



Competence Mapping of Elementary School Teachers in Classroom Action Research as a Preliminary Effort to Empower Research Capacity for Professional Teacher

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ABSTRACT

Teachers hold a central and strategic role as the main agents of educational transformation and as practitioners responsible for improving the quality of learning through reflective inquiry. Classroom Action Research (CAR) serves as a scientific and systematic framework that enables teachers to identify classroom problems, implement evidence-based interventions, and evaluate their effectiveness. However, empirical evidence in Indonesia shows that many elementary school teachers still experience significant challenges in conducting CAR due to limited understanding of research methodologies, inadequate technical guidance, and low confidence in academic writing. This study aims to comprehensively map the competence of elementary school teachers in implementing CAR by examining four critical dimensions: conceptual understanding, action planning, implementation and data collection, and research reporting. Employing a quantitative descriptive approach, the study involved 20 elementary school teachers in Citerep, Bogor Regency, as participants. Data were collected using structured questionnaires and analyzed through descriptive statistical techniques. The findings revealed that teachers' competence remains low across all assessed aspects, with only 12% demonstrating sound conceptual knowledge, 15% capable of effective planning and implementation, and merely 5% able to prepare structured research reports that align with academic conventions. These results reflect the absence of a sustained mentoring culture and the lack of systematic institutional support for teacher-led research practices. The study underscores the need for continuous professional development programs, collaborative mentoring with higher education institutions, and school-based research communities that empower teachers as reflective practitioners. Strengthening teachers' CAR competence is crucial not only for enhancing their pedagogical professionalism but also for fostering a sustainable culture of research-based teaching and learning in Indonesian elementary schools.

ARTICLE INFO

Article history:

Received

21 September 2025

Revised

17 October 2025

Accepted

05 November 2025

Key Word

Teacher Competence, Classroom Action Research, Elementary School, Mapping, Teacher Training

How to cite

<https://pusdikra-publishing.com/index.php/josr>



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INTRODUCTION

Teachers play a strategic and irreplaceable role in ensuring the success of educational processes, especially at the elementary school level where fundamental cognitive, affective, and psychomotor foundations are established. As the main agents of change in the classroom, teachers are not merely knowledge transmitters but also designers and facilitators of meaningful learning experiences (Bruner, 1977). In the context of modern education, teachers are expected to adapt to rapidly changing paradigms that emphasize inquiry-based learning, reflection, and continuous professional growth. However, empirical studies have shown that many elementary school teachers in Indonesia still face significant difficulties in designing creative lessons and evaluating learning outcomes systematically (Jelita et al., 2024; Salsabila et al., 2024). These challenges often stem from limited mastery of research-based pedagogical frameworks, particularly Classroom Action Research (CAR), which serves as an essential tool for improving teaching practices through systematic reflection and evidence-based decision-making.

Classroom Action Research, as conceptualized by Kemmis and McTaggart (1988), functions as both a methodology for inquiry and a vehicle for professional transformation. It empowers teachers to diagnose instructional problems, design targeted interventions, implement classroom actions, and reflect on the outcomes to enhance learning quality. The iterative nature of CAR consisting of planning, acting, observing, and reflecting encourages teachers to engage in a continuous learning cycle that fosters both pedagogical and scientific thinking. Yet, despite the availability of theoretical models, the practical competence of teachers in conducting CAR varies widely. Many teachers struggle to formulate researchable classroom problems, develop appropriate instruments, and interpret findings scientifically. This disconnect between theoretical understanding and actual implementation remains a key obstacle to the development of a reflective teaching culture in Indonesian schools (Parnawi, 2020; Ardiawan, 2019).

The Indonesian government, through the Minister of National Education Regulation No. 16 of 2007, emphasizes that professional teachers must master four core competencies pedagogical, personal, social, and professional. Within the professional domain, the ability to conduct research is explicitly highlighted as a critical component of teacher professionalism (Fitriyani et al., 2022). Research competence enables teachers to continuously improve learning practices, adapt to student diversity, and evaluate the effectiveness of teaching strategies based on empirical evidence (Adri et al., 2023). Hence, Classroom Action Research serves not only as an academic exercise but also as a

professional necessity that links teaching practice with reflective improvement. In this light, CAR represents the embodiment of teacher as researcher, a paradigm that aligns with 21st-century education demands and the Merdeka Belajar (Freedom to Learn) movement in Indonesia (Adri & Suwarjono, 2025).

In practical reality, however, the implementation of CAR in elementary schools often faces numerous constraints. Teachers frequently perceive CAR as an administrative burden rather than a reflective tool for pedagogical improvement. Studies by Jelita et al. (2024) and Salsabila et al. (2024) reveal that many teachers' research efforts remain limited to fulfilling promotion or certification requirements, with minimal focus on the analytical or reflective dimensions of classroom inquiry. Moreover, the absence of institutional mentoring and technical assistance from universities or professional organizations exacerbates teachers' lack of confidence in conducting research. Fauziah et al. (2023) emphasize that most teachers require structured and continuous guidance to develop academic writing skills and to integrate research into daily teaching practices effectively. Without systematic mentoring and follow-up, the potential of CAR as a professional development mechanism remains largely untapped.

The importance of empowering teachers in conducting CAR has been widely recognized in academic and policy circles. Adri et al. (2021) note that sustainable community empowerment in education must be grounded in participatory approaches that enhance both pedagogical competence and research literacy. Strengthening teachers' ability to design and implement CAR can therefore be viewed as a form of intellectual empowerment that directly contributes to the quality of education. Through collaborative mentoring between universities and schools, teachers can develop a dual identity as educators and as reflective researchers who are capable of continuously improving classroom practices based on scientific reasoning. This integration of teaching and research not only enriches pedagogical practice but also nurtures a professional culture of inquiry and evidence-based reflection.

Despite its recognized importance, empirical data indicate that teachers' overall competence in conducting CAR remains at a basic level. Many teachers are still unfamiliar with research design, data collection techniques, and academic reporting conventions (Aini & Alfian, 2023; Hayati & Syahrul, 2021). Limited access to training, insufficient methodological understanding, and high teaching workloads further inhibit teachers from engaging in research activities. In some cases, the lack of collaboration between educational institutions and higher education providers results in fragmented or short-term training initiatives that fail to sustain long-term capacity building (Farulyan et

al., 2024). Consequently, most teachers remain dependent on external guidance, with minimal self efficacy in designing and implementing classroom research autonomously.

To address these challenges, the current study seeks to conduct a systematic mapping of elementary school teachers' competence in implementing Classroom Action Research. This mapping process involves assessing teachers' understanding and skills across four critical dimensions: conceptual knowledge, action planning, implementation, and reporting. Such diagnostic mapping serves as an evidence-based foundation for designing effective capacity-building interventions, including professional training and mentoring programs (Ardiawan, 2019; Parnawi, 2020). The study focuses on teachers in Citirep, Bogor Regency an area that represents typical conditions of elementary schools in semi-urban regions of Indonesia where research culture among teachers is still emerging.

Ultimately, this study aims to provide both a descriptive and strategic overview of teachers' current competence in conducting CAR, serving as a reference for policy formulation and professional development planning. By identifying specific gaps in knowledge and practice, the findings can guide universities, educational authorities, and schools in designing more targeted mentoring programs. Strengthening teachers' competence in CAR is expected to foster a sustainable research culture that supports continuous improvement in teaching quality and learning outcomes. Moreover, enhancing teachers' reflective and research-based capabilities aligns with national educational reforms under the Merdeka Belajar initiative, which envisions teachers as innovators and lifelong learners capable of transforming the learning process through evidence-based practice (Novitasari et al., 2023; Adri & Suwarjono, 2025).

RESEARCH METHOD

This study employed a quantitative descriptive research design, which aims to systematically describe and interpret numerical data related to teachers' competence in conducting Classroom Action Research (CAR). The descriptive approach was selected because it allows the researcher to present an objective overview of the current condition of teachers' knowledge, skills, and practices without manipulating variables (Borg & Gall, 1983). Such an approach is particularly suitable for diagnostic studies that seek to identify strengths and weaknesses within specific professional contexts. In this research, the central focus was to map the competence of elementary school teachers in designing, implementing, and reporting CAR as part of their professional development.

The study was conducted at SD Negeri 01 Cilember, Bogor Regency, which served as a community service partner school under the guidance of Universitas Djuanda Bogor. The choice of this school was based on accessibility, representativeness of teacher demographics, and the institution's willingness to collaborate in capacity-building activities.

The population of this study comprised elementary school teachers from SD Negeri 01 Cilember, while the research sample consisted of 21 teachers who voluntarily participated in the study. The participants were selected using purposive sampling, considering their active teaching status and prior exposure to school-based professional development programs. This sampling technique ensured that the data collected represented teachers with varied levels of experience, thereby allowing for a more comprehensive understanding of competence distribution. According to Borg and Gall (1983), purposive sampling is often employed in educational research when the researcher intends to obtain rich and relevant data from specific groups possessing knowledge or experience related to the phenomenon being studied. In this context, the selected teachers were deemed suitable to provide empirical insight into the implementation of CAR in real classroom settings.

Data collection relied primarily on structured questionnaires, designed to capture teachers' competence across four key dimensions: (1) conceptual understanding of CAR, (2) action planning, (3) implementation and data collection, and (4) research reporting. Each dimension was operationalized into several measurable indicators derived from relevant literature on classroom research methodology (Parnawi, 2020; Ardiawan, 2019). The questionnaire contained both closed and open-ended items to allow respondents to elaborate on their experiences and challenges in conducting CAR. Prior to data collection, the instrument was reviewed by two experts in educational research to ensure its content validity and alignment with CAR competency frameworks. The instrument was then piloted among five teachers from a neighboring school to test clarity, consistency, and reliability of the items before being distributed to the main respondents.

The data collection process was carried out in multiple stages to ensure comprehensive and accurate responses. Initially, the researchers introduced the purpose and procedures of the study to all participants through an orientation session, emphasizing voluntary participation and confidentiality of responses. Questionnaires were administered both online and offline to accommodate teachers' varying access to digital tools. This blended data collection approach was particularly beneficial given teachers' busy schedules and differences in technological literacy (Fauziah et al., 2023). Respondents were given one week

to complete the questionnaire, after which the research team collected and verified all responses for completeness and consistency. The data obtained were then organized and coded to facilitate descriptive statistical analysis.

The collected data were analyzed using descriptive statistical techniques, including tabulation, percentage computation, and categorization of competence levels. These analytical steps enabled the researchers to quantify and visualize the distribution of teachers' competence across the four CAR dimensions. Descriptive statistics were chosen to highlight general trends, identify gaps, and generate a clear picture of the overall research competence among participants (Ardiawan, 2019). The results were interpreted in relation to the existing literature and national standards of teacher professionalism, particularly the competencies mandated in the Minister of National Education Regulation No. 16 of 2007. By combining statistical results with theoretical interpretation, the analysis aimed to produce meaningful insights that go beyond mere numerical description, contributing to a better understanding of teachers' readiness to engage in CAR practices.

To ensure the credibility and ethical soundness of the research, several measures were taken throughout the process. Ethical clearance was obtained from the Faculty of Teacher Training and Education, Universitas Djuanda Bogor, prior to the fieldwork. Participants were informed about the objectives, procedures, and potential benefits of the study, and they provided informed consent before data collection. Confidentiality was strictly maintained, and all responses were anonymized to prevent any bias or disclosure of personal information. Furthermore, the researchers adhered to the principle of beneficence by ensuring that the study outcomes would be utilized to improve teachers' professional development. The methodological rigor and ethical procedures employed in this study align with the recommendations of educational research experts, emphasizing validity, reliability, and respect for participants (Borg & Gall, 1983; Adri et al., 2023). Consequently, the research design not only provided a robust framework for data collection and analysis but also ensured that the findings could serve as a reliable foundation for subsequent training and policy initiatives aimed at enhancing teachers' CAR competence.

RESULT AND DISCUSSION

Result

Based on the survey conducted with 20 elementary school teachers at SD Citerep, Bogor Regency, an overview of teachers' competence in conducting Classroom Action Research (CAR) was obtained, focusing on four main aspects:

conceptual understanding, action planning, implementation, and reporting. Conceptual Understanding of CAR. A small proportion of teachers, approximately 12%, demonstrated a good understanding of the basic concepts of CAR, such as its objectives, the cyclical nature of the research process, and the importance of reflection for instructional improvement. However, 88% of teachers still showed limited comprehension, particularly in distinguishing between everyday classroom problems and researchable issues suitable for CAR. This finding indicates the need to strengthen teachers' conceptual foundations so they can identify instructional problems scientifically.

Action Planning Aspect. At the planning stage, only 15% of teachers were able to design an action plan with systematic steps that aligned with the learning issues in their classrooms. Meanwhile, 85% of teachers still struggled to formulate action variables and determine success indicators. Some teachers tended to replicate research designs from previous examples without contextual adaptation to their own students' conditions. Implementation and Data Collection Aspect. During the implementation phase, around 15% of teachers successfully carried out CAR activities in their classrooms and collected data through observation or student assessment. However, many teachers encountered difficulties in applying systematic observation techniques and were inconsistent in conducting reflection after each action cycle. These challenges were generally attributed to limited time and lack of research experience amidst regular teaching responsibilities. This aligns with previous studies reporting similar challenges among elementary school teachers in conducting classroom-based research (Jelita et al., 2024; Salsabila et al., 2024). Research Reporting Aspect. The reporting stage was identified as the weakest aspect. Only 5% of teachers were able to write CAR reports with appropriate structure and academic language, while 95% still struggled with data analysis, discussion, and conclusion writing. Many teachers were not accustomed to connecting their findings with relevant theories or literature, resulting in descriptive rather than analytical reports.

Overall, the mapping results show that the competence level of elementary school teachers in Citerep in conducting CAR falls into the low category. Although a small number of teachers demonstrated awareness and interest in research, they still require substantial mentoring to strengthen both their conceptual and practical skills in every stage of Classroom Action Research.

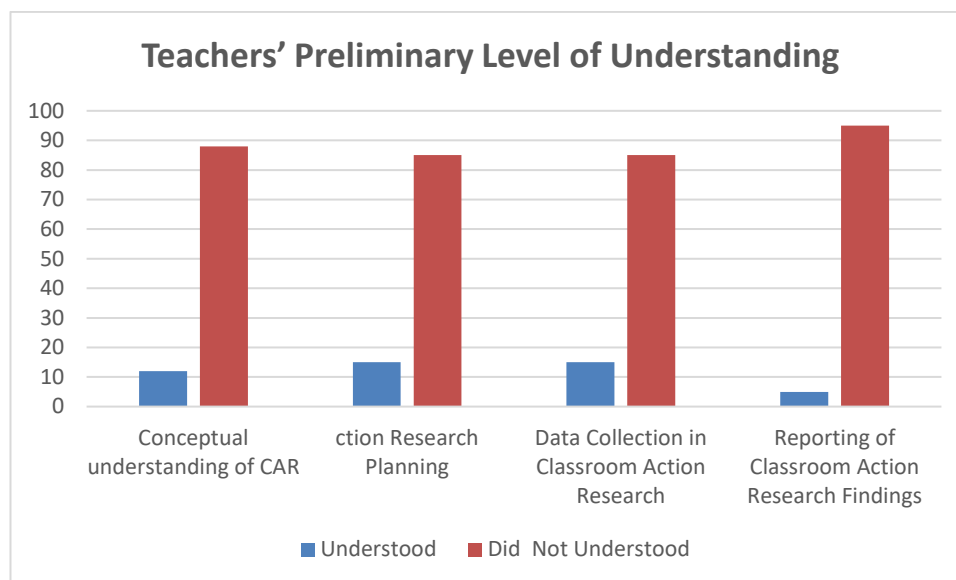


Figure 1.
Teacher Level of Understanding

Based on the mapping data of teachers' initial understanding of Classroom Action Research (CAR), it was found that teachers' comprehension levels varied across the assessed aspects, including conceptual understanding, planning, implementation and data collection, as well as research reporting. This variation indicates a significant knowledge and skills gap among teachers in comprehensively understanding and implementing CAR. In terms of conceptual understanding, only 12% of teachers demonstrated a good grasp of CAR concepts, while 88% did not. This finding suggests that most teachers still lack a comprehensive understanding of the nature and characteristics of CAR. Many perceive CAR merely as an administrative requirement for promotion rather than a reflective effort to improve classroom practices. A solid conceptual understanding of CAR is essential because it forms the foundation for identifying learning problems, formulating improvement actions, and evaluating their outcomes.

This limited understanding also reflects teachers' low research literacy, which may stem from limited experience, insufficient methodological training, and lack of mentoring from academics or higher education institutions. Regarding the planning aspect, 15% of teachers demonstrated understanding, while 85% did not. This implies that most teachers still struggle to design systematic research plans. Many have difficulties identifying instructional problems accurately, formulating action hypotheses, and determining appropriate steps for improvement in the classroom context. Furthermore, their understanding of research instrument design remains limited. Yet, planning is a crucial stage that determines the success of CAR implementation. Without a

well-prepared plan, actions are likely to be ineffective, and the resulting outcomes difficult to measure validly.

In terms of data collection, the results mirror those in the planning aspect 15% of teachers showed understanding, while 85% did not. This indicates that most teachers lack skills in selecting appropriate methods, techniques, and instruments that align with the characteristics of their classroom interventions. This finding is consistent with studies by Aini and Alfian (2023) and Hayati and Syahrul (2021). Many teachers are still unfamiliar with the differences between qualitative and quantitative data and lack the skills to use tools such as observation sheets, interviews, or questionnaires to support reflective analysis of teaching practices. Inadequate experience in managing research data further constrains teachers' ability to effectively conduct CAR.

Meanwhile, the reporting aspect shows the lowest level of competence, with only 5% of teachers demonstrating understanding, while 95% did not. This indicates that most teachers face difficulties in writing research reports in accordance with academic standards. Many are unfamiliar with the structure of CAR reports, data analysis techniques, and systematic and argumentative presentation of findings. This situation also reflects the generally low level of academic writing skills among teachers, which could actually be improved through reflective writing habits and simple publication activities, such as school-based journals. These findings are consistent with studies by Herlini and Adri (2025) and Sartika et al. (2025), which reveal that elementary school teachers still require intensive mentoring in research reporting, especially in data analysis and scientific interpretation.

Overall, these findings indicate that teachers still need structured mentoring and training throughout all stages of CAR, from conceptual understanding to reporting. Such guidance can be provided through technical training programs, CAR methodology workshops, and academic mentoring by lecturers or research supervisors (Farulyan et al., 2024). These activities are expected to help teachers understand that CAR is not merely an administrative obligation but a strategic means to improve instructional quality, teacher professionalism, and educational outcomes at the elementary level. Efforts to strengthen teachers' capacity to conduct independent and highquality CAR also align with the Merdeka Belajar (Freedom to Learn) and Guru Penggerak (Teacher Leader) programs, which emphasize the role of teachers as learning researchers (teacher as researcher) (Novitasari et al., 2023). Hence, mastering CAR not only enhances teachers' reflective ability but also contributes to fostering a research culture within schools (Adri & Suwarjono, 2025).

Discussion

Based on a survey conducted with 20 elementary school teachers at SD Citerep, Bogor Regency, a general overview was obtained regarding teachers' competence in conducting Classroom Action Research (CAR), which encompasses four main aspects: conceptual understanding, action planning, implementation and data collection, and research reporting. The findings revealed that the majority of teachers demonstrated limited abilities across all these aspects. Only about 12% of teachers exhibited a good understanding of the basic concepts of CAR, such as its objectives, research cycles, and the importance of reflection in improving teaching practices. In terms of action planning, 15% of teachers were able to design systematic action plans aligned with classroom learning problems, while the rest struggled to formulate action variables and success indicators. Regarding implementation and data collection, only 15% of teachers successfully carried out the interventions and conducted proper observations, whereas most were still inconsistent in performing reflection at each research cycle. The reporting stage showed the lowest competence, with only 5% of teachers capable of writing research reports following proper academic structure and scientific language. Most of the submitted reports remained descriptive and failed to link findings with relevant theoretical frameworks.

These results align with the findings of Jelita et al. (2024) and Salsabila et al. (2024), who reported that elementary school teachers continue to face challenges in independently conducting CAR due to limited experience and heavy workloads. This similarity indicates that the issue of teacher competence in CAR is not merely local but rather a widespread problem across elementary schools. However, compared to previous studies, the results from SD Citerep demonstrate proportionally lower levels of competence, as 20–30% of teachers in other studies were already able to implement CAR effectively. This relatively low achievement underscores the urgent need for more intensive mentoring and training programs focused on the practical aspects of planning and executing CAR in real classroom contexts.

More deeply, the findings illustrate that teachers' competence in conducting CAR remains at a foundational level, where many teachers have yet to fully grasp CAR as a form of professional reflection aimed at improving instructional quality. CAR has not been optimally utilized as a tool for professional growth but is often perceived merely as an administrative requirement for career advancement or performance evaluation. This condition highlights the need to strengthen teachers' motivation and professional awareness through more contextual and supportive approaches. Beyond

improving technical research skills, a paradigm shift is necessary teachers must recognize CAR as an integral part of their continuous professional practice. In this regard, the role of school principals, supervisors, and higher education partners becomes essential in fostering a supportive school ecosystem that promotes CAR as a reflective and collaborative culture for improving teaching quality.

The implications of these findings emphasize the importance of strengthening teachers' professional capacity through continuous and practice-oriented training programs. Such programs should not only focus on theoretical knowledge but also provide opportunities for hands-on experience in identifying problems, designing interventions, and analyzing research outcomes. Through practical training, teachers can gain real experience in conducting CAR, thereby increasing their confidence and reflective skills in the learning process. Furthermore, collaboration between schools and higher education institutions should be strengthened to provide sustained technical assistance and mentoring throughout the research process, ensuring that teachers receive direct guidance at every stage. This mentoring process can also help establish professional learning communities within schools, where teachers share experiences and research findings to improve teaching practices collectively. Consequently, strengthening teachers' capacity through training, mentoring, and collaborative culture represents a strategic approach to improving both the implementation quality of CAR and the overall quality of learning in elementary education.

The low level of teachers' competence in conducting Classroom Action Research (CAR) is attributed to several interrelated factors. One of the primary causes is the limited theoretical understanding of the basic concepts and methodologies of CAR, resulting in teachers' inability to follow systematic steps such as planning, action, observation, and reflection. Additionally, the lack of research experience has made teachers less capable of formulating appropriate research problems and determining relevant action variables. This situation is further exacerbated by heavy administrative workloads and extensive teaching hours, leaving little time for in-depth reflection on their teaching practices. Moreover, the lack of professional mentoring from school leaders and higher education partners deprives teachers of adequate guidance in designing and conducting CAR. Another significant factor is the low level of intrinsic motivation, as many teachers still perceive CAR merely as an administrative obligation for promotion rather than as a meaningful effort to enhance instructional quality.

Therefore, strategic measures are urgently needed, including practice-based training, mentoring by university lecturers or research experts, the development of contextual CAR guidelines suited to elementary school conditions, incentives for teachers who successfully conduct high-quality CAR, and the integration of CAR activities into the school's academic supervision programs. Through these initiatives, teachers are expected to improve their reflective and scientific capacities, enabling them to continuously enhance classroom learning practices. In this regard, such initiatives also align with the goals of the Merdeka Belajar (Freedom to Learn) and Guru Penggerak (Teacher Leader) programs, which promote the concept of "teacher as researcher" and encourage teachers to take ownership of their professional growth (Novitasari et al., 2023; Adri & Suwarjono, 2025).

CONCLUSION

Based on the research findings, it can be concluded that the overall competence of elementary school teachers in conducting Classroom Action Research (CAR) remains relatively low across all assessed aspects—namely conceptual understanding, action planning, implementation, and reporting. The lowest level of competence was found in the reporting stage, where most teachers demonstrated limited ability to structure research reports systematically and to present data in accordance with scientific writing standards. This condition suggests that although teachers are aware of the importance of CAR as a tool for improving classroom practices, they still face significant challenges in translating that understanding into practical application within their classrooms.

Therefore, continuous and well-structured capacity-building efforts are urgently required. Training programs should emphasize not only the theoretical foundations of CAR but also practical, hands-on mentoring activities. In such programs, teachers need to be guided step by step in identifying classroom problems, designing and implementing interventions, collecting and analyzing data, and preparing research reports that meet academic conventions. Consistent mentoring and follow-up activities are expected to strengthen teachers' confidence, autonomy, and reflective skills in conducting CAR effectively.

Ultimately, improving teachers' competence in Classroom Action Research will directly contribute to enhancing the quality of learning processes and educational outcomes in elementary schools. Beyond individual skill development, the institutionalization of CAR as part of teachers' professional practice can foster a culture of continuous improvement, collaboration, and

innovation in education. This aligns with the broader vision of empowering teachers as reflective practitioners and learning researchers, who are capable of transforming classroom practices through evidence-based inquiry and sustained professional reflection.

ACKNOWLEDGEMENT

The authors would like to express their sincere gratitude to the Directorate of Research and Community Service, Ministry of Education, Research, and Technology, for funding this community service program under Contract Number 336/C3/DT.05.00/PM-Batch III/2025. Appreciation is also extended to the Chancellor and Rector of Universitas Djuanda Bogor for their continuous support, as well as to the principal and team of SDN Cilember 1, Bogor Regency, for their valuable cooperation and participation in this program.

REFERENCES

- Adri, H. T., & Suwarjono, S. (2025). Analisis kebutuhan media adaptif dan strategi pembelajaran IPA dalam konteks pendidikan inklusif di sekolah dasar Kabupaten Bogor. *ALACRITY: Journal of Education*, 1090–1100.
- Adri, H. T., Suwarjono, Y., Sapari, N., & Maryani, N. (2023). Merdeka Belajar Kampus Merdeka: Policy direction and implementation for progress of study program. *Continuous Education: Journal of Science and Research*, 4(2), 13–22. <https://doi.org/10.51178/ce.v4i2.1446>
- Adri, H. T., Suwarjono, F., Hamamy, M., Ichsan, M., & Sumarni, D. (2021). Pemberdayaan masyarakat melalui peningkatan kualitas pendidikan dan ekonomi di Desa Pagelaran Ciomas Bogor. *Educivilia: Jurnal Pengabdian pada Masyarakat*, 2(1), 93–103. <https://doi.org/10.30997/ejpm.v2i1.3612>
- Aini, A., & Alfian, H. (2023). Peran guru dalam pengelolaan kelas terhadap hasil belajar siswa sekolah dasar. *Jurnal Pendidikan Guru Madrasah Ibtidaiyah Al-Amin*, 2(2), 208–224. <https://doi.org/10.54723/ejpgmi.v2i2.104>
- Ardiawan, I. K. N. (2019). *Kupas tuntas penelitian tindakan kelas (Teori, praktik, dan publikasinya)*. Bandung: Nilacakra.
- Borg, W. R., & Gall, M. D. (1983). *Educational research: An introduction*. New York: Longman.
- Bruner, J. S. (1977). *The process of education*. London: Harvard University Press.
- Farulyan, N., Rahmawati, S., Alfiqri, M., Saputra, D., Kharanza, Y., Rohani, S., & Hopeman, T. A. (2024). Penggunaan kertas origami untuk meningkatkan hasil belajar pada materi bangun datar siswa kelas III SD. *Jurnal Pendidikan Dasar Perkhasa: Jurnal Penelitian Pendidikan Dasar*, 10(2), 872–882.

- Fauziah, R. S. F., Adri, H. T., Suherman, I., Indra, S., Sesrita, A., Syamsudin, D., & Sudjani, D. H. (2023). Pelatihan penulisan karya ilmiah penelitian tindakan kelas untuk meningkatkan kualitas guru profesional. *Qardhul Hasan: Media Pengabdian Kepada Masyarakat*, 9(2), 144-119. <https://doi.org/10.30997/qh.v9i1.5496>
- Fitriyani, E. L., Adri, H. T., & Sudjani, H. (2022). Analisis keterlaksanaan pembelajaran tematik di sekolah dasar. *Al Kaff: Jurnal Sosial Humaniora*, 5(4), 269-283. <https://ojs.unida.ac.id/al-kaff/article/view/6785>
- Hayati, N. N., & Syahrul, S. (2021). The development of matching game as media to teach vocabulary for elementary school students. *EduBasic Journal: Jurnal Pendidikan Dasar*, 3(2), 97-106. <https://doi.org/10.17509/ebj.v3i2.32630>
- Herlini, N., & Adri, H. T. (2025). Meningkatkan hasil belajar peserta didik menggunakan metode demonstrasi mata pelajaran matematika kelas IV SD Negeri 07 Talang Padang. *Didaktik Global*, 2(1), 79-95.
- Jelita, J., & Adri, H. T. (2024). Upaya meningkatkan karakter kepedulian terhadap kebersihan lingkungan sekolah melalui pendidikan lingkungan hidup di SD Negeri 4 Merapi Barat. *Didaktik Global*, 1(2), 114-127.
- Jelita, J., Adri, H. T., & Syamsudin, D. (2024). The role of teachers in improving quality of education and developing competencies of primary school students at Muslim Suksa School Thailand. *Continuous Education*, 5(1), 1-8. <https://doi.org/10.51178/ce.v5i1.1656>
- Kemmis, S., & McTaggart, R. (1988). *The action research planner*. Victoria: Deakin University Press.
- Novitasari, K. A., Januar, H., Suneki, S., & Tunjungsari, D. R. (2023). Media tangga pintar untuk meningkatkan hasil belajar matematika siswa sekolah dasar. *Jurnal Educatio FKIP UNMA*, 9(3), 1500-1506.
- Parnawi, A. (2020). *Penelitian tindakan kelas (Classroom action research)*. Yogyakarta: CV Budi Utama.
- Pritchard, P. E. (1992). Studies on the bread-improving mechanism of fungal alpha-amylase. *Journal of Biological Education*, 26(1), 14-17.
- Ramdhani, T., Adri, H. T., & Safari, Y. (2024). Pengaruh lingkungan sekolah terhadap pembentukan karakter siswa di kelas V SDN Selakopi Kota Bogor. *Al Kaff*, 2(4), 306-312. <https://doi.org/10.30997/alkaff.v2i4.13077>
- Salsabila, K. A., Adri, H. T., & Hamamy, F. (2024). Efektivitas penggunaan media flashcard pada materi sistem pernapasan manusia mata pelajaran IPA kelas V di SDN Nagrak 01 Kabupaten Bogor. *Karimah Tauhid*, 3(9), 10821-10827. <https://doi.org/10.30997/karimahtauhid.v3i9.14953>

Sartika, D. M., Adri, H. T., & Balqis, L. F. (2025). Peran kepala sekolah dalam meningkatkan kompetensi pedagogik guru pada masa pandemi COVID-19 di SDN Sindangsari 2. *Al Kaff*, 3(1), 84-89.