering during observation, and joint reflection in the post-observation stage, coaching positions teachers as active partners in the supervision process. This finding reinforces the theoretical perspectives of [Knight \(2019\)](#), [Wang et al. \(2025\)](#), and [Atkinson et al. \(2021\)](#), who emphasize trust, feedback loops, and reflective dialogue as essential elements of effective instructional coaching.

The interview excerpts and the observed coaching process reveal a clear shift in the nature of academic supervision. It is no longer perceived merely as an evaluative mechanism but has evolved into a reflective coaching practice that promotes teachers' professional autonomy. This transformation is characterized by an egalitarian, dialogic, and non-punitive environment in which principals act as reflective partners rather than sole evaluators. Such conditions foster openness, trust, and shared responsibility for instructional improvement. These emerging patterns highlight a paradigm shift from control-oriented supervision to reflective and collaborative coaching. The construct of this coaching process can be systematically mapped through the following visualization.

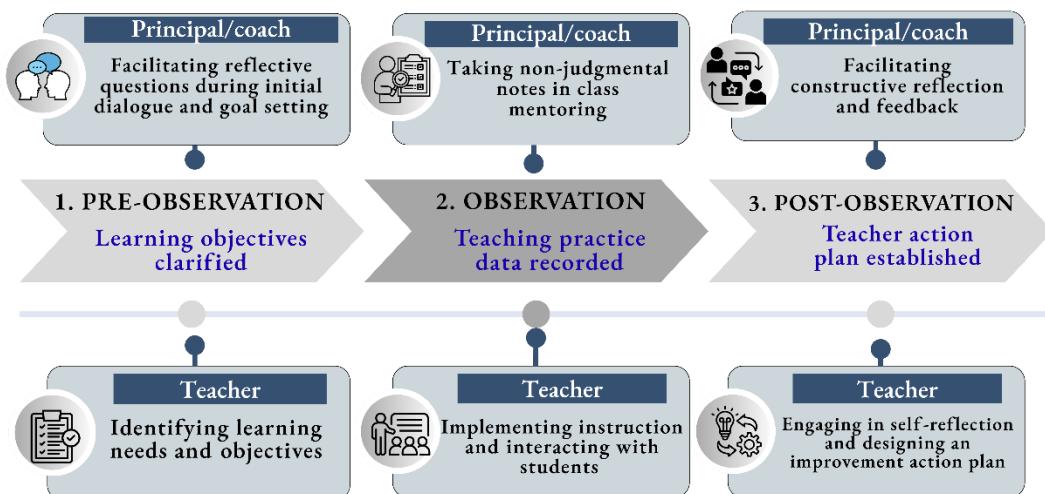


Image 1. Coaching Construct Flowchart

Image 1 illustrates the reflective coaching cycle, which consists of three interconnected stages. During the pre-observation stage, most teachers reported that the activity clarified their learning objectives and strengthened their lesson planning. At the observation stage, most teachers described the process as non-evaluative, which increased their comfort and authenticity in delivering instruction. The post-observation stage then provided a collaborative space for reflection and follow-up, enabling many teachers to refine their instructional strategies, although a small number still perceived the process as formal and faced time constraints.

Factors for Successful Coaching

The findings of this study indicate that the success of coaching in academic supervision is shaped by four interrelated factors: collaborative leadership, teacher empowerment, a reflective culture, and openness to feedback. These elements create a conducive ecosystem that supports dialogic supervision and sustainable professional learning. The principal's role shifts from a sole evaluator to a reflective partner who fosters open communication, builds trust, and encourages active teacher participation in decision-making. This collaborative environment allows teachers to reflect on their instructional practices, share challenges, and develop solutions collectively. Table 2 summarizes representative statements from both principals and teachers that illustrate how these factors function in practice.

Table 2. Factors for Successful Coaching

No	Informant Code	Success Factor	Participant Statement (Verbatim)	Meaning of Findings
1.	KS-1	Collaborative Leadership	“We're not here to find fault, but to act as discussion	The principal acts as a reflective

No	Informant Code	Success Factor	Participant Statement (Verbatim)	Meaning of Findings
			partners. This way, teachers will be more willing to open up because they know we want to support them, not pressure them.”	partner rather than a sole evaluator.
2.	KS-2	Collaborative Leadership	“Teachers are given the freedom to express their ideas, potential, challenges, and needs. They participate in finding solutions together, making them feel more valued.”	Collaborative leadership encourages teacher engagement.
3.	KS-3	Reflective Culture	“I make it a habit for teachers to write simple reflection notes after teaching to bring to coaching sessions.”	Coaching fosters a habit of systematic reflection.
4.	G-1	Teacher Empowerment	“We can express difficulties and find a way out together.”	Teachers co-identify instructional problems and solutions.
5.	G-2	Teacher Empowerment	“I feel involved in determining the steps for improvement, not just being told to do so.”	Teachers see themselves as active agents in coaching.
6.	G-4	Reflective Culture	“After the coaching session, I became accustomed to self-assessing my teaching results.”	Teachers develop habits of independent reflection.
7.	G-6	Reflective Culture	“My experience was good because the coaching was conducted in a relaxed atmosphere. I felt more listened to and encouraged to reflect.”	Coaching provides a psychologically safe space for self-reflection.
8.	G-9	Openness to Feedback	“If it's delivered in a good way, I'm not afraid of being criticized.”	A supportive coaching climate increases openness to feedback.
9.	G-10	Openness to Feedback	“The feedback given is always positive and supportive.”	Teachers are receptive to positively framed, supportive feedback.
10.	G-11	Openness to Feedback	“I became more open, because the principal didn't judge me straight away.”	Feedback is humanistic and nonjudgmental, which enhances openness.

The interview excerpts in Table 2 demonstrate that these four factors collectively foster a professional learning environment that is participatory, dialogic, and trust-based. Collaborative leadership by the principal encourages teachers to engage actively, while teacher empowerment enables shared responsibility in instructional improvement. A reflective culture emerges through practices such as keeping reflection notes and engaging in structured discussions, whereas openness to feedback is reinforced through supportive, nonjudgmental communication.

Impact of Coaching on Teachers' Pedagogical Competence

This study shows that coaching-based academic supervision significantly strengthens teachers' pedagogical competence across multiple dimensions of instruction. This aligns with the findings of [Hollenstein & Brühwiler \(2024\)](#), who emphasize that strengthening teachers' pedagogical-psychological knowledge is crucial to improving learning quality. One principal stated, "*There has been an increase in method creativity, classes are more conducive, and teachers are more reflective and confident. They are starting to see coaching as support, not assessment*" (KS-1)

This impact can be identified in four interrelated areas. First, teachers demonstrated an improved ability to design lesson plans that are contextually relevant and aligned with students' needs. Whereas some previously relied on generic plans, after coaching, they began adapting lesson plans to the characteristics of their classes. Second, coaching encouraged instructional innovation, including group discussions, project-based learning, and locally relevant media. These innovations increased student engagement and participation. Third, classroom management improved noticeably, with teachers demonstrating greater confidence in managing active learners and creating a positive learning environment. Fourth, coaching fostered teacher self-efficacy, as teachers felt valued through constructive feedback and became more motivated to continuously improve their teaching practice.

Table 3 presents participants' statements illustrating the transformation in lesson plan preparation before and after coaching.

Table 3. Impact of Coaching on Teachers' Pedagogical Competence

No	Lesson Plan Component	Before Coaching	After Coaching	Teacher Statement (Verbatim)
1	Learning Objectives	General, copied from the internet	Specific, adapted to the local student context	<i>"Previously, I just copied lesson plans from the internet; now I try to make them according to class conditions."</i> (G-3)
2	Learning Methods	Dominated by lectures	Varied methods, including group discussions and project-based learning (PjBL)	<i>"After coaching, I started trying group discussion and project-based learning (PjBL) methods in my teaching. It turned out that students became more active and motivated."</i> (G-5)
3	Instructional Media	Minimal, limited to a whiteboard	More varied media (worksheets, pictures, digital media)	<i>"I started using simple learning media such as pictures and worksheets to make students more interested, and occasionally I also show videos."</i> (G-7)
4	Evaluation	Focused on final results only	Includes both student process assessment and reflection	<i>"Now I don't just assess the final results but also the students' learning process."</i> (G-8)

The data in Table 3 illustrate how coaching transforms teachers' pedagogical practices, shifting from routine and generic instruction to more contextualized and reflective approaches. Lesson planning became more tailored, instructional methods more varied, and classroom activities more interactive. The coaching cycle also fostered joint reflection between principals and teachers, enabling teachers to critically analyze their instructional practices and collaboratively design improvements.

Construct of the Coaching Model

These findings illustrate how coaching repositioned teachers from passive objects of evaluation to active agents in a professional learning partnership. Pre-observation dialogue created psychological safety and a shared focus; the observation stage emphasized non-judgmental evidence gathering; and post-observation sessions fostered joint reflection and actionable planning. This three-stage reflective structure aligns with the work of [Wang et al. \(2025\)](#) and [Knight \(2019\)](#), who highlight empowerment and feedback loops as essential elements of instructional coaching, while extending [Atkinson et al. \(2021\)](#) and resonating with reflective practice and partnership-oriented coaching frameworks ([Whitmore, 2017](#); [Schön, 1983](#)) by embedding reflection throughout the supervisory cycle. This also resonates with [Mok & Staub \(2021\)](#), who emphasized that coaching and mentoring improve teachers' planning and instructional clarity, reinforcing the value of structured reflective cycles in supervision.

These findings confirm that coaching functions as a reflective and collaborative professional learning model rather than merely a procedural mechanism. The pre-observation stage corresponds with [Knight \(2019\)](#) and [Widana & Ratnaya \(2021\)](#), who emphasize partnership and trust as the foundation of instructional coaching. Furthermore, the dialogic interactions identified in this study are consistent with those identified by [Atkinson et al. \(2021\)](#) and their R2C2 model, which highlights rapport building and content-focused reflection. The structured feedback process observed in the post-observation stage also reflects the principles outlined by [Villa et al. \(2024\)](#) in the GROW and CLEAR coaching frameworks, particularly regarding goal clarity and accountability. In contrast to [Baga et al. \(2024\)](#), who highlight motivation as the primary outcome of coaching, this study identifies reflective feedback as the key driver of pedagogical improvement. However, the persistence of administrative perceptions among some teachers mirrors the findings of [Shobariyah and Dwikurnaningsih \(2025\)](#), suggesting that cultural change and sustained mentoring are essential to fully institutionalize coaching as a meaningful and reflective supervision practice.

Factors for Successful Coaching

These findings are consistent with previous studies that emphasize the roles of empowerment, trust, and reflection in coaching. For example, [Novitasari & Asbari \(2021\)](#) highlight the relationship between coaching leadership and teacher self-efficacy. Similarly, [Mulyasa \(2022\)](#) asserts that participatory leadership fosters a positive and collaborative learning climate. The emergence of reflective culture aligns with [Mardiyatun \(2021\)](#), who underscores reflection as a driver of professional growth, and with [Lolowang et al. \(2024\)](#), who found that dialogic supervision enhances professional transparency.

From a broader perspective, the findings echo [Villa et al. \(2024\)](#), who identified structured collaboration as a critical determinant of coaching success, and [Geletu \(2023\)](#), who demonstrated that coaching improves teacher professionalism and student engagement even in resource-limited contexts. Taken together, these findings suggest that successful coaching depends less on its technical structure and more on cultivating a school ecosystem that values reflection, openness, and collaboration.

Impact of Coaching on Teachers' Pedagogical Competence

These findings are consistent with existing research. The enhancement of lesson planning supports [Akbar \(2021\)](#), who emphasizes that contextual planning is central to pedagogical competence. Instructional innovation aligns with [Fatimah \(2024\)](#), who highlights creativity as a key component of effective teaching. Improved classroom management is echoed by [Musyadad et al. \(2022\)](#), who demonstrate that coaching increases teachers' confidence in managing learning environments. Furthermore, strengthening teacher self-efficacy aligns with [Novitasari & Asbari \(2021\)](#), who argue that coaching-based leadership enhances teacher confidence. From an international perspective, [Geletu \(2023\)](#) found that coaching fosters student engagement and teacher professionalism, while [González et al. \(2024\)](#) emphasized the importance of planning, communication, and methodology as integral elements of teacher professionalism. These align with [Knight \(2019\)](#), who frames coaching as a reciprocal impact cycle that emphasizes trust, reflection, and shared learning rather than one-way evaluation.

Overall, the results illustrate a paradigm shift in how supervision is perceived. Supervision has shifted from being a traditional administrative activity toward a more collaborative coaching practice that emphasizes teacher reflection and empowerment. This finding aligns with [Mardiyatun \(2021\)](#), who highlights how positioning teachers as subjects of coaching encourages autonomy and motivation for continuous professional growth. This is also consistent with [Kapasheva et al. \(2024\)](#), who emphasize that structured professional development models foster sustainable pedagogical competence across various educational contexts.

Conclusion

This study concludes that coaching-based academic supervision effectively strengthens teachers' pedagogical competence by transforming supervision into a reflective and collaborative learning process supported by constructive feedback and a conducive school culture. The findings imply that schools need to institutionalize coaching practices by providing consistent leadership support and reinforcing reflective norms to ensure sustained teacher development. Based on these insights, it is recommended that schools enhance the continuity of the coaching cycle and provide supervisors with capacity-building to maximize its impact. Future studies are encouraged to broaden the research context, adopt mixed-method approaches, and examine mediating factors such as trust, psychological safety, and organizational culture to deepen understanding of the long-term effectiveness of coaching-based academic supervision.

Acknowledgements

With complete respect and appreciation, the author would like to express sincere gratitude to Dr. Niswanto, M.Pd., Dr. Ismail, M.Pd., and Dr. Suparta Rasyid, M.Pd., for their guidance, constructive input, and valuable time in improving this article. The same appreciation is extended to fellow students of the Master of Educational Administration Program, especially the Simeulue Cooperation Class Batch V, whose active participation, enthusiasm, and openness during the data collection process greatly contributed to the success of this study. The author would also like to thank the Editorial Team of the Indonesian Journal of Educational Development (IJED), Universitas PGRI Mahadewa Indonesia, for their dedication, constructive feedback, and professional support throughout the editing and publication process of this article. Hopefully, this collaboration will continue and provide meaningful contributions to the development of educational science and practice in Indonesia.

Bibliography

Addini, A. F., Husna, A. F., Damayanti, B. A., Fani, B. I., Nihayati, C. W. N. W., Daniswara, D. A., Susanti, D. F., Imron, A., & Rochmawati, R. (2022). Basic concepts of educational supervision. *Jurnal Wabana Pendidikan*, 9(2), 179–186. <https://doi.org/10.25157/wa.v9i2.7639>.

Akbar, A. (2021). The importance of teacher pedagogical competence. *JPG: Jurnal Pendidikan Guru*, 2(1), 23–30.

Ariyanti, A., Herlambang, Y. T., & Muhtar, T. (2025). The urgency of teacher pedagogical competence in 21st-century learning: A critical study of futuristic pedagogy. *Ideguru: Jurnal Karya Ilmiah Guru*, 10(1), 389–395. <https://doi.org/10.51169/ideguru.v10i1.1417>

Atkinson, A., Watling, C. J., & Brand, P. L. P. (2021). Feedback and coaching. *European Journal of Pediatrics*, 181(2), 441–446. <https://doi.org/10.1007/s00431-021-04118-8>

Baga, S., Taufiqurrahman, T., Alfauzi, F., & Cahyaningrum, W. A. (2024). Implementation of academic supervision with coaching techniques to improve learning quality. *Katalis Pendidikan: Jurnal Ilmu Pendidikan Dan Matematika*, 1(3), 272–284. <https://doi.org/https://doi.org/10.62383/katalis.v1i3.605>

Bai, T., Luo, J., Zhao, J., Wen, B., & Wang, Q. (2021). Recent advances in adversarial training for adversarial robustness. *ArXiv Preprint ArXiv:2102.01356*. <https://doi.org/10.48550/arXiv.2102.01356>

Brookhart, S. M. (2017). *How to give effective feedback to your students* (2nd ed.). ASCD.

Citrawan, I. W., Widana, I. W., Sumandya, I. W., Widana, I. N. S., Mukminin, A., Arief, H., Razak, R. A., Hadiana, D., & Meter, W. (2024). Special education teachers' ability in literacy and numeracy assessments based on local wisdom. *Jurnal Ilmiah Ilmu Terapan Universitas Jambi*, 8(1), 145–157. <https://doi.org/10.22437/jiituj.v8i1.32608>

Dwikurnaningsih, Y., & Paais, R. L. (2022). Principal academic supervision: Performance, problems and solutions. *JPI (Jurnal Pendidikan Indonesia)*, 11(3), 425–436. <https://doi.org/10.23887/jpiundiksha.v11i3.46205>

Fatimah, D. N. (2024). *Teacher competencies: Pedagogy, personality, social, and professional*. PT Nafal Global Nusantara.

Geletu, G. M. (2023). The effects of pedagogical mentoring and coaching on primary school teachers' professional development practices and students' learning engagements in classrooms in Oromia regional state: implications for professionalism. *Education 3-13*, 4279, 1–17. <https://doi.org/10.1080/03004279.2023.2293209>

González-Fernández, R., Ruiz-Cabezas, A., Domínguez, M. C. M., Subía-Álava, A. B., & Salazar, J. L. D. (2024). Teachers' teaching and professional competences assessment. *Evaluation and Program Planning*, 103, 102396. <https://doi.org/10.1016/j.evalprogplan.2023.102396>

Hendra, R., Habibi, A., Ridwan, A., Sembiring, D., Wijaya, T., Denmar, D. & Widana, I. (2025). The impact of perfectionism, self-efficacy, academic stress, and workload on academic fatigue and learning achievement: Indonesian perspectives. *Open Education Studies*, 7(1), 20250071. <https://doi.org/10.1515/edu-2025-0071>

Herdiansyah, H. (2023). *Qualitative Research Methodology for the Social Sciences: Conventional and Contemporary Perspectives (Digi Edition)*. Salemba Humanika.

Hollenstein, L., & Brühwiler, C. (2024). The importance of teachers' pedagogical-psychological teaching knowledge for successful teaching and learning. *Journal of Curriculum Studies*, 56(4), 480–495. <https://doi.org/10.1080/00220272.2024.2328042>

Kapasheva, Z., Mirza, N., Shahtsitka, I., Gelmanova, Z., Makouchyk, A., & Umbetova, A. (2024). Modeling the development of pedagogical competence in higher education educators amid the digitization of the contemporary world. *Frontiers in Education*, 9(April). <https://doi.org/10.3389/feduc.2024.1360712>

Knight, J. (2019). Instructional coaching for implementing visible learning: A model for

translating research into practice. *Education Sciences*, 9(2), 101. <https://doi.org/10.3390/educsci9020101>

Langeveld, M. J. (1979). *Beknopte theoretische pedagogiek* (p. 271). Wolters-Noordhoff.

Lestari, P. D. J. P., Bahrozi, I., & Yuliana, I. (2023). Teacher pedagogical competence in implementing the independent curriculum. *Journal of Elementary Education Review: Journal of Educational Studies and Research Results*, 9(3), 153–160. <https://doi.org/10.26740/jrpd.v9n3.p153-160>

Lolowang, Y., Weol, W., & Mahamit, M. M. (2024). Implementation of Coaching-Based Academic Supervision for Teachers at SMP Negeri 1 Lolak, Bolaang Mongondow Regency. *Wabana Pendidikan Scientific Journal*, 10(19), 46–58.

Mardiyatun. (2021). Implementation of individual coaching to improve the professional competence of Islamic religious education teachers in conducting classroom action research. *Strategy: Journal of Innovation in Strategies and Learning Models*, 1(1), 46–54. <https://doi.org/10.51878/strategi.v1i1.353>

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Sage.

Mok, S. Y., & Staub, F. C. (2021). Does coaching, mentoring, and supervision matter for pre-service teachers' planning skills and clarity of instruction? A meta-analysis of (quasi-)experimental studies. *Teaching and Teacher Education*, 107, 103484. <https://doi.org/10.1016/j.tate.2021.103484>

Moreira, M. A., Arcas, B. R., Sánchez, T. G., García, R. B., Melero, M. J. R., Cunha, N. B., Viana, M. A., & Almeida, M. E. (2023). Teachers' pedagogical competences in higher education: A systematic literature review. In *Journal of University Teaching and Learning Practice* (Vol. 20, Issue 1). Wolters-Noordhoff. <https://doi.org/10.53761/1.20.01.07>

Mulyasa, E. (2022). *Principal Management and Leadership*. PT Bumi Aksara.

Musyadad, V. F., Hanafiah, H., Tanjung, R., & Arifudin, O. (2022). Academic supervision to increase teacher motivation in creating learning tools. *JIIP - Scientific Journal of Educational Sciences*, 5(6), 1936–1941. <https://doi.org/10.54371/jiip.v5i6.653>.

Niati, D. R., Siregar, Z. M. E., & Prayoga, Y. (2021). The effect of training on work performance and career development: the role of motivation as intervening variable. *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*, 4(2), 2385–2393. <https://doi.org/10.33258/birci.v4i2.1940>

Novitasari, D., & Asbari, M. (2021). Leaders coaching di sekolah: apa perannya terhadap kinerja guru? (Leaders coaching in schools: what role does it play in teacher performance?). *Edumaspul: Jurnal Pendidikan*, 5(1), 580–597. <https://doi.org/10.33487/edumaspul.v5i1.1299>

Nuryani, L. K., Enas, E., Herman, M., Wahyudi, E., & Dianawati, L. (2022). Teachers' perceptions of academic supervision in a pandemic era; Phenomenological review. *Al-Tanzim: Jurnal Manajemen Pendidikan Islam*, 6(3), 679–692. <https://doi.org/10.33650/al-tanzim.v6i3.3646>

OECD. (2023). PISA 2022 results: Indonesia – Country note. In *OECD Publishing*.

Purnadewi, G. A. A., & Widana, I. W. (2023). Improving students' science numeration capability through the implementation of the PBL model based on local wisdom. *Indonesian Journal of Educational Development (IJED)*, 4(3), 307-317. <https://doi.org/10.59672/ijed.v4i3.3252>

Rivaldo, Y., & Nabella, S. D. (2023). Employee performance: Education, training, experience and work discipline. *Calitatea*, 24(193), 182–188. <https://doi.org/10.47750/QAS/24.193.20>

Romdona, S., Junista, S. S., & Gunawan, A. (2025). Data collection techniques. *Jisosepol: Journal of Social, Economic and Political Sciences*, 3(1), 39–47.

Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Basic Books.

Shobariyah, E., & Dwikurnaningsih, Y. (2025). Development of an academic supervision s-module based on coaching to enhance teachers' pedagogical competence. *Jurnal*

Kependidikan, 11(1), 124–135. <https://doi.org/10.33394/jk.v11i1.13869>

Simanjuntak, A. D., & Rochmat, S. (2025). Border museum as pedagogical space: Strengthening students' nationalism through contextualized history learning in Anambas. *Indonesian Journal of Educational Development (IJED)*, 6(2), 323–339. <https://doi.org/10.59672/ijed.v6i2.5101>

Singerin, S. (2021). The impact of academic supervision on teacher pedagogical competence and teacher performance: The role moderating by teacher efficacy. *International Journal of Elementary Education*, 5(2), 496. <https://doi.org/10.23887/ijee.v5i3.34072>

Somantri, D. (2021). The importance of teacher pedagogical competence in the 21st century. *Equilibrium: Journal of Educational and Economic Research*, 18(02), 188–195. <https://doi.org/10.25134/equi.v18i2.4154>

Tampubolon, K. (2023). Academic Supervision Management Training to Improve Teachers' Pedagogical Competence. *Journal Liaison Academia and Society*, 3(1), 1–6. <https://doi.org/10.58939/j-las.v3i1.743>

Usman, H. M., Mudhofir, M., & Gusmian, I. (2023). The important role of academic supervision in improving the quality of education. *Kontigensi: Jurnal Ilmiah Manajemen*, 11(2), 704–716. <https://doi.org/10.56457/jimk.v11i2.459>

Villa, G., Montero, J. A., Solé-Beteta, X., & Navarro, J. (2024). A literature review on coaching methods for tutoring students in undergraduate education. *Education Sciences*, 14(8), 909. <https://doi.org/10.3390/educsci14080909>

Wang, X., Husu, J., & Toom, A. (2025). What makes a good mentor of in-service teacher education? A systematic review of mentoring competence from a transformative learning perspective. *Teaching and Teacher Education*, 153, 104822. <https://doi.org/10.1016/j.tate.2024.104822>

Whitmore, J. (2017). *Coaching for Performance: The Principles and Practice of Coaching and Leadership* (5th ed.). Nicholas Brealey Publishing.

Widana, I. W., Sumandy, I. W., Citrawan, I. W. (2023). The special education teachers' ability to develop an integrated learning evaluation of Pancasila student profiles based on local wisdom for special needs students in Indonesia. *Kasetsart Journal of Social Sciences*, 44(2), 527–536. <https://doi.org/10.34044/j.kjss.2023.44.2.23>

Widana, I. W. & Ratnaya, I. G. (2021). Relationship between divergent thinking and digital literacy on teacher ability to develop HOTS assessment. *Journal of Educational Research and Evaluation*, 5(4), 516-524. <https://doi.org/10.23887/jere.v5i4.35128>