

Do Teacher Professional Education Programs Improve Teaching Competencies? A Comprehensive Evaluation

Singgih Subiyantoro^{1*}, Syifa Fauziyah², Hamda Kharisma Putra³, Akhmad Setyawan⁴, Le Thanh Thao⁵

¹⁻⁴Universitas Veteran Bangun Nusantara, Indonesia

⁵Can Tho University, Can Tho City, Vietnam

Corresponding Author: Singgih Subiyantoro

singgihsubiyantoro@univetbantara.ac.id

ARTICLE INFO

Keywords: Teacher Professional Education; Teacher Competence; Comprehensive Evaluation

Received : 24 January

Revised : 24 March

Accepted: 25 April

©2026 Subiyantoro, Fauziah, Putra, Setyawan, Thao: This is an open-access article distributed under the terms of the [Creative Commons Atribusi 4.0 Internasional](https://creativecommons.org/licenses/by/4.0/).



ABSTRACT

The research aims to provide empirical evidence on the extent to which such programs contribute to meaningful changes in teaching practice. A mixed-methods approach with an explanatory sequential design was employed, involving quantitative data from competency assessments and qualitative insights from interviews and classroom observations. The findings show a consistent and statistically significant improvement across all competency areas after program participation, with the most notable gains in pedagogical and professional competencies. Teachers also reported increased confidence, better classroom management, and more adaptive instructional strategies. Qualitative evidence further indicates that practical training components and reflective activities played a key role in shaping these improvements. The study concludes that teacher professional education programs are effective in strengthening teaching competencies when they are designed to connect theory with classroom practice. These results highlight the importance of sustained, practice-oriented professional development for improving teaching quality.

INTRODUCTION

Improving the quality of education remains a central concern across countries, and teachers are widely recognized as the most influential in-school factor shaping student learning. While curriculum reforms, technological integration, and policy innovations continue to evolve, their success ultimately depends on how effectively teachers translate them into meaningful classroom practices (Suciwati & Zuo, 2025). For this reason, strengthening teacher competence has become a global priority, particularly through structured professional education programs designed to bridge the gap between theoretical knowledge and practical teaching skills.

Teacher professional education programs are intended to develop a comprehensive set of competencies that enable teachers to perform effectively in diverse and dynamic classroom environments. These competencies typically include pedagogical competence, which refers to the ability to design and implement effective learning processes; professional competence, which encompasses mastery of subject matter and instructional strategies; social competence, which involves communication and collaboration with students and colleagues; and personal competence, which reflects teachers' attitudes, ethics, and professional identity (Chen et al., 2025; Nazareno & Montañ, 2025). Together, these domains represent a holistic framework for understanding teacher quality, moving beyond narrow conceptions of teaching as merely content delivery.

Over the past two decades, a substantial body of research has examined the impact of teacher education and professional development programs. Many studies suggest that well-designed programs can positively influence teachers' instructional practices, classroom management, and student engagement. In particular, programs that emphasize active learning, reflection, and sustained support tend to produce more meaningful and lasting changes in teaching behavior (Chen et al., 2025; SA et al., 2021; Suciwati & Zuo, 2025). However, the evidence is not always consistent. Some studies report limited or uneven effects, especially when programs are overly theoretical, short-term, or disconnected from classroom realities. This inconsistency highlights an ongoing challenge: ensuring that professional education programs do not merely transmit knowledge but genuinely transform teaching practice.

A closer look at the existing literature reveals several important limitations. First, many studies focus on isolated aspects of teacher competence, most commonly pedagogical skills or subject knowledge, without considering the broader interplay among multiple competency domains. As a result, the holistic impact of professional education programs remains insufficiently understood. Second, a considerable number of evaluations rely heavily on self-reported data, which may not fully capture actual changes in classroom practice. Third, there is a tendency to assess program effectiveness in terms of completion rates or participant satisfaction rather than examining concrete improvements in teaching competence. These limitations suggest that current knowledge about the effectiveness of teacher professional education programs is still fragmented and, in some cases, inconclusive.

Another critical gap lies in the methodological approaches used to study program effectiveness. Quantitative methods are often employed to measure changes in competency levels, but they may overlook the contextual and experiential dimensions of teacher learning. Conversely, qualitative studies provide rich insights into teachers' experiences but may lack generalizability. Therefore, a growing need for research designs that integrate both approaches, allowing for a more comprehensive and nuanced understanding of how professional education programs influence teaching competencies.

In addition, relatively few studies explicitly examine the combined development of pedagogical, personal, social, and professional competencies within a single analytical framework. Yet, in practice, these competencies are deeply interconnected. For example, a teacher's ability to manage a classroom (pedagogical competence) is often influenced by their confidence and self-regulation (personal competence), as well as their communication skills (social competence). Ignoring these interrelationships risks oversimplifying the complex nature of teaching and the multifaceted impact of professional education programs.

Responding to these gaps, this study adopts a comprehensive evaluation approach to examine the effectiveness of teacher professional education programs. Rather than focusing on a single competency domain, the study analyzes changes across four key areas: pedagogical, personal, social, and professional competencies. It also employs a mixed-methods explanatory sequential design, combining quantitative measurements of competency development with qualitative insights into teachers' experiences and classroom practices. This approach makes it possible not only to determine whether improvements occur, but also to understand how and why they take place.

The novelty of this research lies in its integrative perspective and methodological rigor. By simultaneously examining multiple competency domains and linking statistical findings with qualitative evidence, the study provides a more holistic account of program effectiveness than is typically found in the literature. Moreover, by focusing on the alignment between program design and classroom implementation, the research sheds light on the mechanisms through which professional education can lead to meaningful changes in teaching practice. This emphasis on the connection between training and real-world application is particularly important in contexts where professional education programs are expanding rapidly, but their practical impact remains underexplored.

The significance of this study extends beyond academic inquiry. Understanding the effectiveness of teacher professional education programs has important implications for policymakers, teacher educators, and school leaders. Evidence-based insights can inform the design of more responsive and practice-oriented programs, ensuring that investments in teacher development translate into improved learning experiences for students. At the same time, identifying the strengths and limitations of existing programs can guide future reforms and contribute to the development of more sustainable models of professional learning.

In light of these considerations, the primary aim of this study is to evaluate whether teacher professional education programs improve teaching competencies across pedagogical, personal, social, and professional domains. More specifically, the study seeks to (1) measure the extent of competency development following program participation, (2) explore teachers' experiences in applying newly acquired competencies in the classroom, and (3) identify key factors that support or hinder the effectiveness of professional education programs. By addressing these objectives, the study aims to contribute a more comprehensive and empirically grounded understanding of how teacher professional education programs shape teaching competence and practice.

LITERATURE REVIEW

Teacher Professional Education

Teacher professional education refers to structured programs designed to prepare and develop teachers' knowledge, skills, and professional dispositions to meet the demands of effective teaching (Fang et al., 2025; SA et al., 2021). These programs are often positioned as a bridge between theoretical preparation and practical classroom implementation, ensuring that teachers are not only knowledgeable in their subject areas but also capable of facilitating meaningful learning experiences. In many education systems, professional education programs function as a formal requirement for teacher certification, while also serving as a mechanism for continuous professional development.

The theoretical foundation of teacher professional education is closely linked to adult learning theory (andragogy), which emphasizes that adult learners are self-directed, bring prior experiences, and learn best when the content is relevant to their professional context (Ardi et al., 2023; Nidhom et al., 2025). In this sense, effective teacher education programs should be practice-oriented, reflective, and problem-centered. Complementing this perspective is experiential learning theory, which highlights the importance of learning through experience, reflection, conceptualization, and experimentation. These theoretical frameworks suggest that teacher professional education should go beyond lectures and incorporate activities such as teaching practice, case analysis, and reflective discussion.

Another important perspective is situated learning theory, which argues that learning occurs within a specific social and cultural context. From this viewpoint, teacher professional education is most effective when it is embedded in real classroom environments and involves authentic teaching tasks. This aligns with the growing emphasis on practice-based teacher education, where participants engage in simulations, peer teaching, and supervised classroom practice (Alshaikhi et al., 2025; Angelina, 2024). Such approaches are believed to strengthen the transfer of knowledge into practice, a key challenge in many professional development programs.

Empirical studies have consistently shown that the effectiveness of teacher professional education depends on several key features. Programs that are sustained over time, involve active participation, and provide opportunities for collaboration tend to produce more significant improvements in teaching practice. Additionally, reflective practice plays a crucial role in helping teachers

critically examine their own teaching and continuously improve (Kaiser et al., 2025; Lenziardi & Lucas, 2025). Through reflection, teachers are able to connect theoretical knowledge with classroom realities, leading to deeper professional learning.

Despite these strengths, challenges remain. Some programs are criticized for being overly theoretical, lacking coherence, or failing to address the specific needs of teachers. Others may not provide sufficient follow-up support, resulting in limited long-term impact. These limitations highlight the importance of designing professional education programs that are context-sensitive, practice-oriented, and aligned with teachers' everyday experiences. Therefore, evaluating the effectiveness of such programs requires not only measuring outcomes but also understanding how program components influence teachers' learning and practice.

Teacher Competence

Teacher competence is a multidimensional construct that encompasses the knowledge, skills, attitudes, and values required for effective teaching (Kaiser et al., 2025; Nketsia et al., 2025). It reflects a teacher's ability to design, implement, and evaluate learning processes while maintaining professional and ethical standards. In many frameworks, teacher competence is categorized into four main domains: pedagogical, professional, social, and personal competencies.

Pedagogical competence refers to the ability to understand learners' characteristics, design appropriate learning strategies, manage classroom interactions, and assess student learning (Nazareno & Montañ, 2025; Shandi et al., 2025). It is often considered the core of teaching competence because it directly influences the quality of instruction. Theoretical support for pedagogical competence can be found in constructivist learning theory, which emphasizes that learning is an active process where students construct knowledge through interaction and experience. Teachers with strong pedagogical competence can create learning environments that support inquiry, collaboration, and critical thinking.

Professional competence involves mastery of subject matter as well as the ability to apply this knowledge in teaching (Maryani et al., 2025; Mohammed et al., 2025). It includes staying updated with developments in the field, using appropriate teaching resources, and integrating technology effectively. One relevant framework here is Technological Pedagogical Content Knowledge (TPACK), which highlights the integration of content knowledge, pedagogy, and technology in effective teaching. This framework underscores the complexity of professional competence in modern educational contexts.

Social competence refers to a teacher's ability to communicate and interact effectively with students, colleagues, parents, and the wider community (Mohammed et al., 2025). It is grounded in social constructivist theory, which views learning as a social process shaped by interaction and collaboration. Teachers with strong social competence can build positive relationships, foster inclusive learning environments, and support students' socio-emotional development.

Personal competence relates to a teacher's personality, integrity, self-regulation, and professional identity. It includes qualities such as responsibility, confidence, adaptability, and ethical behavior (Chen et al., 2025). The concept of personal competence is often linked to self-efficacy theory, which suggests that teachers' beliefs in their own abilities influence their motivation, persistence, and effectiveness in the classroom. Teachers with high self-efficacy are more likely to adopt innovative teaching strategies and respond constructively to challenges.

Importantly, these four competencies are not independent; they interact dynamically in shaping teaching practice. For instance, a teacher's pedagogical decisions are influenced by their professional knowledge, while their ability to implement these decisions effectively depends on their personal confidence and social interaction skills. This interdependence highlights the need for a holistic approach to teacher development.

METHODOLOGY

This study employed a mixed-methods approach using an explanatory sequential design, in which quantitative data were collected and analyzed in the first phase, followed by qualitative data to explain and deepen the quantitative findings. This design was selected to provide both measurable evidence of competency improvement and contextual insights into how teacher professional education programs influence classroom practice. The integration of both approaches allows for a more comprehensive evaluation of program effectiveness.

The study involved 130 teachers who had completed a teacher professional education program. Participants were drawn from primary and secondary education levels and represented diverse subject areas and teaching experiences. To ensure variation, participants were selected from multiple schools with different institutional contexts. For the qualitative phase, a purposive sample of 30 teachers was selected based on their quantitative results to represent high, moderate, and low levels of competency improvement.

Data were collected using multiple instruments to ensure triangulation. First, quantitative data were obtained through a structured competency questionnaire measuring four domains: pedagogical, personal, social, and professional competencies. The instrument used a Likert scale and was administered in a pre-post format to capture changes after participation in the program. In addition, secondary data such as program evaluation records and performance reports were analyzed to support the findings. Second, qualitative data were collected through semi-structured interviews and classroom observations. Interviews explored teachers' experiences during and after the program, focusing on how they applied newly acquired knowledge and skills in their teaching. Classroom observations were conducted using a standardized rubric to examine instructional practices, classroom management, and student engagement.

Quantitative data were analyzed using descriptive statistics to identify general trends and inferential statistics, particularly paired sample t-tests, to determine whether there were significant differences in competency levels before and after the program. Effect sizes were also calculated to assess the magnitude of change. Qualitative data were analyzed using thematic analysis. Interview

transcripts and observation notes were coded inductively to identify recurring patterns and themes related to competency development and instructional practices. The qualitative findings were then used to explain and enrich the quantitative results.

The integration of quantitative and qualitative data occurred at the interpretation stage. Quantitative findings provided evidence of competency improvement, while qualitative data explained how and why these improvements occurred. This integration ensured that the conclusions drawn were both statistically supported and contextually grounded.

RESEARCH RESULT

Quantitative Results

The quantitative analysis aimed to determine whether there were significant differences in teachers' competency levels before and after participation in the teacher professional education program.

Table 1. Pre- and Post-Competency Scores

Competency	Pre-Mean	Post-Mean	Mean Difference	p-value
Pedagogical	3.12	4.45	+1.33	<0.001
Personal	3.45	4.30	+0.85	<0.001
Social	3.38	4.25	+0.87	<0.001
Professional	3.20	4.40	+1.20	<0.001

As shown in Table 1, all four competency domains experienced statistically significant improvement after the program ($p < 0.001$). The largest gains were observed in pedagogical competence and professional competence, indicating that the program had a strong impact on teachers' instructional knowledge and classroom practices. While improvements in personal and social competencies were slightly lower, they remained substantial and statistically significant. Further analysis using effect size calculations revealed large effect sizes (Cohen's $d > 0.8$) for pedagogical and professional competencies, and moderate to large effects (0.6–0.8) for personal and social competencies. These results suggest that the observed improvements were not only statistically significant but also practically meaningful. To validate the self-reported data, classroom observations were conducted to assess actual teaching practices.

Table 2. Observation Scores of Teaching Practice

Aspect Observed	Pre-Program	Post-Program
Instructional Clarity	2.9	4.5
Student Engagement	3.0	4.6
Classroom Management	3.1	4.4
Use of Learning Models	2.8	4.5

The observation results confirm the quantitative findings. There was a noticeable improvement in all aspects of teaching practice, particularly in the use

of instructional models and student engagement, which increased significantly after the program. Teachers were more confident in applying active learning strategies and demonstrated better classroom organization.

Qualitative Results

The qualitative findings provide deeper insight into how and why these improvements occurred. Analysis of interview data revealed several key themes.

Table 3. Themes from Teacher Interviews

Theme	Description
Increased Teaching Confidence	Teachers reported feeling more confident in delivering lessons and managing classrooms.
Practical Learning Experience	Participants emphasized the importance of teaching practice and real classroom exposure during the program.
Reflective Practice	Teachers became more reflective and critical of their own teaching methods.
Improved Student Interaction	Teachers noted better communication and engagement with students.

Teachers consistently highlighted that the most impactful components of the program were practice-based activities, such as microteaching, lesson planning, and supervised teaching sessions. These experiences helped them connect theoretical knowledge with real classroom situations. One participant explained that prior to the program, teaching was largely content-focused, but after completing the program, there was a shift toward student-centered learning. Another participant noted that reflective activities encouraged continuous self-evaluation, leading to gradual improvement in teaching practice.

Integration of Findings

When the quantitative and qualitative findings are considered together, a clear pattern emerges. The statistical improvements in competency scores are supported by observable changes in classroom practice and reinforced by teachers' lived experiences. The strongest impact was found in pedagogical and professional competencies, which align with the program's emphasis on instructional strategies and subject mastery. Meanwhile, improvements in personal and social competencies were reflected in increased confidence, better communication, and stronger relationships with students. Importantly, the findings suggest that the effectiveness of the program is closely linked to its practice-oriented design. Teachers were not only exposed to theoretical concepts but were also given opportunities to apply, reflect, and refine their teaching in authentic contexts. This combination appears to be a key factor in producing meaningful and sustained improvements.

Overall, the results demonstrate that teacher professional education programs have a significant and positive impact on teaching competencies. The improvements are evident across all four domains and are supported by both statistical evidence and qualitative insights. These findings provide strong

empirical support for the role of professional education in enhancing teacher quality and classroom effectiveness.

DISCUSSION

This study demonstrates that teacher professional education programs can significantly improve teaching competencies across pedagogical, professional, personal, and social domains. The findings indicate that the most substantial gains occurred in pedagogical and professional competencies, suggesting that the program was particularly effective in strengthening core instructional practices and subject-related expertise. These improvements were not only reflected in quantitative measures but also supported by classroom observations, which showed clearer instruction, higher student engagement, and more structured use of learning models.

The strong development of pedagogical competence highlights the effectiveness of practice-oriented training. Teachers were able to design more interactive lessons, apply student-centered approaches, and manage classroom activities more effectively. This suggests that when professional education emphasizes real teaching practice, such as lesson planning, microteaching, and supervised instruction, it can lead to meaningful changes in how teachers facilitate learning. Similarly, improvements in professional competence indicate that teachers developed a better ability to connect subject knowledge with appropriate instructional strategies, which is essential for delivering high-quality learning experiences.

Although the gains in personal and social competencies were slightly lower, they remain important. Teachers reported increased confidence, better communication skills, and improved relationships with students. These aspects, while less visible than instructional techniques, play a crucial role in creating a positive and supportive learning environment. The findings suggest that professional education contributes not only to what teachers do in the classroom but also to how they perceive their role and interact with others.

The qualitative results provide insight into the processes that supported these improvements. Reflective practice emerged as a key factor, as teachers were encouraged to evaluate their own teaching and identify areas for improvement. This reflective process helped bridge the gap between theory and practice, enabling teachers to adapt what they learned to their specific classroom contexts. In addition, opportunities for authentic practice allowed teachers to experiment with new strategies and receive feedback, which strengthened their confidence and competence.

However, the findings also indicate that some competencies, particularly personal and social dimensions, may require longer-term development beyond the duration of the program. This suggests that professional education should not be viewed as a one-time intervention but as part of a continuous professional learning process. Ongoing support, such as mentoring and collaborative learning, may be necessary to sustain and deepen these competencies. Overall, the study highlights the importance of integrating theory, practice, and reflection in teacher professional education. Programs that are closely aligned with

classroom realities and provide meaningful learning experiences are more likely to produce lasting improvements in teaching competencies.

CONCLUSIONS AND RECOMMENDATIONS

This study set out to examine whether teacher professional education programs improve teaching competencies across pedagogical, professional, personal, and social domains. The findings clearly indicate that the program contributes to significant improvements in all four competency areas, with the most pronounced gains observed in pedagogical and professional competencies. Teachers demonstrated better instructional design, more effective classroom management, and greater ability to apply appropriate learning models. In addition, improvements in personal and social competencies were reflected in increased confidence, stronger communication skills, and more positive interactions with students. These results answer the research question by confirming that teacher professional education programs are effective, particularly when they emphasize practice-based learning and reflective activities.

The significance of this study lies in its comprehensive evaluation of teacher competence as a multidimensional construct. Unlike many previous studies that focus on isolated aspects of teaching, this research integrates four core competency domains within a single analytical framework. By combining quantitative and qualitative approaches, the study not only demonstrates measurable improvements but also explains how these changes occur in real classroom contexts. As such, it contributes to the growing body of evidence supporting the importance of structured, practice-oriented professional education in enhancing teacher quality and strengthening instructional practice.

Despite these contributions, several limitations should be acknowledged. First, the study is based on a specific group of teachers who participated in a particular professional education program, which may limit the generalizability of the findings to other contexts. Second, the duration of the study focuses on short-term outcomes, making it difficult to assess the long-term sustainability of competency improvements. Third, although multiple data sources were used, some measures, particularly self-reported questionnaires, are still subject to response bias.

Based on these findings, several recommendations can be proposed. For practice, teacher professional education programs should continue to prioritize experiential learning, reflective practice, and alignment with classroom realities. Strengthening follow-up support, such as mentoring and professional learning communities, is also essential to sustain competency development over time.

ADVANCED RESEARCH

Future studies should explore the long-term sustainability of competency development by employing longitudinal designs that track teachers' performance over time. It is also important to examine how improvements in teacher competencies translate into student learning outcomes. Additionally, comparative research across different models of teacher professional education programs and diverse educational contexts would provide deeper insights into

factors influencing program effectiveness. Finally, integrating emerging approaches, such as technology-enhanced professional development, could offer new perspectives on optimizing teacher learning and practice.

ACKNOWLEDGMENT

The authors would like to express their sincere gratitude to Universitas Veteran Bangun Nusantara for the institutional assistance provided in completing this research.

REFERENCES

- Alshaikhi, T., Ahmad, M., & Khasawneh, S. (2025). Enhancing Teacher Competence in Differentiated Instruction for English Language Learners with Disabilities: A Professional Development Intervention. *World Journal of English Language*, 15(1), 101–115. <https://doi.org/10.5430/wjel.v15n1p101>
- Angelina, P. (2024). LLT Journal: A Journal on Language and Language Teaching. *LLT Journal: A Journal on Language and Language Teaching*, 27(2), 1078–1089.
- Ardi, P., Widyaningsih, T. L., & Widiati, U. (2023). Appreciative Collaborative Reflection to Catalyze Indonesian EFL Teachers' Identity Configuration in a Teacher Professional Education Program. *Education and Self Development*, 18(2), 10–26. <https://doi.org/10.26907/esd.18.2.02>
- Chen, X., Samad, S., & Kim, W. (2025). Teacher competence and students' motivation for learning in Chinese higher education: mediating roles of psychological flourishing and student engagement, and the moderating role of AI integration. *BMC Psychology*, 13(1), 1378.
- Fang, C., Nurul, C., Ken, A., & Chen, Z. (2025). Pre - service teacher professional education program (PPG) and Indonesian science teachers' TPACK development: A career-path comparative study. *Education and Information Technologies*, 30(7), 8689–8711. <https://doi.org/10.1007/s10639-024-13160-6>
- Kaiser, G., König, J., Krauss, S., Buchholtz, N., & Gruber, H. (2025). Are teacher expertise and teacher competence complementary or contradictory research paradigms? Reflections on a possible integration and first conceptualizations. *ZDM Mathematics Education*, 57(1), 1077–1092. <https://doi.org/10.1007/s11858-025-01743-7>
- Lenziardi, R., & Lucas, M. (2025). Enhancing Teacher Competences in Education for Sustainable Development (ESD): A Value-Oriented Framework. *Journal of Teacher Education for Sustainability*, 27(1), 6–32. <https://doi.org/10.2478/jtes-2025-0002>
- Maryani, I., Irsalinda, N., Jaya, P. H., & Sukma, H. H. (2025). Understanding student engagement: an examination of the moderation effect of professional teachers' competence. *Journal of Education and Learning (EduLearn)*, 19(1), 14–23. <https://doi.org/10.11591/edulearn.v19i1.21455>
- Mohammed, A., Berhanu, A., Worku, N., & Negewo, Z. (2025). Enhancing teachers' professional competence through licensure tests and intervention: a study on teacher competence and student academic performance in Ethiopia. *Discover Education*, 4(322).
- Nazareno, G., & Montañ, M. C. A. (2025). Assessing Public Elementary Teachers' Competence in Planning, Management, and Instruction Amid Adaptive Education during the COVID-19 Pandemic. *International Journal of Information and Education Technology*, 15(9), 1804–1819. <https://doi.org/10.18178/ijiet.2025.15.9.2382>

- Nidhom, A. M., Kamaruzaman, F. M., & Omar, M. B. (2025). A Systematic Review of Factors Shaping Vocational Teacher Professional Education Implementation. *International Journal of Learning, Teaching and Educational Research*, 24(4), 592–615.
- Nketsia, W., Opoku, M. P., & Amponteng, M. (2025). Inclusive Teaching Practices in Secondary Schools : Understanding Teachers ' Competence in Using Differentiated Instruction to Support Secondary School Students with Disabilities. *Education Sciences*, 15(1), 1613.
- SA, N. H., Suyanto, Arifi, A., Putranta, H., & Azizah, A. N. M. (2021). European Journal of Educational Research. *European Journal of Education Research*, 10(1), 313–325. <https://doi.org/10.12973/eu-jer.10.1.313>
- Shandi, S. A., Rahayu, S., Hartono, M., & Setyawati, H. (2025). Supervision of Physical Education teacher competence : A contextual approach to planning , objectives , instruments , and scheduling. *Journal of Sport Sciences*, 14(1), 1–18.
- Suciwati, I., & Zuo, J. (2025). Between policy and practice: Project-based learning in Indonesian in- service English teachers' professional education and classroom teaching. *English Language Teaching Educational Journal*, 8(3), 271–285.