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DARI KEBIJAKAN KE PRAKTIK: MEMPERKUAT KAPASITAS GURU SEKOLAH DASAR UNTUK PEMBELAJARAN MENDALAM MELALUI PENGABDIAN MASYARAKAT

From Policy To Practice: Strengthening Primary Teachers' Capacity For Deep Learning Through Community Service

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Kata Kunci :

Pembelajaran Mendalam, pendidikan dasar, pengembangan profesional, pembelajaran berpusat pada siswa, pengabdian kepada masyarakat

Abstrak :

Perspektif kontemporer tentang pendidikan abad ke-21 menekankan bahwa pendidikan dasar harus mampu menumbuhkan kompetensi yang dapat ditransfer melampaui penguasaan konten semata. Di Indonesia, penerapan Kurikulum 2023 dan Kurikulum Merdeka Belajar mengedepankan kerangka Pembelajaran Mendalam untuk mencapai 6Cs (karakter, kewargaan, kolaborasi, komunikasi, kreativitas, dan berpikir kritis) sejak jenjang awal. Studi ini melaporkan intervensi Pengabdian Kepada Masyarakat (PKM) yang dirancang untuk memperkuat kapasitas guru sekolah dasar dalam memahami dan mengimplementasikan kebijakan ini di kelas. Program dilaksanakan bersama 28 guru SD Neg. Pondok Cabe Ilir 02, Tangerang Selatan, dengan menggunakan model empat tahap: observasi, sosialisasi, lokakarya dan pendampingan, serta evaluasi. Pendekatan metode campuran digunakan dengan melibatkan survei guru mengenai pengetahuan dan efikasi diri, observasi kelas yang selaras dengan 6Cs, analisis rencana pelaksanaan pembelajaran dan artefak siswa, serta diskusi kelompok terarah. Data dianalisis menggunakan statistik deskriptif, uji inferensial, dan analisis tematik. Temuan menunjukkan adanya peningkatan yang signifikan pada pengetahuan, pemahaman, dan kesadaran guru mengenai pembelajaran mendalam, yang mendorong komitmen kolektif untuk merancang ulang pembelajaran dan menerapkan pedagogi yang lebih aktif dan berpusat pada siswa. Guru menerapkan strategi berbeda sesuai jenjang: pembelajaran berbasis cerita dan bermain di kelas rendah, inkuiri terbimbing di kelas menengah dan kelas tinggi.

Program ini juga mendorong kolaborasi profesional dan pendampingan, meskipun masih terdapat kendala berupa keterbatasan waktu, sumber daya, dan kesiapan guru yang bervariasi. Hasil kegiatan ini menyarankan bahwa penerapan Pembelajaran Mendalam di sekolah dasar perlu didukung oleh pengembangan profesional berkelanjutan dan kontekstual, kepemimpinan sekolah yang suportif, ketersediaan sumber daya yang memadai, serta penelitian longitudinal untuk menghubungkan perubahan praktik guru dengan peningkatan hasil belajar siswa secara berkelanjutan.

Key word :

Deep Learning, primary education, professional development, student-centered learning, community service

Abstract :

Contemporary perspectives on 21st-century education emphasize that primary schooling must cultivate transferable competencies that extend beyond content mastery. In Indonesia, the implementation of the 2023 Curriculum and the *Merdeka Belajar* framework foregrounds Deep Learning (*Pembelajaran Mendalam*) as a means to achieve the 6Cs (i.e., character, citizenship, collaboration, communication, creativity, and critical thinking) from the earliest grades. This study reports a community service (*Pengabdian Kepada Masyarakat*, PKM) intervention designed to strengthen primary teachers' capacity to understand and implement this policy in their classrooms. The program involved 28 teachers from SD Negeri Pondok Cabe Ilir 02, Tangerang Selatan, and adopted a four-stage model: observation, socialization, workshop and mentoring, and evaluation. A mixed-methods approach was employed, incorporating teacher surveys on knowledge and self-efficacy, classroom observations aligned with the 6Cs, analysis of lesson plans and student artifacts, and focus group discussions. Data were analyzed using descriptive statistics, inferential tests, and thematic analysis. The findings reveal significant improvements in teachers' knowledge, understanding, and awareness of Deep Learning, which fostered a collective commitment to redesign lessons and adopt more active, student-centered pedagogies. Teachers applied differentiated strategies across grade levels: story- and play-based learning in lower grades, and guided inquiry in both middle and upper grades. The program also encouraged professional collaboration and mentoring, although barriers such as limited preparation time, insufficient resources, and varied levels of teacher readiness persisted. These results suggest that the implementation of Deep Learning in primary schools requires sustained and context-sensitive professional development, supportive school leadership, adequate resources, and longitudinal research to link changes in teacher practice with long-term improvements in student learning outcomes.

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INTRODUCTION

Education at the primary level plays a pivotal role in laying the foundation for lifelong learning. In Indonesia, the Ministry of Primary and Secondary Education (Kemdikdasmen) has emphasized the implementation of the Deep Learning approach within the *Kurikulum 2013* and the *Merdeka Belajar*

curriculum framework as a response to the urgent need for 21st-century competencies. Deep Learning is designed not merely as content mastery, but as a holistic learning approach that cultivates the "6Cs" (i.e., character, citizenship, collaboration, communication, creativity, and critical thinking), which are considered essential competencies for navigating complex challenges in the digital and global era (Fullan *et al.,* 2018). While policy frameworks and curricular guidelines have articulated this vision, its practical realization at the primary school level remains challenging.

As a relatively new initiative introduced by the Ministry of Primary and Secondary Education (Kemdikdasmen), the concept and practice of Deep Learning in Indonesian schools are still at an early stage (Santana *et al.,* 2020). Consequently, studies on the implementation of Deep Learning in Indonesia remain scarce, particularly within the context of primary education. Most existing reports focus on policy documents or pilot projects, but empirical accounts of how teachers interpret and integrate Deep Learning in their daily practice at the classroom level are still limited. This gap indicates the need for systematic programs that not only disseminate the theoretical framework of Deep Learning but also build teachers' capacity to apply it in developmentally appropriate ways across grade levels in primary schools.

Primary school teachers face a dual challenge: on the one hand, they must ensure that children achieve literacy and numeracy milestones; on the other, they are also expected to foster competencies such as collaboration, communication, and creativity that are central to Deep Learning. Constraints such as limited resources, diverse student backgrounds, and the demand to integrate new pedagogical frameworks into established routines make this task even more complex (Rahmani, 2024). Without targeted professional development, teachers may struggle to translate policy into meaningful classroom practices (Iqbal & Ali, 2024).

Community Service programs provide a strategic avenue to address these challenges by directly engaging teachers through professional development initiatives (Bachtiar *et al.,* 2023). In line with the mission of universities to serve society, such programs can bridge the gap between policy directives and classroom practices. By equipping primary school teachers with the knowledge, strategies, and confidence to design and deliver Deep Learning-oriented lessons, community service projects not only enhance teacher professional competence but also ensure that the ideals of *Kurikulum 2013* and *Merdeka Belajar* are enacted in everyday teaching practices.

The present community service activity was designed to support primary school teachers in Bogor Regency in implementing Deep Learning as mandated by the Ministry of Education. Specifically, the program sought to (1) raise teachers' conceptual understanding of Deep Learning and the 6Cs framework, (2) provide hands-on training in designing age-appropriate learning activities across different primary grade levels, and (3) mentor teachers in reflecting on and refining their classroom practices. By focusing on primary education in general, this program contributes to addressing the current scarcity of empirical studies on Deep Learning in Indonesia while offering a scalable model of professional development that can strengthen the implementation of Deep Learning across schools.

ACTIVITY METHOD

The community service program was conducted on August 2nd, 2025, at SD Negeri Pondok Cabe Ilir 02, Tangerang Selatan, Indonesia, involving 28 primary school teachers across different grade levels (Grades 1–6). The activity was implemented in close collaboration with the school leadership and the local Education Office, ensuring alignment with institutional priorities and the Ministry of Education's directive on the adoption of the Deep Learning approach within the *Merdeka Belajar* curriculum. The source person and facilitator were lecturers from the Master of English Language Education and Master of Primary Education, Graduate School of Universitas Terbuka, who designed the program to combine theoretical understanding with practical application in classroom contexts.

The community service was strategically structured around a four-stage cycle: observation, socialization, training and mentoring, and evaluation. This framework was selected to ensure that the

activity not only provided immediate benefits to the teachers but also laid the groundwork for sustainable professional development and the long-term integration of Deep Learning in primary education.

Figure 1. The community service activity stages

1. **Observation Stage.**
   The first stage involved situational analysis through preliminary visits, informal dialogues, and class observations at SDN 02 Pondok Cabe Ilir. This allowed the facilitators to map teachers' current practices, institutional readiness, and specific challenges in implementing learner-centered and competency-based instruction. Insights gained at this stage guided the design of subsequent interventions to ensure they were contextually relevant and feasible.

2. **Socialization Stage.**
   This stage served to introduce the objectives, expected outcomes, and core principles of Deep Learning to key stakeholders, including school leaders and participating teachers. Through a structured seminar, the facilitators emphasized the strategic role of Deep Learning as mandated by the Ministry of Education, clarified its alignment with the *Merdeka Belajar* curriculum, and underscored its importance for fostering 21st-century competencies in primary students. Collaborative discussions during this phase helped to refine the training focus areas according to teachers' needs and grade-level contexts.

3. **Training and Mentoring Stage.**
   The core of the program was a two-day training workshop complemented by an extended mentoring process. Training sessions combined conceptual input on the Deep Learning framework with interactive, practice-based activities such as lesson plan design, collaborative micro-teaching, and reflective discussions. Special attention was given to developing strategies that could be realistically applied in primary classrooms, considering the developmental characteristics of young learners and the varied subjects taught at the elementary level. Following the training, teachers engaged in mentoring sessions that involved peer observation, feedback cycles, and collaborative refinement of classroom practices. This blended approach ensured that the newly acquired concepts were internalized and translated into daily instructional routines.

4. **Evaluation Stage.**
   The final stage focused on assessing the effectiveness and sustainability of the program. Evaluation activities included collective reflection, sharing of success stories, and feedback sessions that highlighted both the achievements and challenges encountered by the teachers. The evaluation not only measured changes in teachers' understanding and confidence but also generated valuable recommendations for future follow-up activities. Teachers reported greater awareness of Deep Learning principles, stronger motivation to innovate in their classrooms, and an enhanced sense of professional community within the school.

By following this four-stage cycle, the community service activity at SDN 02 Pondok Cabe Ilir successfully bridged the gap between national policy directives and classroom-level practice. It provided teachers with practical tools, collaborative support, and renewed confidence to integrate the

principles of Deep Learning into primary education, thereby reinforcing the sustainability of the *Merdeka Belajar* initiative at the grassroots level.

RESULTS AND DISCUSSION

This section presents and discusses the main topics in 'Meeting One' of the community service activities. There were five main topics in the meeting: Deep Learning Framework, Deep Learning Graduate Profile vs Pelajar Pancasila Profiles, Challenges and Strategies in Implementing Deep Learning, and AI and Deep Learning Coherence.

Teachers' Understanding of Deep Learning and Its Alignment with Policy

The community service activity revealed a significant shift in teachers' conceptual understanding of the Deep Learning framework. Before the program, many participants associated Deep Learning with intensive content coverage or cognitive overload. Through the structured socialization session, however, teachers began to recognize that the Ministry's mandate emphasizes competency development through the 6Cs (i.e., character, citizenship, collaboration, communication, creativity, and critical thinking), rather than rote learning. This reorientation was vital to align their instructional practices with the broader *Merdeka Belajar* vision.

Teachers expressed that linking Deep Learning to the national policy framework gave them a sense of legitimacy and urgency to adopt it. Several teachers noted that prior to the program, they perceived the policy as abstract and distant, but the seminar contextualized its application in the primary classroom. One participant remarked that understanding Deep Learning as a vehicle for the Profil Pelajar Pancasila helped her see how everyday class activities could be designed to foster not just knowledge but also values and collaboration. This highlights the role of professional development in bridging the gap between policy directives and teachers' daily practices (Acharya & Subedi, 2023).

The program also surfaced varying levels of readiness among the teachers. While some teachers quickly grasped how Deep Learning could be applied in their teaching routines, others struggled to reconcile it with existing lesson structures and administrative demands. Nevertheless, the collaborative workshop model allowed teachers to learn from peers and gradually internalize the approach. By the end of the activity, some of the teachers reported greater confidence in experimenting with new methods, especially in integrating storytelling, group tasks, and project-based activities tailored to their grade level.

These findings resonate with prior studies, which argue that the successful adoption of pedagogical reforms depends on teachers' conceptual clarity and professional confidence (Preminger *et al.,* 2024; Talkhabi, 2020). As a new policy initiative in Indonesia, Deep Learning requires not only theoretical dissemination but also opportunities for teachers to interpret and adapt it in contextually meaningful ways. The outcomes at SDN 02 Pondok Cabe Ilir illustrate that when professional development explicitly connects national policy goals to classroom realities, teachers are more likely to embrace the reform as both relevant and feasible.

Figure 2. Background of Deep Learning Implementation in Indonesia

Deep Learning Graduate Profiles vs *Pelajar Pancasila* Profiles

Another theme that has been discussed was key aspects in deep learning graduate profiles compared to the "*Pelajar Pancasila*" profile. The *Pelajar Pancasila* profiles and the graduate profile outlined in the Deep Learning framework share striking similarities, underscoring a shared vision for holistic, future-ready learners. Both emphasize core competencies such as critical thinking, creativity, collaboration, citizenship, character, and communication, mirrored in Fullan's 6Cs. This congruence demonstrates that *Merdeka Belajar* and Deep Learning are not mutually exclusive but complementary in nature. However, Deep Learning offers a more structured, globally recognized framework for operationalizing these values into everyday classroom practices (Fullan *et al.,* 2018). Therefore, evolving from Merdeka Belajar to a Deep Learning-based system would strengthen Indonesia's education transformation by aligning national ideals with proven international pedagogical strategies. This transition would not abandon national identity but elevate it within a competitive, global learning ecosystem.

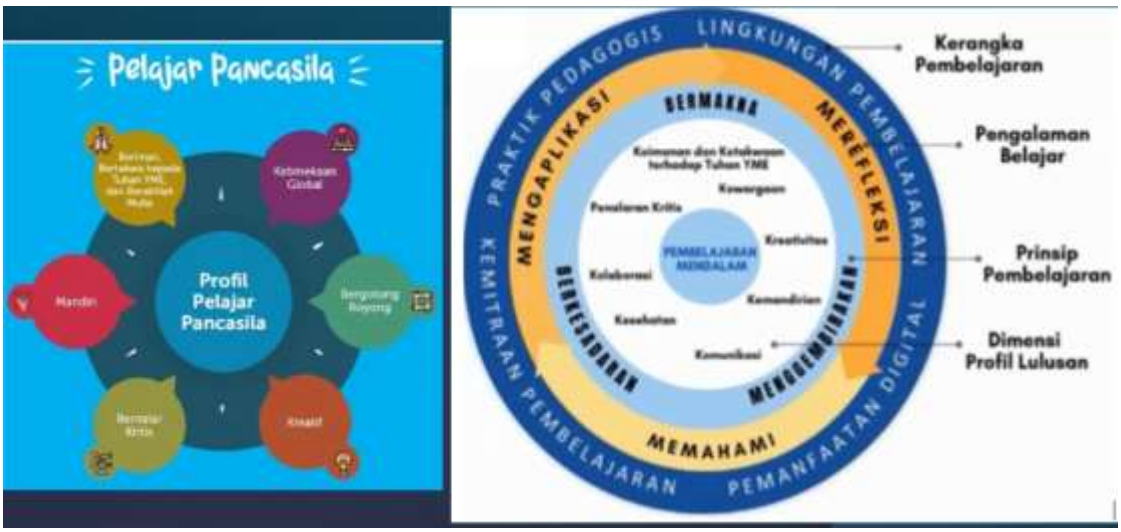

Figure 3. The Comparison between Deep Learning Profiles and Pelajar Pancasila Profiles

One of the reasons for implementing deep learning is to increase Indonesian PISA (Programme for International Students Assessment) scores. Deep Learning, by design, promotes cognitive rigor, real-world relevance, and socio-emotional development, all of which are foundational to the kinds of literacy, numeracy, and problem-solving tasks found in PISA. The latest 2022 PISA results revealed

persistent gaps in Indonesian students' ability to analyze and apply knowledge critically; an issue that Deep Learning is well-suited to address. Its emphasis on meaningful learning experiences, student agency, and interdisciplinary integration cultivates Higher Order Thinking Skills HOTs) essential for global competency (OECD, 2019). By embedding this approach into curriculum design, Indonesia can foster a generation that is both locally grounded and globally competent, capable of not just academic success but transformative leadership.

Figure 4. The Source person shared ideas of Deep Learning and Pelajar Pancasila profiles

Teachers' paradigms, pedagogical knowledge, and instructional skills are pivotal to the success of any educational reform, including the Deep Learning approach. This model requires educators to shift from content transmitters to learning designers and facilitators, emphasizing student engagement, reflection, and real-world application. Countries such as Canada, Finland, and New Zealand have successfully implemented the Deep Learning framework, leading to improved student motivation, deeper understanding, and stronger civic engagement. These countries invested in teacher professional development and collaborative school cultures to embed the 6Cs in daily instruction. For Indonesia, empowering teachers with the philosophy and tools of Deep Learning is not just desirable; it is indispensable to ensuring sustainable education reform. The following are two quotes that represent what the participants perceived of the implementation of deep learning.

> *It seems that deep learning will help students see themselves not just as learners, but as future citizens who need to think critically, care for others, and apply language in real contexts. Therefore, this learning approach can make teaching more meaningful and enjoyable (Int.Participant 05).*

> *Merdeka Belajar gives me the freedom to choose methods, but Deep Learning guides me with clarity on what to focus on, how to assess, and how to connect learning to life. It brings structure, purpose, and global relevance to my English classes (Int.Participant 02).*

Transformation of Learning Plan and Teaching Practice

The program outcomes indicated a clear enhancement in teachers' knowledge of the basic concepts of Deep Learning. Prior to the intervention, several teachers perceived this approach merely as a policy term with little relevance to classroom practice. Through the socialization sessions and discussions, however, teachers gained a clearer understanding of the 6Cs and how these principles could be applied to enrich students' learning experiences. This growth in knowledge served as a foundation for building collective awareness.

In addition to knowledge, teachers also developed a deeper understanding of how Deep Learning can be applied in primary education. They began to realize that the approach does not impose additional burdens but rather offers new ways to organize learning activities more meaningfully. This understanding helped them see the relevance of Deep Learning to the national curriculum as well as to the developmental needs of their students across grade levels.

> *At first, I thought Deep Learning was just an abstract theory from the Ministry that would be difficult to apply. After this session, I began to understand that the 6Cs can actually be implemented through simple classroom activities, even with limited resources* (Int.Teacher 04).

Another emerging aspect was the growing awareness of the importance of changing classroom practices. Teachers recognized that students should be actively involved in learning, rather than merely receiving information passively. This awareness was strengthened through the mentoring sessions, which provided opportunities for teachers to reflect on their prior practices and identify areas for improvement.

"We realized that students cannot just sit and listen. With the new lesson designs, children became more active, more willing to speak, and we as teachers felt more confident." (Teacher, SDN 02 Pondok Cabe Ilir)

These three aspects (i.e., knowledge, understanding, and awareness) collectively generated a commitment among teachers to design lesson plans and instructional activities that are more contextualized and student-centered. Teachers began to take initiative in developing tasks that encouraged student interaction, group collaboration, and active participation in completing simple projects. Although still in its early stages, this commitment was evident in the enthusiasm teachers displayed when working in teams to draft lesson plans that could be immediately tested in their classrooms.

In practice, teachers started implementing these redesigned plans through more active and participatory classroom processes. Students were increasingly engaged in small group discussions, educational games, and exploratory activities that stimulated curiosity. Teachers acknowledged that while challenges remained, such as limited time and resources, the redesigned lessons provided positive experiences that allowed them to involve students more meaningfully. These findings resonate with Fullan & Langworthy (2018), who emphasized the importance of equipping teachers with practical support to integrate 21st-century pedagogy. Similarly, Darling-Hammond *et al.*, (2017) found that practice-based professional development enhances teachers' awareness and strengthens their commitment to adopt more active and student-centered learning approaches.

Operationalizing the 6Cs at different primary grade levels

A central focus of the program was to help teachers translate the abstract framework of the 6Cs (character, citizenship, collaboration, communication, creativity, and critical thinking) into concrete classroom practices at the primary level. Teachers initially expressed uncertainty about how such competencies could be integrated into lessons traditionally dominated by content delivery. Through collaborative workshops and mentoring, however, they developed a more practical vision of how to embed the 6Cs into age-appropriate activities for Grades 1 through 6. This transition marked a critical step in bridging policy aspirations with classroom realities.

In the lower grades (Grades 1–2), teachers experimented with play- and story-based tasks to foster communication and character building. Activities such as picture-based storytelling, singing, and role-playing encouraged students to interact more actively and confidently in front of their peers. One teacher explained, *"When I used a story sequence activity, even shy students wanted to participate. They were not only speaking more but also learning how to listen and respect each other."* Such

practices demonstrate how Deep Learning can be tailored to younger learners by emphasizing engagement and empathy, aligning with findings by Kausar et al. (2024) that play-based strategies nurture both cognitive and socio-emotional growth in early education.

Figure 5. 6C's in Deep learning

In the middle grades (Grades 3–4), teachers incorporated guided problem-solving and structured group work to promote critical thinking and collaboration. For instance, science lessons were redesigned into small group experiments where students were encouraged to hypothesize and share their observations. A participant noted, *"I saw my students think of different solutions and argue politely about which one was better. This was new for them and for me."* Such outcomes resonate with Hattie's (2015) assertion that dialogic and inquiry-based tasks strengthen students' analytical and collaborative skills, even at the elementary level.

Upper-grade teachers (Grades 5–6) embraced project-based approaches that linked classroom learning to real-life contexts, thereby nurturing citizenship and creativity. Examples included designing posters on environmental awareness and conducting mini-campaigns within the school community. Teachers reflected that these projects enhanced student motivation and accountability. As one participant shared, *"When we asked them to make a poster about keeping the school clean, they not only drew but also explained why it was important for everyone. They felt responsible."* This finding supports Chang *et al*., (2024) argument that project-based learning fosters both disciplinary understanding and civic engagement when situated in authentic contexts.

Overall, the operationalization of the 6Cs across different grade levels highlighted teachers' growing ability to adapt a national framework into developmentally appropriate pedagogy. While challenges such as limited time and resources persisted, the concrete examples generated during the program confirmed that the 6Cs are not abstract ideals but competencies that can be cultivated through carefully designed activities. This aligns with Fullan *et al.,* (2018) and Hasibuan *et al.,* (2024), who emphasize that teachers' agency in contextualizing policy frameworks is essential to sustaining innovation. The experience at SDN 02 Pondok Cabe Ilir illustrates that, with structured support, primary teachers can successfully integrate the 6Cs into their lessons, thereby advancing the goals of *Merdeka Belajar* at the grassroots level.

Local Barriers and Enablers

While the program yielded promising outcomes, teachers also identified several barriers that constrained the implementation of Deep Learning at the primary level. The most frequently cited challenge was limited preparation time, as teachers were already burdened with administrative tasks and extracurricular responsibilities. They noted that designing student-centered lessons required

more planning than conventional approaches. One teacher explained, *"We want to create more interactive activities, but with the paperwork and schedules, sometimes there is just no time."* This concern echoes findings by Opfer & Pedder (2011), who observed that structural constraints often hinder teachers' ability to sustain innovation despite positive attitudes.

Another barrier was the lack of sufficient teaching resources and learning aids to support innovative activities. Teachers reported difficulties in preparing visual materials, manipulatives, and digital resources, particularly in the lower grades where concrete learning tools are essential. For many, the absence of consistent access to technology limited opportunities to experiment with digital-based Deep Learning strategies. These resource-related challenges align with Schleicher's, (2018) argument that without adequate material support, policy reforms risk being unevenly implemented across schools with differing levels of infrastructure.

Beyond resources, teachers also highlighted variation in readiness among their colleagues as a challenge. While some embraced the new approach quickly, others were hesitant, particularly those less familiar with collaborative or inquiry-based teaching. This variation occasionally slowed collective progress, as lesson plan development required consensus and shared effort. As one participant remarked, *"We are not all at the same level of confidence. Some of us move fast, others still worry whether it will work."* Such differences mirror Guskey's, (2002) observation that professional development impacts are rarely uniform, and teacher change is often incremental and context-dependent.

Despite these barriers, several enabling factors played a crucial role in supporting teachers' adoption of Deep Learning. School leadership was consistently mentioned as a strong enabler, with the principal actively encouraging experimentation and providing flexibility in lesson scheduling. Teachers also pointed to the collaborative spirit fostered during the program as a source of motivation. One teacher stated, *"It feels easier when we do this together. Sharing ideas with colleagues gives me energy and makes me confident to try."* This sense of collegiality is consistent with Vangrieken et al. (2015), who emphasize that peer collaboration enhances teacher agency and fosters professional resilience.

Taken together, the findings suggest that barriers and enablers are interdependent in shaping the sustainability of pedagogical reform. Time and resource constraints, coupled with varying teacher readiness, underscore the need for systemic support at the institutional and policy levels. At the same time, the enabling influence of leadership and peer collaboration demonstrates the potential for schools to generate internal momentum for change. The case of SDN 02 Pondok Cabe Ilir illustrates that even within resource-limited contexts, reforms like Deep Learning can take root when supported by committed leadership and collaborative professional cultures. This aligns with Darling-Hammond and Hyler's, (2020) conclusion that effective reforms require both top-down support and bottom-up ownership.

Sustainability and Professional Collaboration

A key insight from the program was the emerging sense of sustainability generated through the establishment of collaborative practices among teachers. Rather than perceiving the PKM as a one-time intervention, teachers began to view it as the foundation for an ongoing cycle of peer learning and mutual support. They expressed the need to continue meeting regularly to share lesson plans, observe each other's teaching, and provide constructive feedback. As one teacher stated, *"If we keep discussing and planning together, it will not stop here. We can support each other to keep using Deep Learning in our classes."* This indicates a shift from individual responsibility to collective ownership of pedagogical change.

Figure 6. Having a group photo session after the event

The creation of such collaborative spaces aligns closely with the concept of professional learning communities (PLCs), which emphasize shared goals, reflective dialogue, and joint responsibility for student learning. Teachers' willingness to sustain collaboration reflects a growing recognition that the challenges of implementing Deep Learning are better addressed collectively than individually. This finding is consistent with Vescio, Ross, & Adams (2008), who argue that PLCs not only strengthen teacher professional development but also contribute directly to improved student outcomes.

School leadership also played a crucial role in fostering sustainability by endorsing teacher collaboration and providing institutional support for continued peer learning. The principal's encouragement to allocate time for lesson planning and informal discussions created an enabling environment for sustaining the momentum generated during the PKM. Such leadership practices resonate with Harris and Jones (2010), who highlight that distributed leadership is essential for embedding collaborative professional cultures and ensuring that innovations extend beyond external interventions.

Finally, the experience at SDN 02 Pondok Cabe Ilir demonstrates that sustainability depends on embedding professional collaboration within everyday school routines rather than treating it as an add-on. Teachers' enthusiasm for continuing the practices introduced during the program suggests that PLCs can serve as a powerful mechanism for scaling and maintaining Deep Learning in primary education. As Stoll *et al*., (2006) emphasize, sustainable change occurs when professional collaboration becomes part of the school's culture, enabling teachers to continually refine practices in response to both policy shifts and student needs. The findings, therefore, affirm that the PKM not only improved teachers' immediate competencies but also laid the groundwork for long-term professional growth.

CONCLUSION AND SUGGESTION

This community service program at SDN 02 Pondok Cabe Ilir, which engaged 30 primary school teachers, demonstrates that the Ministry's newly promoted Deep Learning (Pembelajaran Mendalam) framework can be effectively interpreted and implemented at the primary level. The program generated significant improvements in teachers' knowledge, understanding, and awareness of the 6Cs—character, citizenship, collaboration, communication, creativity, and critical thinking—and fostered a tangible commitment to redesign lesson plans and classroom practices to be more active and student-centered across grade levels. Teachers successfully translated policy directives into practical strategies, such as play- and story-based activities in the lower grades, guided inquiry in the middle grades, and project-based tasks in the upper grades. The program also encouraged collaborative routines for lesson planning and peer support. Nonetheless, challenges remained,

including limited preparation time, inadequate resources, and varying levels of teacher readiness, while the short duration of the program restricted conclusions about long-term impacts on student outcomes.

Based on these findings, several suggestions and implications can be drawn. First, the adoption of Deep Learning in primary schools requires sustained and contextualized professional development that integrates modular workshops, ongoing mentoring, and professional learning communities to build both competence and confidence. School leaders are advised to provide institutional support and allocate dedicated time for collaborative lesson planning, thereby ensuring that innovation does not remain an individual burden. Moreover, targeted investments in teaching resources are essential to reduce practical barriers that often impede the implementation of student-centered practices. From a broader perspective, future research should employ longitudinal and comparative approaches to investigate how teacher practice changes affect student engagement and learning outcomes over time. Finally, policymakers and education stakeholders are encouraged to institutionalize follow-up programs that strengthen collaboration, embed formative assessment strategies suited for young learners, and ensure that the Deep Learning framework is continuously adapted to meet the diverse developmental needs of primary school students.

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