

Training and Mentoring to Strengthen the Competence of Primary and Secondary School Teachers Across West Golewa District, Ngada Regency

Malkisedek Taneo¹, Flafius Selvianus Rato², Aleksius Madu³, Nino M. Mailani⁴

^{1,2,3,4} Faculty of Teacher Training and Education, Universitas Nusa Cendana, Kupang, Indonesia

* Correspondence e-mail; leksi_madu@staf.undana.ac.id

Article history

Submitted: 2026/07/26; Revised: 2026/09/02; Accepted: 2026/09/07

Abstract

Unequal access to continuous teacher competency development remains a challenge in rural and remote areas of Indonesia, including West Golewa District, Ngada Regency, East Nusa Tenggara. Geographic conditions, limited access to electricity and the internet, and distance from the regency capital restrict teachers' opportunities for sustained training and mentoring. This community service program aimed to strengthen the pedagogical and professional competencies of elementary and junior high school teachers through contextual, culture-based learning. The program involved 40 teachers from six partner schools, comprising 25 elementary and 15 junior high school teachers. The program was implemented through four stages: needs assessment, training, practice and material development, and mentoring and evaluation. Data were collected through pretest-posttest instruments and classroom mentoring observations. The results indicated improved teacher understanding, with the mean score increasing from 58.5 to 82.3, shifting from the low to the good category. Overall, teachers' competencies increased by 40.7% following training, instructional material development, mentoring, and evaluation. Teachers also demonstrated active participation in discussions and practical activities, as well as in the development of learning materials based on local culture. The program's sustainability is supported through regular mentoring, implementation monitoring, and strengthening teacher learning communities.

Keywords

community service; mentoring; teacher competence; training; West Golewa.



© 2026 by the authors. This is an open access publication under the terms and conditions of the Creative Commons Attribution 4.0 International (CC BY SA) license, <https://creativecommons.org/licenses/by-sa/4.0/>.

1. INTRODUCTION

The quality of national education is essentially determined by the quality of teachers as the primary actors in the classroom learning process. The Government of Indonesia, through Law Number 14 of 2005 on Teachers and Lecturers, Article 10 Paragraph (1), mandates that every teacher must possess four core competencies, namely pedagogical, professional, social, and personal competence, as prerequisites for carrying out professional duties with quality (Vania et al., 2021). These four competencies are not formed instantly but require a continuous development process through structured education, training, and mentoring. Pedagogical and professional competencies are the focus because they best align with the results of the teacher needs assessment, particularly for designing, developing, and implementing contextual learning grounded in local culture. Social and personal competencies remain integrated as supporting elements through collaboration, reflection, responsibility, and openness to innovation.

Desimone, (2009) asserts that a teacher professional development program is effective only if it meets five key characteristics: content focus, active learning, coherence with school needs and policies, sustained duration, and collective participation by teachers. Unfortunately, fulfilling these five characteristics remains a major challenge in many regions, particularly in areas classified as frontier, outermost, and disadvantaged (3T).

Ngada Regency, located in the highlands of Flores Island, East Nusa Tenggara Province, is one of the regencies with hilly and challenging geographical conditions. West Golewa District, as one of the districts in Ngada Regency, has several villages with limited basic infrastructure, including uneven access to electricity and internet networks (Kompas.com, 2026). The state of education in the West Golewa Subdistrict highlights the need to strengthen teachers' capacity in line with the area's empirical conditions. Data from the Central Statistics Agency (BPS) shows there are 11 elementary schools, 2 junior high schools, and 2 senior high schools, with uneven digital access across these schools. The West Golewa 3 Public Junior High School (UPTD) reportedly lacks internet access, while other schools already have broadband or wireless access. This infrastructure disparity has the potential to limit access to digital learning resources and online training. Therefore, in-person training and mentoring are essential for strengthening teachers' pedagogical and professional competencies. This condition directly affects the limited opportunities for elementary and secondary school teachers in the district to participate in training, whether conducted online or in person at the regency center. As a result, the updating of

teachers' pedagogical knowledge and professional skills tends to lag behind that of their counterparts in urban areas. The gap in teacher competency development in non-urban areas should be understood as a limitation in access, not a lack of ability. The Central Statistics Agency (BPS) notes that access to certified training and competencies remains uneven across regions, while data from West Golewa indicates disparities in internet and electricity access among schools (BPS, 2005; Ministry of Basic and Secondary Education, 2026).

The problem of limited access to teacher competency development in 3T regions has also been found in similar community service studies. Sa'o et al., (2023) reported that high school teachers in one of the 3T areas of Ende Regency, East Nusa Tenggara, experienced difficulty preparing classroom action research reports due to a lack of sustained mentoring, and the condition only showed significant improvement after training accompanied by step-by-step mentoring was carried out. In line with this, Vania et al. (2021) concluded that teachers in 3T regions are required to revitalize their role in classroom management by improving creative and innovative competencies so that learning can proceed optimally despite limited facilities. Previous studies have shown that training can improve teachers' competencies, but few have examined how it is adapted to the local context of West Golewa. Data from the Ministry of Basic and Secondary Education indicate that learning communities are essential for continuous learning, collaboration, and the sharing of best practices. Therefore, this program addresses this gap through contextual mentoring and the development of locally-based educational materials (Kemendidasmen, 2025).

Training approaches implemented as a single in-person session without follow-up mentoring have proven less effective at genuinely changing teachers' classroom practices. Several recent community service (PkM) activities show that a training model combined with implementation mentoring produces more significant results. (Sine et al., 2023) reported an improvement in teachers' understanding of literacy and numeracy after training, accompanied by mentoring in the implementation of the Merdeka Curriculum. Wicaksono et al. (2026) also recorded a substantial increase in the pedagogical competence of elementary school teachers after training in the Deep Learning approach combined with intensive mentoring in preparing teaching modules, while Susanti et al. (2026) found that mentoring through co-teaching practices in the classroom also strengthened teachers' pedagogical competence while increasing student engagement in learning. What makes this program unique is that it is implemented in West Golewa, involving elementary and middle school teachers in an integrated manner, and uses a face-to-face training and mentoring model tailored

to the uneven digital access across schools, while also integrating local cultural elements into the development of contextual learning materials. Gaps in teacher competencies, limited access to learning resources and training, and the suboptimal use of local culture as a learning resource highlight the need for interventions that are not only theoretical but also practical and sustainable. Therefore, training and mentoring were chosen as intervention strategies to equip teachers with knowledge, practical skills, and guidance in developing and implementing contextual learning in accordance with the characteristics of schools and the environment in West Golewa.

Based on the description above, the implementation team considered it necessary to carry out training and mentoring activities to strengthen the competence of primary and secondary school teachers throughout West Golewa District, Ngada Regency. This program aims to: (1) improve teachers' understanding of the aspects of pedagogical and professional competence in accordance with the needs of the current curriculum; (2) mentor teachers in implementing the results of the training into learning tools and classroom teaching practices in their respective schools; and (3) build a collaborative network among teachers across schools in West Golewa District as a forum for continuously sharing good practices.

This program aims to: (1) improve teachers' pedagogical and professional knowledge and competencies in designing contextual learning based on local culture, as measured by a comparison of pre-test and post-test results; and (2) enhance teachers' ability to apply that knowledge through mentoring activities, which are evaluated based on observations of teachers' participation, practices, and engagement during the mentoring process.

Table 1. Alignment of objectives with evaluation indicators

Objective	Indicator	Instrument
Improve knowledge/competence	Changes in scores before and after training	Pretest–posttest
Improve application skills	Participation, practice, and engagement during mentoring	Mentoring observation sheet

2. METHOD

This community service (PkM) program was conducted in West Golewa District, Ngada Regency, East Nusa Tenggara Province, from 22-24 July 2026. The target of the program was primary school (SD) and junior secondary school (SMP) teachers spread across 6 educational units in West Golewa District, with a total of 40 participating

teachers (25 elementary school teachers and 15 Junior high school teachers). The determination of the location and target was based on the results of initial coordination with the Ngada Regency Education and Culture Office, the sub-district government, and partner schools. The selection of these schools (2 junior high schools and 4 elementary schools) was based on preliminary data indicating that they do not yet have internet access. In contrast, other schools already have broadband or wireless access. This infrastructure disparity has the potential to limit access to digital learning resources and online training. Therefore, in-person training and mentoring are crucial for strengthening teachers' pedagogical and professional competencies. The teachers participating in these activities are representatives from the schools whose principals directly recommended them.

The implementation method adapted the structured training and mentoring pattern used in similar PkM activities (Wicaksono et al., 2026; Susanti et al., 2026), which consisted of the following four stages. The program was conducted over two consecutive days. In the first phase, a needs assessment was conducted before the training to identify teachers' initial competencies and needs. In the second phase, a one-day training session was held to strengthen pedagogical and professional competencies. In the third phase, mentoring was provided after the training through practical application and refinement of teaching materials. In the fourth phase, an evaluation was conducted through a final test, observation of the mentoring process, and assessment of teaching materials to measure the program's effectiveness.

2.1 Needs Analysis Stage

The implementation team coordinated with school principals and supervisors to identify teachers' real needs related to pedagogical and professional competence, including mapping the geographical conditions and facility limitations of each school. A needs analysis was conducted before the training through interviews (conducted online with school principals) and coordination meetings with school officials. This approach aligns with the principles of Training Needs Analysis (TNA), which involves identifying the gap between existing competencies and required competencies as the basis for determining training priorities (Kemendikbud, 2016; Samal et al., 2025).

2.2 Socialization and Training Stage

The training was held over two days and covered contextual learning materials, the integration of local culture, activity design, and the development of learning resources. The activities included presentations, discussions, exercises, and hands-on practice. Teachers developed learning materials individually or in groups, presented

their results, received feedback, and then refined their work. This approach supports active learning, collaboration, practice, feedback, and reflection (Darling-Hammond et al., 2017).

2.3 Implementation Mentoring Stage

The implementation team provided direct mentoring at partner schools to help teachers apply the training results to their learning tools and classroom teaching practices, including reflective discussions and feedback on the tools they prepared. Mentoring is conducted online after the training, with intervals adjusted according to the teachers' readiness. Mentoring focuses on developing and refining instructional materials and observing the application of training outcomes in the classroom through videos of teachers' lessons. Observations use an observation rubric that covers lesson planning, the use of teaching aids, student engagement, classroom management, and teacher reflection. After the observation, the mentor provides feedback and recommendations for improvement. The approach of coaching, observation, feedback, and reflection supports continuous changes in teaching practices (Darling-hammond et al., 2017).

2.4 Evaluation Stage

Evaluation was conducted through descriptive analysis of pretest-posttest results, mentoring observations, and participant satisfaction responses collected via a questionnaire.

The program's success was evaluated using three key indicators: improvements in teacher competence, application skills, and participant satisfaction. Improvements in competence were measured by comparing pretest and posttest scores. Application skills were assessed using mentoring observation sheets and learning aid rubrics, covering planning, use of media, student engagement, and teacher reflection. Participant satisfaction is measured using a questionnaire covering the relevance of the material, the quality of the facilitators, the methods, the benefits of the training, and the mentoring. This evaluation covers aspects of participant learning and participant responses, as recommended in evaluations of teacher professional development (Guskey, 2002).

The data analysis technique used in this program was quantitative and qualitative descriptive. Quantitative data, in the form of pretest and posttest scores, were analyzed by calculating the mean and percentage improvement. In contrast,

qualitative data, in the form of observational findings and participant interviews, were analyzed descriptively to enrich the interpretation of the program's outcomes.

The percentage increase was calculated using the formula $((\text{Posttest} - \text{Pretest}) / \text{Pretest}) \times 100\%$. Observational and interview data were analyzed through coding, grouping codes into categories, identifying patterns, and interpreting themes to identify changes, constraints, and benefits of the program (Miles, Huberman, & Saldaña, 2014).

3. FINDINGS AND DISCUSSION

3.1 Findings

Overview of Program Implementation

This event was held in two main sessions over the course of one day. The first session covered contextual learning, the integration of local culture, and the design of learning activities through presentations, discussions, and analysis of examples. The second session consisted of hands-on practice: teachers developed learning materials and tools, presented their results, received feedback, and refined their materials and tools. This approach supports active and collaborative learning (Darling-hammond et al., 2017).

The training and mentoring program to strengthen teacher competence began with an opening session attended by representatives of the Ngada Regency Education and Culture Office, school supervisors, school principals, and participating teachers from primary and junior secondary schools throughout West Golewa District. In his remarks, the Principal of State Junior High School 3 Golewa expressed full support for this program as a concrete effort to address the need for improved teacher competence in an area that has so far had relatively limited access to training.



Figure 1. Opening session of the training and mentoring program to strengthen teacher competence in West Golewa District

Following the opening session, the program continued with the resource persons presenting training materials. Participants demonstrated high enthusiasm, as evidenced by the active discussions—with 10 participants actively asking questions—and the Q&A sessions throughout the training evident from the active discussion and question-and-answer sessions throughout the training, particularly regarding the preparation of learning tools that were contextually relevant to the conditions of students and the school environment in West Golewa.



Figure 2. Resource persons delivering material on strengthening pedagogical and professional competence to training participants

Improvement in Participants' Understanding Based on Pretest-Posttest Results

Participants' improved understanding was measured using a pretest administered before the training and a posttest administered after the training ended. The recapitulation of the scores is presented in Table 1.

Table 2. Recapitulation of participants' pretest and posttest results

Competence Aspect	Mean Pretest	Mean Posttest	Improvement (%)
Pedagogical Competence	60.2	83.5	38.7
Professional Competence	56.8	81.0	42.6
Overall Mean	58.5	82.3	40.7

Table 1 shows an improvement in participants' understanding across all measured aspects: a 38.7% increase in pedagogical competence and a 42.6% increase in professional competence, indicating a positive impact of this program on both. The greater increase in professional competence is believed to be related to more intensive activities in subject-matter mastery, the integration of local culture, and the development of instructional materials. The overall score rose from 58.5 to 82.3—an

increase of 23.8 points (40.7%)—indicating a shift in teachers’ proficiency from the initial “low” category to the “good” category after participating in the program. In practical terms, this change suggests that teachers not only gained new knowledge but are also better prepared to apply it in the classroom. This aligns with Guskey (2002), who emphasizes the importance of evaluating participants’ learning and the application of new knowledge and skills in practice. This improvement is consistent with the findings of Wicaksono et al. (2026), who reported a significant increase in the conceptual understanding of primary school teachers after training accompanied by mentoring in the preparation of teaching modules, as well as the findings of Sine et al., (2023), who noted an increase in teachers' understanding category from a low category to a higher category following training on curriculum implementation accompanied by mentoring.

Results of Implementation Mentoring in Schools

During the mentoring stage, the implementation team visited partner schools to discuss the direct application of the training results. Participating teachers were mentored in preparing learning tools such as lesson plans, student worksheets, and assessment instruments adapted to the local context of West Golewa, including the use of learning resources available in the school environment as an alternative when internet access was limited.

The following table shows the results of the mentoring program for 40 teachers. The data is presented as totals and percentages to make the mentoring program's results measurable.

Table 3. Results of Guidance and Implementation of Instructional Materials

No.	Mentoring Outcome Indicators	Number of Teachers	Percentage
1	Successfully developed a contextual learning plan based on local culture	40	100%
2	Successfully developed student worksheets (LKPD) based on local contexts	38	95%
3	Successfully developed learning materials/tools based on local culture	36	90%
4	Successfully developed assessment instruments in line with the learning objectives	37	92,5%
5	Successfully integrated elements of local culture	36	90%

No.	Mentoring Outcome Indicators	Number of Teachers	Percentage
	into the learning materials		
6	Able to refine instructional materials based on the results of mentoring	38	95%
7	Implementing the instructional materials developed in classroom teaching practice	34	85%
8	Reflecting on and improving instruction after implementation in the classroom	32	80%

The results of the mentoring program show that the activities did not stop at the delivery of instructional content but resulted in tangible products and measurable changes in teaching practices. Of the 40 participating teachers, all (100%) successfully developed contextual lesson plans, 95% created student worksheets, 90% developed teaching materials based on local culture, and 92.5% designed assessment instruments. In addition, 85% of teachers have applied the tools they developed in their classroom instruction, while 80% have reflected on and improved their teaching practices. These findings reinforce evidence that the mentoring program contributes to improving teachers' pedagogical and professional competencies.

This pattern of direct mentoring in schools is consistent with the approach used by Susanti et al., (2026), which shows that mentoring through co-teaching practices and reflective discussions with teachers can strengthen pedagogical competence more effectively than one-way training without follow-up mentoring. This is also relevant to the framework of Desimone (2009), which asserts that sustained duration and active learning are two of the five key characteristics of an effective teacher professional development program.

Before the mentoring, the teaching aids developed by teachers were still general in nature; they did not yet link local culture to learning objectives, and were not yet accompanied by instructions for use or student activities. After the mentoring, teachers improved the teaching aids by adding local cultural context, usage instructions, contextual activities, and assessments. These changes demonstrate the contribution of mentoring in translating training knowledge into more targeted teaching practices (Guskey, 2002).

3.2. Discussion

Overall, the results of this program show that training combined with mentoring has a more tangible impact, consistent with the findings of Sa'o et al. (2023) in the 3T area of Ende Regency, which is also part of East Nusa Tenggara Province. Mentoring enables teachers to obtain direct feedback on the learning tools they have prepared, so that the training material does not stop at the conceptual understanding stage but is genuinely applied in classroom teaching practice.

The main challenge in implementing this program was the hilly geographical condition of West Golewa District and the limited access to electricity and internet in several villages (Kompas.com, 2026), which required the implementation team to adjust its mentoring strategy, including minimizing dependence on digital devices and increasing the number of direct in-person sessions. This condition reinforces the view of Vania et al. (2021) that teachers in 3T regions are required to have high creativity and an innovative capacity to continue delivering quality learning despite limited facilities and infrastructure.

This program also opened opportunities for the formation of a collaborative network among teachers across schools in West Golewa District as a forum for continuously sharing good practices after the PkM program ended, as recommended by Susanti et al., (2026) and Wicaksono (2026), who emphasized the importance of sustaining teacher learning communities after training.

Findings from other recent community service programs across Indonesia's 3T regions reinforce the same pattern observed in West Golewa: training accompanied by structured follow-up produces more durable competency gains than one-off delivery. Comparable programs conducted among primary school teachers in Serang, Banten (Mansori, 2024) and among madrasah teachers in Alor Regency, NTT (Asikin & Tut, 2025) Similarly, they found that teachers' conceptual understanding and lesson-planning skills improved substantially only when training was paired with hands-on mentoring to develop Merdeka Curriculum teaching devices. This is consistent with international meta-analytic evidence (Kraft et al., 2018), synthesizing 51 studies on teacher coaching, reported an average effect size of $d = 0.68$ for individualized, content-focused coaching, a magnitude broadly comparable to the 40.7% overall competency gain recorded in the present program, while (Kennedy, 2016) argued that the decisive factor in professional development impact is the coherence between training content and the concrete demands of classroom practice, a coherence that the four-stage needs analysis–training–mentoring–evaluation cycle used in West Golewa was explicitly designed to secure.

The emphasis on embedding local culture in instructional materials also aligns with a broader, growing body of Indonesian scholarship on culturally grounded pedagogy. Programs that guided teachers to translate regional cultural assets—from Sundanese local wisdom in Kampung Urug (Lathifah et al., 2024) to South Sulawesi cultural motifs rendered as instructional comics (Suwarni et al., 2025)—into contextual teaching materials consistently report increased teacher confidence and stronger student engagement. Ballesteros (2026) and (Sandi, 2025) further demonstrate, in the specific case of culture-based mathematics curricula, that anchoring abstract concepts in locally recognizable cultural practices helps students relate school knowledge to lived experience, a mechanism that plausibly also underlies the enthusiasm West Golewa teachers showed toward culturally contextualized lesson plans. Dini and Rini (2024) likewise found that integrating local potential into science instruction strengthened students' twenty-first-century skills, suggesting that the cultural contextualization strategy adopted in this program is transferable across subject areas beyond the pedagogical and professional competencies targeted here.

The infrastructural constraints encountered during implementation are not unique to West Golewa but reflect a structural condition documented across East Nusa Tenggara. In a closely related study conducted by members of the present implementation team, (Taneo et al., 2026) reported that fewer than 40% of schools across five NTT districts have reliable broadband coverage and that only 38.2% possess functioning computer laboratories. These conditions significantly depress teachers' competency in the more reflective phases of instructional design, such as evaluation and needs analysis. Their study similarly found that resource-adaptive, low-technology, in-person strategies produced measurable competency gains despite these constraints, corroborating the decision made in the present program to minimize dependence on digital devices and prioritize face-to-face mentoring. Comparable digital-access barriers have also been reported for madrasah teachers elsewhere in Indonesia (Hidayati & Afriani, 2023), while global guidance on designing instruction for constrained-connectivity settings (Hodges et al., 2020) supports the view that intentional, well-planned offline-first mentoring, rather than digital delivery by default, produces more dependable outcomes in low-infrastructure regions such as West Golewa.

Regarding the program's aspiration to seed a cross-school teacher learning community, recent Indonesian studies offer converging evidence that such communities meaningfully sustain competency gains once external facilitation ends. Found that structured management of school-based learning communities was

associated with measurable improvement in teachers' pedagogical competence (Arifin & Hanif, 2024), while Laeli et al., (2025) reported that empowering teacher learning communities strengthened members' capacity for instructional innovation beyond what individual training alone could achieve. These findings echo the recommendation of Sulistyarini et al. (2024), whose character-education training program for primary and junior-secondary teachers similarly stressed that follow-up collaborative structures, rather than the training event itself, ultimately determine whether new practices are sustained in the classroom. Applied to West Golewa, these findings suggest that the collaborative network the program helped initiate among the six partner schools will require deliberate nurturing—regular meeting schedules, rotating hosting responsibilities, and continued light-touch facilitation—if the competency gains documented in Tables 1 and 2 are to be sustained after the PkM program formally concludes.

Methodologically, the pretest–posttest and observation-based evaluation design adopted in this program mirrors the widely used Kirkpatrick evaluation framework, which distinguishes participants' reaction, learning, behavioral change, and results as complementary levels of training impact (Kirkpatrick, & Kirkpatrick, 2016). The 40.7% mean score increase and the high proportion of teachers who successfully produced contextual teaching devices (Table 2) together indicate that the program reached beyond the reaction and learning levels into observable behavioral change, a level of impact that similar 3T-focused PkM initiatives—such as classroom-action-research training for teachers in Hulu Sungai Tengah (Dewantara et al., 2019), and digital-platform mentoring for rural elementary teachers (Mustamin et al., 2025)—have also identified as the most meaningful, yet most difficult to achieve, indicator of program success. Mujiyanto et al., (2025) and Rohartati et al., (2024), reporting on similar Merdeka Curriculum device-development training in Java, likewise found that structured mentoring after the initial workshop was the decisive factor separating teachers who merely understood the material from those who could apply it independently in their own classrooms, a distinction closely paralleling the gap this program observed between the 100% of teachers who produced a contextual lesson plan and the 80% who went on to reflect on and refine their classroom implementation.

Taken together, this expanded body of evidence situates the West Golewa training-and-mentoring program within a coherent and growing regional and international literature: coaching-based professional development produces effect sizes that meaningfully exceed those of one-off workshops; culturally grounded instructional materials increase both teacher confidence and learner engagement; low-

infrastructure regions require resource-adaptive rather than digital-default strategies; and durable competency gains depend on the survival of collaborative structures once formal program funding ends. Future evaluation of this program's longer-term impact, ideally extending observation beyond the immediate mentoring period and incorporating classroom-observation or student-outcome data, as recommended in comparable NTT-based instructional design research (Taneo et al., 2026), would help determine whether the gains documented here in the pretest–posttest and mentoring-outcome data (Tables 1 and 2) translate into sustained changes in everyday classroom practice across West Golewa's schools.

4. CONCLUSION

The results showed an improvement in participants' understanding from the Poor category to the Good category, with the mean score increasing from 58.5 to 82.3. In addition, the evaluation results showed that teachers' competencies increased by 40.7% after participating in training, instructional material development, mentoring, and the evaluation of contextual learning. The participants' enthusiasm was evident in their active participation, discussions, practical development activities, and their ability to create and refine learning materials based on local culture. The program's sustainability is ensured through regular mentoring, implementation monitoring, and the strengthening of teacher learning communities to support ongoing competency development.

ACKNOWLEDGMENTS

The implementation team would like to thank LPPM Universitas Nusa Cendana, the Ngada Regency Education and Culture Office, the Head of West Golewa Sub-district, and all school principals and participating teachers for their active participation in this program.

REFERENCES

- Arifin, J., & Hanif, M. (2024). Ideguru : Jurnal Karya Ilmiah Guru. *Ideguru : Jurnal Karya Ilmiah Guru*, 9(3), 1421–1432.
- Asikin, Y.A., T. R. . (2025). *Implementasi Kurikulum Merdeka: Pelatihan Perangkat Ajar bagi Guru Madrasah di Daerah 3t* (pp. 291–301). [https://doi.org/https://doi.org/10.58740/m-jp.v2i3.488](https://doi.org/10.58740/m-jp.v2i3.488)
- Ballesteros, M. A. J. J. (2026). Integrating ethnomathematics in secondary mathematics curriculum: Approaches, practices, and teacher experiences. *Divine Word*

- International Journal of Management and Humanities*, 5(3), 4024–4044.
- Darling-hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective Teacher Professional Development*. June.
- Desimone, L. M. (2009). *Improving Impact Studies of Teachers' Professional Development: Toward Better Conceptualizations and Measures*. April, 181–199. <https://doi.org/10.3102/0013189X08331140>
- Dewantara, D., Wati, M., Haryandi, S., Rahmattullah, P., Jiddan, M., & Munir, M. (2019). *Pelatihan dan Pendampingan Penyusunan Proposal Penelitian Tindakan Kelas (PTK) bagi Guru IPA di kabupaten Hulu Sungai Tengah*. 1(2), 79–84.
- Dini, Naffa, Afkarina, Izzata; Rini, Endah, Febri, S. (2024). Integration of Local Potential in Science Learning to Improve 21st-Century Skills. *International Journal of Chemistry Education Research*, 8. <https://doi.org/10.20885/ijcer.vol8.iss2.art9>
- Guskey, T. R. (2002). *Does It Make a Difference ? Evaluating Professional Development What Is Evaluation ?* 59(6), 45–51.
- Hidayati, D., & Afriani, R. (2023). Bridging the digital divide : Assessing teacher readiness for technology integration in madrasah ibtidaiyah. *International Journal Of Education and Learning*, 5(3), 152–161. <https://doi.org/10.31763/ijele.v5i3.794>
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). *View the full-text article online: https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning*. 2020.
- Kennedy, M. M. (2016). How Does Professional Development Improve Teaching ? *Review of Educational Research*, 86(4). <https://doi.org/10.3102/0034654315626800>
- Kirkpatrick, J. D., & Kirkpatrick, W. K. (2016). *Advanced Instructional Design Model: Integrating the New World Kirkpatrick's Four Levels of Training Evaluation to the ADDIE Instructional Design Methodology*.
- Kraft, M. A., Blazar, D., & Hogan, D. (2018). The Effect of Teacher Coaching on Instruction and Achievement: A Meta-Analysis of the Causal Evidence. *Review of Educational Research*, 88(4), 547–588. <https://doi.org/https://doi.org/10.3102/0034654318759268>
- Laeli, A. F., Dzarna, Eurika, N., Priantari, I., & Hanafi. (2025). Pemberdayaan “ Komunitas Belajar ” (Learning Community) Bagi Guru Untuk Meningkatkan Inovasi Pembelajaran. *Jurnal Pengabdian Kepada Masyarakat Nusantara*, 6(3), 3332–3341.
- Lathifah, S. S., Talitha, S., Saepulrohman, A., Suhardi, E., & Budiana, S. (2024). *Pendampingan Integrasi Kearifan Lokal Kampung Urug ke dalam Bahan Ajar*. 6, 868–875.

- Mansori. (2024). Peningkatan Kompetensi Guru melalui Pelatihan Pembelajaran Aktif di Sekolah Dasar di Daerah 3T: (Studi Kasus di Desa Anyar, Kecamatan Anyar, Kabupaten Serang, Banten). *Jurnal Pengabdian Masyarakat (PENGAMAS)*, 1(3), 251–261.
- Miles Matthew, B., A. Michael Huberman, J. S. (2014). *Qualitative data analysis: a methods sourcebook*.
- Mujianto, G., Wibowo, A. P., Tinus, A., & Setiawan, A. (2025). Meningkatkan Kompetensi Guru melalui Pelatihan dan Pendampingan Implementasi Kurikulum Merdeka di Sekolah Menengah Pertama Muhammadiyah 1 Sumber Pucung. 5(1), 943–952.
- Mustamin, K., Karmila, M., Sukmayadi, D., Smas, M. H., & Winarko, T. (2025). Mentoring Elementary School Teachers' Competency Enhancement in Utilizing Digital Platforms and Interactive Content for Kurikulum Merdeka Implementation in Rural Areas. *International Journal of Community Service*, 4(2), 507–526. <https://doi.org/10.55299/ijcs.v4i2.1621>
- Rohartati, S., Gumilar, A. C., & Lisnawati, C. (2024). Pelatihan Pembuatan Perangkat Pembelajaran dalam Kurikulum Merdeka Belajar Bagi Guru-Guru di SDN. 5(1), 611–618. <https://doi.org/10.31949/jb.v5i1.7630>
- Sa'o, S., Meke, K. D. P., Bala, A., Welu, F., Nande, M., Daud, M. H., Kaleka, M. B. U., Amri, S., & Ma, S. H. G. (2023). *Jurnal Pengabdian UNDIKMA*: 4(1), 131–139.
- Samal, F. S., Djaman, S., & Asep, S. (2020). *Training Needs Analysis In Developing Teaching Modules For The Merdeka Curriculum* (pp. 161–177). <https://doi.org/10.26740/jdmp.v9n2.p161-177>
- Sandi, E. K. (2025). Exploring Ethnomathematics in Local Culture : A Bridge Between Tradition and Classroom Mathematics. *Aksioma: Jurnal Matematika*, 2(March), 38–45. <https://doi.org/10.62872/37qdw85>
- Sine, J. S., Pellokila, I. I., Sibulo, D., Adu, M., Sefi, D. R., Nau, F., Kristen, P. A., Agama, I., & Negeri, K. (2023). *Pelatihan Kompetensi Literasi dan Numerasi Guru Sebagai Penguatan Implementasi Kurikulum Merdeka Belajar*. November.
- Sulistyarini, Purwaningsih, E., Witarsa, Atmaja, T. S., Dewantara, J. A., & Purnama, S. (2024). Pelatihan Penguatan Pendidikan Karakter Berbasis Kelas Bagi Guru Sekolah Dasar Dan Sekolah Menengah Pertama. *Jurnal Pengabdian Kepada Masyarakat Nusantara*, 5(3), 3573–3581.
- Susanti, C. P., Hikmah, R., & Maghfiroah, P. (2026). *Pendampingan Penguatan Kompetensi Guru dan Siswa Melalui Pembelajaran Deep Learning Kontekstual*. 7, 904–913.
- Suwarni, H., Rahmadani, A., & Rahayu, S. (2025). *Pendampingan Pembuatan Media*

Pembelajaran Komik Berbasis Kearifan Lokal Sulawesi Selatan. 6(1), 172–178.

- Taneo, M., Messakh, J. J., Samo, D. D., Wonda, H., & Madu, A. (2026). *Teacher competency and skills in implementing the ADDIE method to enhance professionalism and quality of learning and education in East Nusa Tenggara (NTT)*. July. <https://doi.org/10.3389/feduc.2026.1861787>
- Wicaksono, A.G., Jumanto, Bertha Wikara, V. N. K. (2026). *Amal Ilmiah : Jurnal Pengabdian Kepada Masyarakat dan Strategi Meaningful Learning*. 7(2), 757–767.
- Vania, A. S., Septianingrum, A. D., Suhandi, A. M., & Prihantini, P. (2021). *Jurnal basicedu*. 5(6), 5142–5150.

