



INFLUENCE OF MADRASAH PRINCIPALS' TRANSFORMATIONAL LEADERSHIP ON TEACHER PROFESSIONALISM IN THE DIGITAL ERA: A SEQUENTIAL EXPLANATORY MIXED-METHODS STUDY

Moch. Rikza Alkhubra Abdul Jabbar¹, Chusnul Chotimah², Mukhamad Sukur³

^{1,2,3} UIN Sayyid Ali Rahmatullah Tulungagung, East Java, Indonesia
Email: rikzaabduljabbar@gmail.com¹, chusnul.chotimah@uinsatu.ac.id²,
m.sukur1983@gmail.com³

Abstract:

This study aims to analyze the influence of transformational leadership exercised by madrasah principals on teacher professionalism and to explain the mechanisms underlying this relationship. A Sequential Explanatory Mixed Methods approach was employed. The quantitative phase involved 43 teachers selected through total sampling, while the qualitative phase included the madrasah principal, vice principals, teachers, administrative staff, and students selected using purposive and snowball sampling techniques. Quantitative data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS), whereas qualitative data were analyzed following the interactive model of Miles, Huberman, and Saldaña. The integration of quantitative and qualitative findings was conducted during the interpretation stage using connecting and merging techniques. The results revealed that transformational leadership exerted by the madrasah principal had a positive and significant effect on teacher professionalism ($\beta = 0.744$; $p < 0.001$), with an R^2 value of 0.554. The qualitative findings reinforced these results by demonstrating that teacher professionalism was fostered through the principal's exemplary leadership, vision internalization, technology-based competency development, and dialogic academic supervision, all of which contributed to the establishment of a sustainable learning culture. The study concludes that transformational leadership not only enhances teacher professionalism but also creates a learning ecosystem that continuously supports teachers' professional competence development within the madrasah context.

Keywords: *Transformational Leadership, Madrasah Principal, Teacher Professionalism, Digital Era.*

INTRODUCTION

Teachers are the most critical factor in determining the quality of educational provision, as their professionalism directly influences instructional effectiveness and students' learning outcomes (Liu & Zhang, 2024; Stewart & Jansky, 2022). Teacher professionalism extends beyond mastery of pedagogical, professional, social, and personal competencies; it also encompasses a sustained commitment to continuous professional development in response to the evolving demands of education. Therefore, strengthening teacher professionalism has become a fundamental priority in achieving high-quality and sustainable education.

One of the key factors influencing teacher professionalism is the leadership of the madrasah principal. As educational leaders, madrasah principals are responsible not only for administrative management but also for serving as change agents who establish a shared vision, promote innovation, inspire teachers, and cultivate an organizational culture that supports continuous professional growth. Within this context, transformational leadership is regarded as an effective leadership approach that facilitates organizational change through idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration.

Previous studies have consistently demonstrated that transformational leadership contributes to improving educational quality by strengthening teachers' professional capacity. Zadok and Schechter (2024) found that transformational leadership enhances collective teacher efficacy, thereby improving teachers' effectiveness in carrying out their professional responsibilities. Similarly, Carrington et al. (2024) reported that transformational leadership promotes teachers' professional development through collaborative learning and continuous reflective practice. Furthermore, Oppi and Eisenschmidt (2022) demonstrated that professional learning communities supported by teacher leadership enhance collaboration, professional competence, and teacher professionalism. Collectively, these findings indicate that transformational leadership plays a pivotal role in improving educational quality by fostering teachers' professional capacity and professionalism.

Despite these contributions, several research gaps remain. Most previous studies have focused on collective teacher efficacy, collaborative learning, and professional learning communities, whereas research explicitly examining teacher professionalism as the primary outcome variable remains limited. Moreover, studies investigating transformational leadership within the madrasah context are relatively scarce, despite the distinct leadership characteristics, organizational culture, and institutional values that differentiate madrasahs from general schools. Accordingly, this study seeks to examine the influence of transformational leadership exercised by madrasah principals on teacher professionalism within the unique context of madrasah education.

In response to these research gaps, this study employs a Sequential Explanatory Mixed Methods design to investigate the effect of transformational leadership on teacher professionalism. This approach enables the quantitative findings to be enriched through qualitative exploration, thereby providing a more comprehensive understanding of how transformational leadership contributes to the enhancement of teacher professionalism. The findings are expected to make an empirical contribution to the field of educational leadership, particularly within the madrasah context, while also providing evidence-based recommendations for developing strategies to strengthen teacher professionalism.

RESEARCH METHODS

This study employed a mixed methods approach using a Sequential Explanatory design, in which quantitative data were collected and analyzed in the first phase, followed by qualitative data collection and analysis to explain and elaborate on the quantitative findings. This design was selected because it provides a more comprehensive understanding of the influence of transformational leadership exercised by madrasah principals on teacher professionalism through the integration of quantitative and qualitative evidence (Creswell & Clark, 2011). The study was conducted at MTsN 7 Tulungagung

between March and April 2026.

In the quantitative phase, the study involved 43 teachers selected through a total sampling technique. Since the target population consisted of fewer than 100 individuals, all members of the population were included as research participants (Arikunto, 1998). Data were collected using a five-point Likert-scale questionnaire measuring two constructs: transformational leadership of the madrasah principal and teacher professionalism. Prior to data collection, the research instrument underwent content validity assessment through expert judgment, construct validity testing using the Pearson Product-Moment correlation, and reliability testing using Cronbach's alpha.

The quantitative data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM–PLS) with SmartPLS software. The analysis began with the evaluation of the measurement model (outer model), including indicator reliability, convergent validity, construct reliability, and discriminant validity. Subsequently, the structural model (inner model) was assessed using the coefficient of determination (R^2), predictive relevance (Q^2), and hypothesis testing through the bootstrapping procedure to examine the effect of transformational leadership on teacher professionalism (Hair et al., 2014).

The qualitative phase was conducted after the completion of the quantitative analysis. Participants were selected through purposive sampling based on their relevance to the research objectives and included the madrasah principal, the vice principal for curriculum affairs, the vice principal for student affairs, teachers, administrative staff, and students. Additional participants were identified through snowball sampling. Qualitative data were collected using semi-structured interviews, participant observation, and document analysis.

Qualitative data were analyzed using the interactive model proposed by Miles, Huberman, and Saldaña (2018), which consists of data condensation, data display, and conclusion drawing and verification. To ensure the trustworthiness of the findings, the study adopted the criteria proposed by Lincoln and Guba (1982), namely credibility, transferability, dependability, and confirmability. These criteria were achieved through triangulation, member checking, and the maintenance of an audit trail. Finally, quantitative and qualitative findings were integrated during the interpretation stage using connecting and merging strategies to generate a comprehensive understanding of the phenomenon under investigation.

RESULTS AND DISCUSSION

Measurement Model

The measurement model was evaluated to ensure that the research instrument satisfied the required validity and reliability criteria before assessing the structural model. The evaluation included tests of convergent validity, discriminant validity, and construct reliability using the Average Variance Extracted (AVE), Cronbach's alpha, Composite Reliability (CR), and the Heterotrait–Monotrait Ratio (HTMT).

Table 1. Measurement Model Evaluation Results

Construct	AVE	Cronbach's Alpha	Composite Reliability	HTMT	Remarks
Transformational Leadership	0.638	0.929	0.950	0.748	Valid & Reliable
Teacher Professionalism	0.653	0.951	0.958	–	Valid & Reliable

Source: SmartPLS Output (2026).

As presented in Table 1, all constructs satisfied the measurement model requirements. The Average Variance Extracted (AVE) values for all constructs exceeded the recommended threshold of 0.50, while Cronbach's alpha and Composite Reliability (CR) values were all above 0.70. Furthermore, the Heterotrait–Monotrait Ratio (HTMT) value of 0.748 indicated that discriminant validity was established. These results confirm that all constructs demonstrated satisfactory validity and reliability and were therefore suitable for subsequent structural model analysis.

Structural Model

The structural model was evaluated to assess the model's ability to explain the relationship between transformational leadership and teacher professionalism. The evaluation included the coefficient of determination (R^2), predictive relevance (Q^2), and hypothesis testing using the bootstrapping procedure.

Table 2. Structural Model Results

Relationships Among Variables	β	t-statistic	p-value	R^2	Q^2
Transformational Leadership → Teacher Professionalism	0.744	8.761	0.000	0.554	0.338

Source: SmartPLS Output (2026).

As shown in Table 2, transformational leadership exerted by the madrasah principal had a positive and statistically significant effect on teacher professionalism, with a path coefficient of 0.744, a t-statistic of 8.761, and a p-value of < 0.001 . Furthermore, the R^2 value of 0.554 indicates that transformational leadership explained 55.4% of the variance in teacher professionalism, while the remaining 44.6% was attributable to other factors not included in the research model. In addition, the Q^2 value of 0.338 (> 0) demonstrates that the model possesses satisfactory predictive relevance.

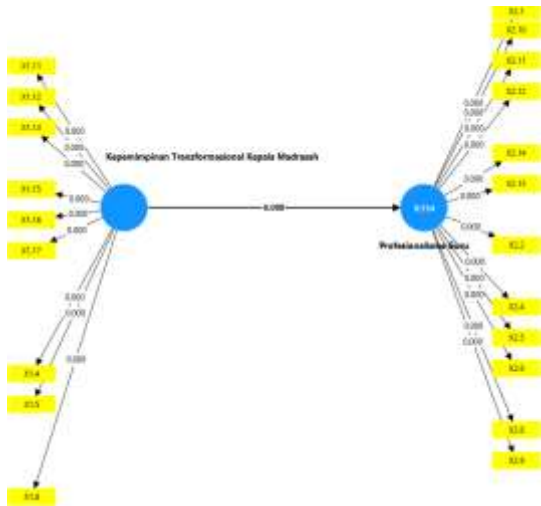


Figure 1. Bootstrapping Results of the Structural Model

Figure 1 presents the results of the bootstrapping analysis of the structural model. The positive path coefficient, together with a t-statistic exceeding 1.96 and a p-value below 0.05, indicates that transformational leadership exercised by the madrasah principal has a statistically significant positive effect on teacher professionalism.

Qualitative Findings

The qualitative phase was conducted to explain and provide deeper insights into the quantitative findings regarding the influence of transformational leadership exercised by the madrasah principal on teacher professionalism. Based on the analysis of interviews, participant observations, and document analysis, the implementation of transformational leadership was reflected in four core dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration.

Table 3. Summary of Qualitative Findings

Dimension	Key Findings	Data Sources
Idealized Influence	The madrasah principal served as a role model in conflict resolution, teacher mentoring, and fostering a culture of lifelong learning.	Interviews, observations
Inspirational Motivation	Teachers were motivated through the articulation of a shared vision, the reinforcement of spiritual values, and encouragement to become agents of educational change.	Interviews, observations
Intellectual Stimulation	Teachers were encouraged to implement innovative instructional practices, integrate digital technologies such as artificial intelligence (AI), Canva, Quizizz, and Google Forms into classroom instruction, and develop research-oriented learning environments.	Interviews, document analysis
Individualized Consideration	The madrasah principal provided personalized coaching, developmental instructional supervision, career mentoring, and continuous support for teachers' professional competence development.	Interviews, document analysis

Source: Processed by the authors (2026).

As presented in Table 3, the implementation of transformational leadership was reflected in four core dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Evidence derived from interviews, participant observations, and document analysis indicates that each dimension was manifested through distinct leadership practices, including exemplary leadership, motivational support, the promotion of instructional innovation, and continuous professional mentoring. Collectively, these practices contributed to strengthening teacher professionalism within the madrasah.

DISCUSSION

Transformational Leadership as a Driver of Teacher Professionalism

The findings revealed that transformational leadership exerted by the madrasah principal had a positive and statistically significant effect on teacher professionalism ($\beta = 0.744$, $p < 0.001$), with an R^2 value of 0.554. This finding indicates that transformational leadership is a key determinant of teacher professionalism in the madrasah context. In other words, the more effectively transformational leadership is implemented by the madrasah principal, the higher the level of teacher professionalism in carrying out professional responsibilities.

The quantitative findings were reinforced by qualitative evidence showing that the madrasah principal fulfilled a role that extended beyond administrative management. The principal served as a role model, inspired teachers, promoted instructional innovation, and continuously supported teachers' professional competence development. These leadership practices created a supportive organizational environment that encouraged teachers to engage in continuous learning, adapt to educational change, and improve the quality of their instructional practices.

These findings support the transformational leadership theory proposed by Bernard M. Bass and Bruce J. Avolio (1994), which posits that transformational leaders enhance followers' commitment and capabilities through idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. The present findings are also consistent with those reported by Zhang (2024), who found that transformational leadership contributes to teacher professionalism by strengthening teacher recognition. Likewise, Bao (2024) demonstrated that transformational leadership promotes teachers' innovative behavior by fostering a supportive environment for learning and innovation.

However, this study extends previous research beyond merely confirming the positive relationship between transformational leadership and teacher professionalism. The integration of quantitative and qualitative findings demonstrates that this relationship is shaped through leadership practices that are consistently embedded in the daily life of the madrasah. Teacher professionalism develops through the cultivation of a learning culture, continuous professional support, and sustained investment in teachers' competence development. These findings provide additional empirical evidence regarding the implementation of transformational leadership within the distinctive context of madrasah education.

Mechanisms Through Which Transformational Leadership Enhances Teacher Professionalism in Madrasahs

findings indicate that transformational leadership enhances teacher professionalism through four interconnected mechanisms: exemplary leadership, vision internalization, technology-based competence development, and dialogic academic supervision. These results suggest that teacher professionalism develops through a learning culture consistently cultivated by the madrasah principal rather than solely through formal organizational structures. This finding supports the argument of Kılınç et al. (2024), who concluded that transformational leadership strengthens teacher professionalism by enhancing professional commitment and teacher recognition.

Exemplary leadership emerged as the foundation for developing teacher professionalism because it fostered trust in the integrity and credibility of the school leader. The principal's discipline, ability to resolve conflicts, and commitment to lifelong learning encouraged teachers to adopt similar professional standards in their own practice. These findings are consistent with the concept of idealized influence proposed by Bernard M. Bass and Ronald E. Riggio (2006) and align with the findings of Nguyen et al. (2021), who emphasized that trust in leadership forms the foundation of teachers' professional commitment.

Vision internalization, achieved through continuous communication, institutional slogans, and a shared organizational culture, transformed the madrasah's vision into a practical guide for everyday instructional activities. This finding suggests that teacher professionalism is strengthened when individual goals are aligned with organizational objectives. Similar conclusions were reported by Philip Hallinger and Joseph Murphy (1986), who argued that a shared vision reinforces teachers' professional commitment and enhances school effectiveness.

Technology-based competence development—including the integration of artificial intelligence (AI), Canva, Google Forms, Quizizz, instructional videos, and research-oriented classrooms—demonstrates that transformational

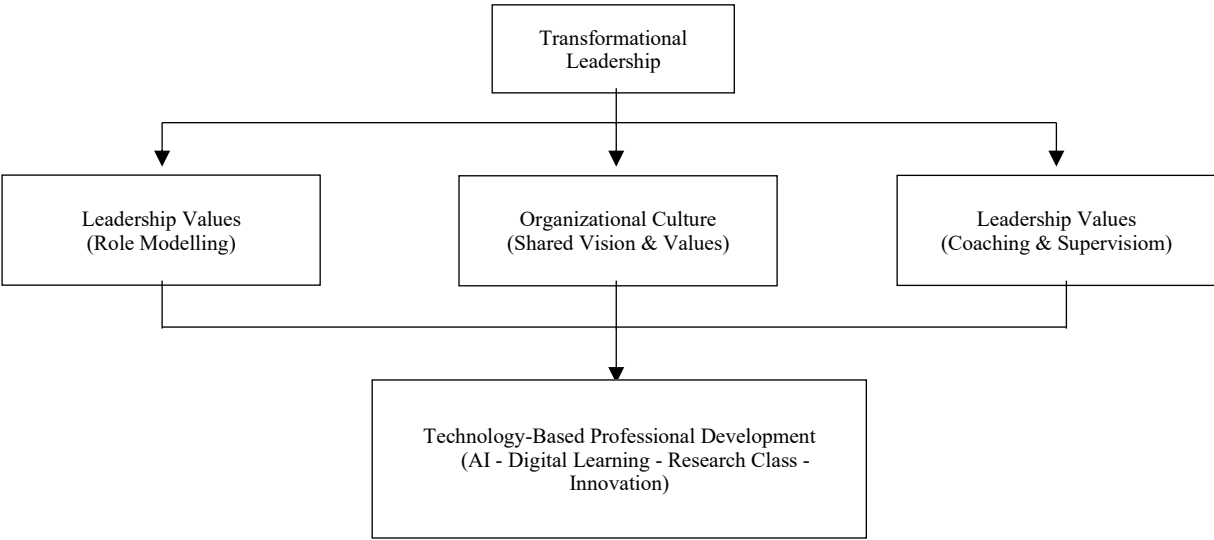
leadership emphasizes continuous professional capacity building. These initiatives strengthened teachers' digital literacy, instructional innovation, and adaptability to the evolving educational landscape. This finding extends the concept of Professional Capital proposed by Andy Hargreaves and Michael Fullan (2012), highlighting that the integration of transformational leadership and digital technologies accelerates teachers' professional competence development.

Dialogic academic supervision further strengthened teacher professionalism by promoting reflective practice, continuous coaching, and sustained professional support. Rather than functioning merely as an evaluative mechanism, academic supervision became a process of professional learning that encouraged teachers to continuously improve their instructional practices. These findings corroborate those of Mutohar et al. (2025) and Maharani and Chotimah (2023), who identified continuous professional support as a critical factor in enhancing teacher professionalism.

Overall, the findings demonstrate that transformational leadership operates through the integration of exemplary leadership, vision internalization, technology-based competence development, and dialogic academic supervision. Together, these mechanisms foster a sustainable learning culture that strengthens teachers' pedagogical, professional, social, and personal competencies. Accordingly, this study extends the application of transformational leadership theory within the madrasah context by demonstrating that teacher professionalism develops through the synergy between leadership practices, organizational culture, digital innovation, and reflective professional learning.

A Transformational Leadership Model for Developing Teacher Professionalism in Madrasahs

The integration of the quantitative and qualitative findings demonstrates that transformational leadership not only exerts a significant influence on teacher professionalism but also establishes a systematic mechanism for continuous professional development. Synthesizing the findings from both phases resulted in a conceptual model illustrating how transformational leadership practices are translated into strategies for teacher development within the madrasah. The proposed model suggests that teacher professionalism evolves through leadership practices that cultivate a learning culture, promote continuous professional learning, and strengthen teachers' capacity to adapt to ongoing educational change.



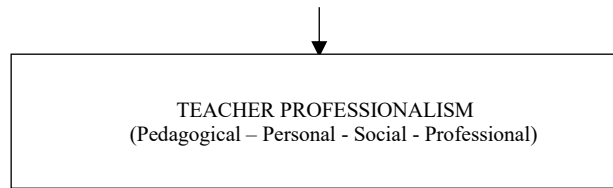


Figure 2. A Transformational Leadership Model for Developing Teacher Professionalism in Madrasahs

Figure 2 illustrates that technology-based competence development through the integration of artificial intelligence (AI), Canva, Google Forms, Quizizz, instructional videos, and research-oriented classrooms reflects the orientation of transformational leadership toward strengthening teachers' professional capacity. These initiatives enhance teachers' digital literacy, promote instructional innovation, and improve their ability to adapt to the rapidly evolving educational environment.

These findings extend the concept of Professional Capital proposed by Andy Hargreaves and Michael Fullan (2015), which emphasizes that teacher professionalism develops through continuous learning, collaboration, and sustained professional capacity building as fundamental drivers of educational quality improvement.

Empirically, the findings are consistent with those of Schmitz et al. (2023), who demonstrated that digital instructional supervision and technology leadership contribute to teacher professionalism by strengthening professional capacity and collaborative learning networks. The present findings also support those reported by Kaya-Kasikci et al. (2023), who concluded that transformational leadership enhances teachers' innovative behavior by creating an organizational environment that fosters continuous learning and innovation.

Taken together, these findings suggest that teacher professionalism in the digital era is determined not only by mastery of pedagogical competencies but also by teachers' capacity for continuous learning, innovation, and adaptation to technological advancements, supported by transformational leadership.

CONCLUSION

This study demonstrates that transformational leadership exercised by madrasah principals has a positive and statistically significant effect on teacher professionalism. By employing a Sequential Explanatory Mixed Methods design, the study not only confirms the statistical relationship between transformational leadership and teacher professionalism but also explains the mechanisms through which transformational leadership fosters teachers' professional development. The findings indicate that teacher professionalism develops through the integration of exemplary leadership, shared vision internalization, technology-based competence development, and dialogic academic supervision, all of which contribute to the establishment of a sustainable learning culture and continuous professional learning. These findings suggest that transformational leadership functions not merely as a leadership approach but also as a strategic human resource development mechanism that strengthens teachers' pedagogical, professional, social, and personal competencies.

From a theoretical perspective, this study extends the application of transformational leadership theory within the madrasah context by

demonstrating that the influence of leadership on teacher professionalism operates through leadership practices integrated with organizational culture, digital transformation, and reflective professional learning. From a practical perspective, the findings imply that enhancing teacher professionalism requires madrasah principals to move beyond administrative responsibilities by emphasizing professional mentoring, instructional innovation, the cultivation of a learning culture, and the sustainable integration of digital technologies into educational practice. Future research is encouraged to validate and extend the proposed model across different educational levels and institutional contexts by incorporating additional organizational variables to provide a more comprehensive understanding of the factors shaping teacher professionalism.

REFERENCES

- Arikunto, S. (1998). *Prosedur Penelitian Suatu Pendekatan Praktik*. Jakarta: Rineka Cipta.
- Bao, Y. (2024). The effect of principal transformational leadership on teacher innovative behavior: the moderator role of uncertainty avoidance and the mediated role of the sense of meaning at work. In. *Frontiers in Education* Media SA. <https://doi.org/10.3389/feduc.2024.1378615>
- Bass & Riggio. (2006). *Transformational Leadership (2nd ed.)*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Bernard M Bass & Bruce J Avolio. (1994). *Improving Organizational Effectiveness through Transformational Leadership*. Thousand Oaks, CA: Sage Publications.
- Carrington, S., Park, E., McKay, L., Saggars, B., Harper-Hill, K., & Somerwil, T. (2024). Evidence of transformative leadership for inclusive practice. *Teaching and Teacher Education*, 141, 104466. <https://doi.org/10.1016/j.tate.2023.104466>
- Creswell, J. W., & Clark, V. L. P. (2011). Choosing a mixed methods design. In *Designing and Conducting Mixed Methods Research* (pp. 53–106). Sage Publications, Inc.
- Dong Nguyen, Marcus Pietsch, S. G. (2021). Collective teacher innovativeness in 48 countries: Effects of teacher autonomy, collaborative culture, and professional learning,. *Teaching and Teacher Education*, 106, 103463. <https://doi.org/10.1016/j.tate.2021.103463>.
- Hargreaves, A., & Fullan, M. (2015). *Professional capital: Transforming teaching in every school*. Teachers College Press.
- Hargreaves, Andy, and M. F. (2012). *Professional Capital: Transforming Teaching in Every School*. New York: Teachers College Press,.
- Joseph F. Hair Jr., G. Tomas M. Hult, Christian M. Ringle, and M. S. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. (Thousand Oaks, CA: Sage Publications, 2022),.
- Kaya-Kasikci, S., Zayim-Kurtay, M., & Kondakci, Y. (2023). The role of leadership in developing a climate of technology integration in public schools. *Teaching and Teacher Education*, 132, 104234. <https://doi.org/10.1016/j.tate.2023.104234>
- Kılınç, A. Ç., Polatcan, M., Savaş, G., & Er, E. (2024). How transformational leadership influences teachers' commitment and innovative practices: Understanding the moderating role of trust in principal. *Educational Management Administration & Leadership*, 52(2), 455-474. <https://doi.org/10.1177/17411432221082>
- Lincoln & Guba. (1982). Establishing dependability and confirmability in naturalistic inquiry through an audit. *American Educational Research*

- Association Annual Meeting, 1–31. <https://eric.ed.gov/?id=ED216019>
- Liu, X., & Zhang, L. (2024). Exploring the relationship between teachers' professional capital and technology-enhanced teaching innovation: The mediating role of constructivist belief. *Teaching and Teacher Education*, 139, 104434. <https://doi.org/10.1016/j.tate.2023.104434>
- Maharani, S. I., & Chotimah, C. (2023). Strategi supervisi kepala sekolah dalam meningkatkan profesionalisme guru. *SKILLS: Jurnal Riset Dan Studi Manajemen Pendidikan Islam*, 51-61.
- Miles, M. B., Huberman, A. M., & Saldana, J. (2018). *Qualitative Data Analysis: A Methods Sourcebook*. Sage.
- Mutohar, P. M., Sukur, M., Jabbar, M. R. A. A., & Anissa, D. D. (2025). Clinical Supervision Training to Improve Teacher Professionalism Competence at Mts Darul Falah Tulungagung: Pelatihan Supervisi Klinis dalam Meningkatkan Kompetensi Profesionalisme Guru di MTS Darul Falah Tulungagung. *Jukeshum: Jurnal Pengabdian Masyarakat*, 5(2), 502-512. <https://doi.org/10.51771/jukeshum.v5i2.1912>
- Oppi, P., & Eisenschmidt, E. (2022). Developing a professional learning community through teacher leadership: A case in one Estonian school. *Teaching and Teacher Education: Leadership and Professional Development*, 1, 100011. <https://doi.org/10.1016/j.tatelp.2022.100011>
- Philip Hallinger & Joseph Murphy. (1986). *Hallinger, P., & Murphy, J. Instructional Leadership in Effective Schools*.
- Schmitz, M. L., Antonietti, C., Consoli, T., Cattaneo, A., Gonon, P., & Petko, D. (2023). Transformational leadership for technology integration in schools: Empowering teachers to use technology in a more demanding way. *Computers & Education*, 204, 10488. <https://doi.org/10.1016/j.compedu.2023.104880>
- Stewart, T. T., & Jansky, T. A. (2022). Novice teachers and embracing struggle: Dialogue and reflection in professional development. *Teaching and Teacher Education: Leadership and Professional Development*, 1, 100002. <https://doi.org/10.1016/j.tatelp.2022.100002>
- Zadok, A., Benoliel, P., & Schechter, C. (2024). Teacher-leaders' personality traits of extraversion, conscientiousness, and openness to experience and transformational leadership: The implications for collective teachers efficacy. *Teaching and Teacher Education*, 140, 104482. <https://doi.org/10.1016/j.tate.2024.104482>
- Zhang, Y. (2024). The mediation role of teacher recognition between transformational leadership and teacher professionalism: A multilevel mediation analysis. *Educational Administration Quarterly*, 60(4), 383-417. <https://doi.org/10.1177/0013161X241263845>