

# Teachers' Professional Development and Instructional Quality: A Longitudinal Study on Curriculum Reform Implementation in Primary Schools

Kaso Mustamina<sup>a,1</sup>, Andi Hidayati<sup>b,2</sup>, Hidayah<sup>c,3</sup>, Mumu Muzayyin Maq<sup>d,4</sup>, Yusufe<sup>e,5</sup>

<sup>a,b,c,e</sup> Universitas Pejuang Republik Indonesia (UPRI) Makassar

<sup>d</sup> Universitas Nahdlatul Ulama Cirebon

<sup>1</sup> [kamust1204@gmail.com](mailto:kamust1204@gmail.com); <sup>2</sup> [titi.hidayati64@gmail.com](mailto:titi.hidayati64@gmail.com); <sup>3</sup> [hidayakarim448@gmail.com](mailto:hidayakarim448@gmail.com); <sup>4</sup> [muzrama@gmail.com](mailto:muzrama@gmail.com);

<sup>5</sup> [yusufuchu0562@gmail.com](mailto:yusufuchu0562@gmail.com)

\* [kamust1204@gmail.com](mailto:kamust1204@gmail.com)

INFO ARTIKEL	ABSTRAK
<p><i>Sejarah Artikel:</i> Diterima: 1 June 2025 Direvisi: 15 July 2025 Disetujui: 31 July 2025 Tersedia Daring: 7 August 2025</p> <p><i>Keywords:</i> Teacher professional Development, Instructional quality, Curriculum reform, Primary education</p>	<p>This longitudinal qualitative study investigates the relationship between teachers' professional development (TPD) programs and instructional quality during curriculum reform implementation in Indonesian primary schools. Using a phenomenological approach, this research examines how TPD initiatives influence teaching practices and classroom instruction quality over time. The study employed semi-structured interviews with 12 primary school teachers participating in Indonesia's curriculum reform, conducted at three time points over 18 months. Data were analyzed using inductive thematic analysis to identify patterns and themes related to teachers' experiences with professional development and changes in instructional quality. Findings reveal four major themes: (1) transformative learning experiences through collaborative professional development, (2) gradual improvement in pedagogical content knowledge, (3) enhanced student engagement through differentiated instruction, and (4) persistent systemic barriers to full implementation. The study demonstrates that sustained, school-based TPD programs significantly improve instructional quality when supported by adequate resources and administrative leadership. However, teachers faced challenges including limited materials, time constraints, and insufficient follow-up support. The research contributes to understanding how longitudinal TPD approaches can effectively support curriculum reform implementation in developing country contexts. Implications include recommendations for policymakers to design comprehensive, sustained professional development programs that address both technical and systemic implementation challenges.</p>
ABSTRACT	
<p><i>Kata Kunci:</i> Pengembangan profesional guru, Kualitas pembelajaran, Reformasi kurikulum, Pendidikan dasar</p>	<p>Studi kualitatif longitudinal ini menyelidiki hubungan antara program pengembangan profesional guru (TPD) dan kualitas pengajaran selama implementasi reformasi kurikulum di sekolah dasar di Indonesia. Dengan menggunakan pendekatan fenomenologis, penelitian ini mengkaji bagaimana inisiatif TPD memengaruhi praktik pengajaran dan kualitas pengajaran di kelas dari waktu ke waktu. Studi ini menggunakan wawancara semi-terstruktur dengan 12 guru sekolah dasar yang berpartisipasi dalam reformasi kurikulum Indonesia, yang dilakukan pada tiga titik waktu selama 18 bulan. Data dianalisis menggunakan analisis tematik induktif untuk mengidentifikasi pola dan tema yang berkaitan dengan pengalaman guru dalam pengembangan profesional dan perubahan kualitas pengajaran. Temuan mengungkapkan empat tema utama: (1) pengalaman belajar transformatif melalui pengembangan profesional kolaboratif, (2) peningkatan bertahap dalam pengetahuan konten pedagogis, (3) peningkatan keterlibatan siswa melalui pembelajaran yang dibedakan, dan (4) hambatan sistemik yang terus-menerus terhadap implementasi penuh. Studi ini menunjukkan bahwa program TPD berbasis sekolah yang berkelanjutan secara signifikan meningkatkan kualitas pengajaran jika</p>

didukung oleh sumber daya dan kepemimpinan administratif yang memadai. Namun, guru menghadapi tantangan termasuk materi yang terbatas, keterbatasan waktu, dan dukungan tindak lanjut yang tidak memadai. Penelitian ini berkontribusi pada pemahaman bagaimana pendekatan TPD longitudinal dapat secara efektif mendukung implementasi reformasi kurikulum di negara berkembang. Implikasinya mencakup rekomendasi bagi para pembuat kebijakan untuk merancang program pengembangan profesional yang komprehensif dan berkelanjutan yang mengatasi tantangan implementasi, baik teknis maupun sistemik.

©2025, Kaso Mustamin, Andi Hidayati, Hidayah, Mumu Muzayyin Maq, Yusuf  
This is an open access article under CC BY-SA license



## 1. Introduction

The effectiveness of educational reforms fundamentally depends on teachers' capacity to implement new curricula and pedagogical approaches in their classrooms. While significant investments have been made in teacher professional development (TPD) programs worldwide, there remains a persistent gap between policy intentions and classroom practice, particularly in developing countries undergoing major curriculum reforms (Zolotuhina et al., 2025). Indonesia's experience with four decades of TPD initiatives exemplifies this challenge, with repeated reform efforts failing to achieve substantial improvements in teacher quality and student learning outcomes (Kartini' et al., 2025).

The Indonesian education system, serving over 50 million students across 300,000 schools, has undergone significant curriculum reforms aimed at improving educational quality and competitiveness (Abdelaty, 2023). The most recent reform, Kurikulum Merdeka (Independent Curriculum), represents a paradigmatic shift toward competency-based learning, differentiated instruction, and project-based approaches. However, the success of such reforms depends critically on teachers' ability to transform their instructional practices, which requires sustained and effective professional development support (Ronel et al., 2025).

Despite extensive research on teacher professional development, several critical gaps remain in our understanding of how TPD programs influence instructional quality over time (Retnawati et al., 2025). First, most studies employ cross-sectional designs that provide limited insight into the developmental processes of teacher learning and practice change. Second, there is insufficient qualitative research examining teachers' lived experiences during curriculum reform implementation (Markham, 2025). Third, limited research has investigated the longitudinal relationship between TPD participation and actual improvements in instructional quality in developing country contexts.

This study addresses these gaps by employing a longitudinal qualitative approach to examine how teachers' participation in professional development programs influences their instructional quality during curriculum reform implementation in Indonesian primary schools. The research is guided by the following questions: How do teachers experience professional development programs during curriculum reform implementation? What changes in instructional quality occur over time as teachers participate in TPD initiatives? What factors facilitate or hinder the translation of professional development experiences into improved classroom practice?

The significance of this research lies in its potential to inform evidence-based policies for teacher professional development in reform contexts. By providing detailed insights into the processes through which TPD influences instructional quality, this study contributes to both

theoretical understanding of teacher learning and practical guidance for educational policymakers and administrators.

## **2. Method**

This study employed a qualitative longitudinal design using a phenomenological approach to investigate teachers' experiences with professional development and changes in instructional quality during curriculum reform implementation. The phenomenological methodology was selected because it enables researchers to examine the lived experiences of participants and understand the essence of phenomena from their perspective. This approach is particularly suitable for educational research that seeks to understand complex social experiences and meaning-making processes (Villa, 2025).

The longitudinal design allowed for the examination of changes and developments over time, which is essential for understanding the gradual nature of teacher learning and practice change. Data were collected at three time points over an 18-month period to capture the developmental processes of teacher professional growth and instructional improvement.

The study was conducted in two districts in Indonesia that were implementing the Kurikulum Merdeka (Independent Curriculum) reform in primary schools. These districts were selected based on their active participation in the curriculum reform and their willingness to support longitudinal research activities. The selection criteria ensured representation of both urban and rural school contexts, providing diverse perspectives on TPD implementation and instructional quality challenges.

Participants were selected using purposive sampling to ensure maximum variation in terms of teaching experience, school context, and professional development exposure. The final sample consisted of 12 primary school teachers from six schools across the two districts. Participant characteristics included:

- Teaching experience ranging from 3 to 25 years
- Representation from Grades 1-6
- Mix of urban (7 teachers) and rural (5 teachers) school contexts
- Various levels of prior TPD participation
- Both male (4) and female (8) teachers

All participants were actively involved in curriculum reform implementation and had participated in at least one formal TPD program related to the new curriculum during the study period.

Data were collected through semi-structured interviews conducted at three time points: baseline (T1), 9 months (T2), and 18 months (T3) after initial TPD participation. Each interview lasted approximately 60-90 minutes and was conducted in Indonesian language at participants' schools or other convenient locations.

The interview protocol was developed based on the research questions and literature review, focusing on:

- Teachers' experiences with professional development programs
- Changes in teaching practices and instructional approaches
- Perceptions of instructional quality improvements
- Challenges and facilitating factors in implementation
- Impact on student learning and engagement

Interview questions were open-ended to allow participants to share their experiences in depth. Examples of key questions included:

- "Can you describe your experience with the professional development program you participated in?"
- "How has your teaching practice changed since participating in TPD?"
- "What challenges have you encountered in implementing new instructional approaches?"
- "How do you assess the quality of your current teaching compared to before the TPD?"

All interviews were audio-recorded with participants' consent and subsequently transcribed verbatim for analysis.

Data analysis followed the principles of inductive thematic analysis, allowing themes to emerge from the data rather than being imposed by predetermined theoretical frameworks. The analysis process involved six phases following established qualitative research procedures:

- Familiarization with data: Multiple readings of transcripts and initial note-taking
- Initial coding: Systematic coding of interesting features across the entire dataset
- Searching for themes: Collating codes into potential themes
- Reviewing themes: Checking themes against coded extracts and entire dataset
- Defining and naming themes: Ongoing analysis to refine theme definitions
- Producing the report: Final analysis and selection of compelling extract examples

The analysis was conducted using both manual coding and NVivo software to organize and manage the large volume of qualitative data. A codebook was developed and refined throughout the analysis process to ensure consistency and transparency.

### 3. Result and Discussion

This study involved 12 elementary school teachers selected using purposive sampling from two districts implementing the Independent Curriculum. Participants included teachers with a range of teaching experience and backgrounds to ensure representativeness. Demographic data were collected at the beginning of the study and summarized in Table 1 below:

**Table 1. Demographic Participant**

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	4	33.3
	Female	8	66.7
Age	25 - 30 years	3	25.0
	31 - 35 years	5	41.7
	36 - 40 years	2	16.7
	> 40 years	2	16.7

Characteristic	Category	Frequency	Percentage (%)
Teaching Experience	3 - 5 years	3	25.0
	6 - 10 years	4	33.3
	> 10 years	5	41.7
Grade Level Taught	Grades 1-2	4	33.3
	Grades 3-4	4	33.3
	Grades 5-6	4	33.3

The majority of participating teachers were female (66.7%), with a wide age range, but concentrated among the 31-35 year olds (41.7%). Teaching experience varied, from 3 to more than 10 years, with a balanced distribution for those with more than 6 years of experience. Every elementary school grade level lower, middle, and upper elementary was represented, providing a comprehensive perspective on the implementation of the new curriculum.

Thematic analysis of the longitudinal interviews yielded several key themes related to teachers' experiences with professional development and the implementation of the new curriculum, and their impact on the quality of learning. Below is a detailed description of each theme, along with excerpts from qualitative data.

Teachers emphasized the importance of collaboration and sustainability in professional development programs. They revealed that working with colleagues to share experiences and solve real-life classroom problems significantly deepened their understanding of the teaching materials and methods (Bartolata Nuñez & Estipona Despi, 2025).

“Regular meetings with fellow teachers made me feel supported, not just told the material. We exchanged ideas on how to engage students more.” (4th-grade teacher, Sari, T2)

Continuous engagement over 18 months ensured that teachers not only gained new knowledge but also had the opportunity to practice and reflect on their professional learning repeatedly.

The findings showed a gradual development in teachers' pedagogical knowledge. From the initial interview to the final session, teachers reported an increasingly in-depth understanding of how to use teaching strategies that meet students' needs.

“Initially, I just followed the practice guide, but now I know how to adjust the methods so that students really understand and are engaged.” (5th-grade teacher, Indri, T3)

Teachers reported increasingly effective use of learning techniques such as project-based learning and group discussions over time.

Most teachers observed increased student engagement after the professional development, with the implementation of instruction that differentiated material and activities to suit each student's needs.

“I started dividing study groups according to students' ability levels. Now they seem more enthusiastic and active in every lesson.” (Grade 3 teacher, Budi, T3)



The implementation of differentiated learning has had a positive impact on student motivation and interaction, crucial aspects of teaching quality.

Although nine teachers reported significant progress, ongoing systemic barriers such as lack of teaching aids, limited time, and curriculum pressures pose significant challenges.

"Even though I want to apply everything I learn, sometimes limited books and time make me have to choose what I can do." (Grade 6 teacher, Ahmad, T3)

A critical finding of this study is that collaborative and sustained professional development forms the cornerstone for meaningful teacher growth and instructional quality improvement. Teachers emphasized not only the acquisition of new knowledge but, importantly, the social and interactive nature of learning through peer collaboration as pivotal to their professional growth (Cohen & Sikenyi, 2025). This aligns with global research stressing that effective professional development transcends traditional, isolated workshops and emphasizes job-embedded, school-based learning communities (Aziz et al., 2025)(Olmo-Extremera et al., 2025)

The collaborative model provided opportunities for teachers to share classroom successes and challenges, co-construct knowledge, and reflect on practices collectively—a process that transformed professional development from a mere transmission of information into a vehicle for empowerment and agency (Reid-Griffin et al., 2023). This resonates with the “Professional Learning Communities” approach, which fosters teacher agency and ownership of curriculum reform (Brodie, 2018). Teachers in this study reported that ongoing dialogue and peer support enhanced their confidence and motivation to experiment with new instructional strategies consistent with the Kurikulum Merdeka’s aims toward learner-centered and competency-based education.

However, the success of these collaborative structures was contingent on school leadership support and the allocation of time and space for collegial interactions. Schools with proactive principals that prioritized professional learning environments showed more sustained teacher engagement and deeper instructional practice transformations (Lisi & Friesen, 2025). This echoes previous findings in the literature underscoring that principal leadership is critical in sustaining effective TPD practices and nurturing school cultures conducive to continuous improvement (Murtanti et al., 2024)(Nasrullah, 2025).

In the context of Indonesia’s complex educational system, where historical reliance on cascade training models often dilutes training fidelity and impact (Baiborodova & Shipkova, 2025)(Abdullah et al., 2025), this study affirms the importance of shifting toward models that embed collaboration and sustained engagement over time.

The study’s longitudinal design illuminated the gradual, non-linear nature of pedagogical content knowledge development among teachers. Initial engagement in professional development led many teachers to experiment with surface-level instructional changes, such as group work or project activities, without fully understanding their pedagogical underpinnings. However, over time and with continued reflection and practice, teachers developed deeper insight into structuring lessons that meet diverse learner needs and foster active student engagement (Freeman et al., 2025).

This developmental trajectory reflects the complex cognitive and affective processes involved in teacher learning described by various scholars (Johnston et al., 2025). The findings support the view that pedagogical transformation requires time, iterative support, and opportunities for teachers to internalize and adapt new knowledge to their specific classroom contexts. It further confirms that sustained TPD is essential for moving beyond superficial compliance with curriculum reforms to genuine practice change.

By the third interview phase, many participants articulated more nuanced understandings of how to differentiate instruction, integrate formative assessment, and facilitate student autonomy core components of the Kurikulum Merdeka framework. These gains mirror findings from international studies indicating that professional development most effectively promotes instructional quality when it fosters teacher reflection, inquiry, and problem-solving related to actual classroom challenges (Abdurahman et al., 2025).

One of the most salient outcomes across participating teachers was the increase in perceived student engagement through differentiated instruction. Teachers reported moving away from one-size-fits-all pedagogies toward multiple pathways for learning that address students' varied readiness levels, interests, and learning styles (Purwowidodo & Mufidah, 2024).

Differentiated instruction, often seen as a sophisticated and challenging pedagogical skill, emerged as a tangible area of growth facilitated by professional development. Teachers described applying flexible grouping, varied learning tasks, and multimodal resources to create more responsive and motivating classroom environments. These findings resonate with current educational research emphasizing differentiation as key for inclusive, competency-based learning systems aligned with 21st-century skills (Cohn et al., 2025).

However, teachers also acknowledged the significant time investment and planning complexity involved in differentiating instruction effectively. This finding illustrates the tension inherent in reform contexts where aspirational pedagogical models must be implemented within practical constraints of limited time, materials, and workload pressures (Sukardi et al., 2025).

The reported increase in student participation and motivation echoes global research identifying teacher development as a crucial leverage point for achieving student-centered reform goals (Sinaga, 2024). This outcome not only contributes to instructional quality but also underscores the relationship between teacher professional growth and improved student learning outcomes (Dewi et al., 2024).

Despite teacher gains, this study highlights that systemic and institutional barriers continue to hinder the full realization of curriculum reform goals. Limited availability of instructional resources, inadequate infrastructure (e.g., library materials, technology), policy misalignment between new pedagogical demands and standardized assessment systems, and administrative workload were frequently cited obstacles.

This finding is consistent with extensive literature on education reform implementation in developing country contexts emphasizing that teacher capacity building alone cannot guarantee reform success without coordinated improvements across systemic conditions (Tariq Ahsan, 2024). The pervasive 'reform fatigue' phenomenon, marked by mismatch between ambitious policy goals and on-the-ground realities, was evident in teachers' narratives.

For instance, despite engagement in professional learning communities and growing pedagogical sophistication, teachers experienced time constraints imposed by curriculum coverage requirements and summative assessments. These pressures often forced teachers to revert to transmission-based instruction to "cover the syllabus," undermining student-centered aims.

This systemic tension emphasizes the necessity for multi-level reform perspectives that integrate curriculum policy with resource allocation, assessment reforms, and school leadership development. The literature also points to the role of local education authorities in mediating reform implementation and providing aligned support a theme echoed by participants' calls for clearer guidance and better coordination throughout the reform process (Umasugi, 2025). An important dimension emerging from this study is the nuanced role of teacher autonomy within curriculum reform. While professional development implicitly aimed at enhancing teacher

agency and interpretive flexibility in translating curriculum goals into practice, participants' experiences reveal both affirmation and limitations of this autonomy.

Teachers valued the opportunity to adapt lessons to student needs and expressed pride in their growing capacity for innovation. However, many also reported constraints imposed by standardized testing regimes and rigid instructional timelines, which curtailed full professional discretion.

This paradox is reflective of broader debates in curriculum implementation scholarship that challenge the notion of 'fidelity' as blind adherence to policy in favor of 'implementation integrity,' where teachers actively interpret and negotiate reform mandates while maintaining core principles (Chimbunde & Moreeng, 2024). The findings indicate that true professional autonomy requires supportive conditions, including policy coherence, meaningful leadership support, and adequate resources.

This study offers fresh insights relevant to both Indonesian and global educational scholarship. Indonesia's history of cyclical curriculum reform and mixed outcomes highlights the critical yet complex role of TPD in bridging policy and classroom practice (Frias & Caparida, 2025). The detailed, longitudinal qualitative data enrich understanding of how teachers experience reform over time, how instructional quality develops incrementally, and what persistent challenges impede progress.

Globally, the findings reinforce calls for reimagined professional development models that emphasize collaboration, sustained engagement, school leadership involvement, and sensitivity to systemic factors (Roallos, 2024). The study illustrates how theoretical frameworks on teacher agency, differentiated instruction, and reform implementation integrity play out in real-world, resource-constrained settings

#### **4. Conclusion**

This study underlines that effective teacher professional development is indispensable for achieving instructional quality improvements amid curriculum reform. Collaborative, sustained TPD engaged teachers meaningfully, nurtured pedagogical growth, and fostered student-centered teaching. However, systemic and institutional barriers must be addressed to enable full realization of reform objectives. The voices and experiences of Indonesian primary school teachers highlighted here enrich the understanding of reform implementation as a complex, negotiated process requiring both individual and systemic transformation. This knowledge can inform policies and practices aimed at advancing equitable, quality education in Indonesia and comparable contexts worldwide.

#### **5. Acknowledgement**

The author(s) would like to express sincere gratitude to all the primary school teachers who generously participated in this longitudinal study, sharing their valuable time and insights amidst busy teaching schedules.

#### **6. References**

Abdelaty, S. (2023). "Teachers' Use of a Compulsory EFL Textbook in Libya: A Mixed Methods Study". *Biomedical Journal of Scientific & Technical Research*, 50(2). <https://doi.org/10.26717/BJSTR.2023.50.007940>



- Abdullah, S., Baharuddin, B., & Tanal, A. N. (2025). Effectiveness of Digital Training for Educational Staff in Management Information Systems. *International Journal of Asian Education*, 6(1), 141–150. <https://doi.org/10.46966/ijae.v6i1.475>
- Abdurahman, A., Sabtula, S. B., & Abdurahman, F. (2025). Leveraging Classroom Learning: Strengthening Instructional Supervision to Foster Teacher Development. *Sprinj Journal of Arts, Humanities and Social Sciences*, 4(1), 8–18. <https://doi.org/10.55559/sjahss.v4i1.469>
- Aziz, C. N., Rahyasih, Y., Abubakar, A., & Nurdin, N. (2025). Transformational leadership and the development of professional learning communities in elementary schools. *Journal of Educational Management and Instruction (JEMIN)*, 5(1), 117–137. <https://doi.org/10.22515/jemin.v5i1.9930>
- Baiborodova, L. V., & Shipkova, E. N. (2025). Development of the educational system of a training organisation in the context of realisation of pre-professional pedagogical training of schoolchildren. *Perspectives of Science and Education*, 72(6), 368–382. <https://doi.org/10.32744/pse.2024.6.23>
- Bartolata Nuñez, A., & Estipona Despi, D. (2025). Enhancing Classroom Instruction of Teachers Through Professional Development Programs. *International Journal of Innovative Science and Research Technology*, 440–454. <https://doi.org/10.38124/ijisrt/25mar611>
- Chimbunde, P., & Moreeng, B. B. (2024). The Sustainability of Curriculum Reform and Implementation Through Teacher Participation: Evidence from Social Studies Teachers. *Journal of Curriculum Studies Research*, 6(1), 83–98. <https://doi.org/10.46303/jcsr.2024.6>
- Cohen, E., & Sikenyi, M. (2025). Teacher professional development during a global pandemic: A critical analysis of global learning through a peer-to-peer learning programme. *International Review of Education*, 71(3), 411–432. <https://doi.org/10.1007/s11159-024-10120-7>
- Cohn, C., Snyder, C., Fonteles, J. H., T. S., A., Montenegro, J., & Biswas, G. (2025). A multimodal approach to support teacher, researcher and <sc>AI</sc> collaboration in <sc>STEM</sc> +C learning environments. *British Journal of Educational Technology*, 56(2), 595–620. <https://doi.org/10.1111/bjet.13518>
- Dewi, A. E. R., Kalil, N. C., Hidayat, H., & Juniati, S. R. (2024). Exploring the Relationship between Teacher Professional Development and Student Learning Outcomes. *Journal of Pedagogi*, 1(5), 109–116. <https://doi.org/10.62872/a5xyk576>
- Freeman, A., Espin, S., & Bookey-Bassett, S. (2025). Exploring midwifery engagement and collaboration within integrative care models in Ontario, Canada. *International Journal of Integrated Care*, 25, 621. <https://doi.org/10.5334/ijic.ICIC24519>
- Frias, R., & Caparida, J. (2025). Strengthening Practical Skills in Electrical Installation and Maintenance for Junior High School Students. *International Journal of Innovative Science and Research Technology*, 2511–2516. <https://doi.org/10.38124/ijisrt/25jun1828>
- Johnston, M., Dolan, J., Nemeth, D., & Chevalier, N. (2025). *Statistical learning in childhood: dimensions, developmental trajectory, and relation with cognitive control*. <https://doi.org/10.31234/osf.io/kp68q>

- Kartini', K., Candra Dewi, A., Hakim, M. N., & Djafar, C. (2025). Integrating Local Culture in the Development of Indonesian Language Teaching Materials for General Education. *AL-ISHLAH: Jurnal Pendidikan*, 17(2). <https://doi.org/10.35445/alishlah.v17i2.5891>
- Lisi, N., & Friesen, S. (2025). Leadership practices of middle school principals that promote collective teacher efficacy. *International Journal for Leadership in Learning*, 25(1), 42–78. <https://doi.org/10.29173/ijll58>
- Markham, Z. J. (2025). Illuminating Teacher Lived Experiences in the New Revised Curriculum. *Psychology and Education: A Multidisciplinary Journal*, 43(5), 609–619. <https://doi.org/10.70838/pemj.430506>
- Murtanti, W., Satori, D., Nurdin, D., & Kurniatun, T. C. (2024). The Role of Principal Leadership in Creating an Effective School Culture. *Tadris: Jurnal Keguruan Dan Ilmu Tarbiyah*, 9(2), 611–628. <https://doi.org/10.24042/tadris.v9i2.23095>
- Nasrullah, M. (2025). Transformational and Nurturing Leadership Practices in Building Human Resource Capacity in Schools. *International Journal of Administration and Education (IJAE)*, 63–68. <https://doi.org/10.70188/5xvhz960>
- Olmo-Extremiera, M., Domingo Segovia, J., Khalil, M., & De La Hoz Ruíz, J. (2025). Professional learning communities in secondary schools and improvement of learning in challenging contexts. *Frontiers in Education*, 10. <https://doi.org/10.3389/feduc.2025.1598133>
- Purwowododo, A., & Mufidah, L. N. (2024). Differentiated Learning Models: Students' Learning Style, Readiness, and Interest in Learning Regarding the Results of Fiqh. *Al Qalam: Jurnal Ilmiah Keagamaan Dan Kemasyarakatan*, 18(6), 4063. <https://doi.org/10.35931/aq.v18i6.3802>
- Reid-Griffin, A., Croson, J., Fisher, S., & Lopez, N. (2023). Collaborative partnership: helping adolescents to develop a STEM mindset. *PDS Partners: Bridging Research to Practice*, 18(1), 43–53. <https://doi.org/10.1108/PDSP-01-2023-0002>
- Retnawati, L., Egar, N., & Br Ginting, R. (2025). The Influence of Principal's Instructional Leadership, Infrastructure, and Teacher Professional Development on the Quality of Learning in Senior High School. *Electronic Journal of Education, Social Economics and Technology*, 6(1), 375–381. <https://doi.org/10.33122/ejeset.v6i1.557>
- Roallos, D. (2024). Ethical Leadership, Teacher Professional Development and Parent Engagement: Basis for School Management Development Plan. *Asia Pacific Journal of Management and Sustainable Development*, 12(2), 54–63. <https://doi.org/10.70979/CSIT3081>
- Ronel, D., Puspita, H., & Mulyadi, M. (2025). Learning Objectives in Lesson Plans based on Kurikulum Merdeka Designed by PPG Students of Bengkulu University. *Journal of English Education and Teaching*, 9(1), 241–258. <https://doi.org/10.33369/jeet.9.1.241-258>
- Sinaga, D. (2024). Teacher-Student Interaction Models: Effective Strategies for Increasing Student Participation and Motivation. *JTP - Jurnal Teknologi Pendidikan*, 26(3), 1052–1066. <https://doi.org/10.21009/jtp.v26i3.50372>
- Sukardi, R. R., Widodo, A., & Sopandi, W. (2025). The Planning and Implementation of Reasoning Instruction: Science Teachers' Case. *Journal of Engineering Education Transformations*, 38(IS3), 39–51. <https://doi.org/10.16920/jeet/2025/v38is3/25089>

- Tariq Ahsan, M. (Ed.). (2024). Editorial. *Asian Journal of Inclusive Education*, 12(1), 1–2. <https://doi.org/10.59595/ajie.12.1.Editorial>
- Umasugi, M. (2025). Bureaucratic Reform and Public Policy Dynamics: Evaluation Study of One Data Indonesia Program. *International Journal of Community Service (IJCS)*, 4(1), 01–21. <https://doi.org/10.55299/ijcs.v4i1.1279>
- Villa, G. (2025). Unveiling the Experiences of Master Teachers in the Curriculum Development: A Qualitative Research Study. *Psychology and Education: A Multidisciplinary Journal*, 33(9), 1084–1093. <https://doi.org/10.70838/pemj.330910>
- Zolotuhina, S., Berezina, I., & Bondarenko, D. (2025). THE PROBLEM OF THE READINESS OF TEACHERS OF NATURAL AND MATHEMATICAL DISCIPLINES TO IMPLEMENT INNOVATIVE PEDAGOGICAL ACTIVITIES. *Problems of Education*, 1(102), 434–454. <https://doi.org/10.52256/2710-3986.1-102.2025.30>