

Deep Learning Implementation in the Merdeka Curriculum: Student-Centered Pedagogical Innovation at SD Negeri 20 Muara Telang, Banyuasin Regency

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Abstrak

Penelitian ini bertujuan untuk mengeksplorasi implementasi pembelajaran mendalam (*deep learning*) dalam kerangka Kurikulum Merdeka di SD Negeri 20 Muara Telang, dengan fokus pada kesiapan guru, motivasi siswa, sarana pendukung, manajemen sekolah, dan kemitraan dengan orang tua. Penelitian ini menggunakan desain studi kasus kualitatif dengan informan yang terdiri dari satu kepala sekolah, lima guru, dan lima siswa. Pengumpulan data dilakukan melalui wawancara mendalam, observasi kelas, dan dokumentasi. Hasil penelitian menunjukkan bahwa praktik pembelajaran mendalam masih belum optimal: guru belum konsisten dalam memfasilitasi kegiatan kolaboratif maupun pembelajaran reflektif; sarana pendukung dan dukungan eksternal masih terbatas; serta manajemen sekolah dan komunikasi antara sekolah dan orang tua belum berjalan secara maksimal. Namun demikian, telah terlihat upaya awal yang positif dari guru dan siswa dalam mengadopsi metode pembelajaran yang lebih aktif. Penelitian ini merekomendasikan penguatan kapasitas guru, peningkatan kepemimpinan instruksional, penyediaan fasilitas pembelajaran yang memadai bagi sekolah dengan akreditasi rendah, serta peningkatan kolaborasi antara orang tua dan sekolah. Studi ini memberikan wawasan penting untuk mendukung transformasi sekolah dasar menuju pembelajaran yang bermakna dan berpusat pada siswa.

Kata kunci: Pembelajaran Mendalam, Kurikulum Merdeka, Pedagogi Berpusat pada Siswa, Pendidikan Dasar.

Abstract

This study aims to explore the implementation of deep learning within the framework of the Merdeka Curriculum at SD Negeri 20 Muara Telang, focusing on teacher readiness, student motivation, supporting facilities, school management, and parental partnership. A qualitative case study design was employed with informants including one principal, five teachers, and five students. Data were gathered through in-depth interviews, classroom observations, and documentation. The findings reveal that deep learning practices remain suboptimal: teachers are not yet consistent in facilitating collaborative activities or reflective learning; supporting facilities and external support are limited; and school management as well as parent-school communication are not yet fully effective. However, positive initial efforts have been observed among teachers and students in adopting more active learning methods. The study recommends strengthening teacher capacity-building, enhancing instructional leadership, providing adequate learning facilities for low-accreditation schools, and improving parent-school collaboration. This study offers essential insights to support primary school transformation toward meaningful student-centered learning.

Keywords: Deep Learning, Merdeka Curriculum, Student-Centered Pedagogy, Primary Education.

1. INTRODUCTION

Educational transformation has become a global necessity in equipping learners to confront the complexities of the twenty-first century. Contemporary education must transcend rote memorization and instead foster higher-order competencies such as critical thinking, creativity, collaboration, communication, and the practical application of knowledge in

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authentic contexts. The concept of deep learning underscores the importance of conceptual mastery, the transferability of knowledge to unfamiliar situations, and active student engagement throughout the instructional process (Nafi'ah, 2025; Morris, et al., 2023)

Several countries, including Finland, Singapore, and South Korea, have successfully implemented student-centered educational reforms that cultivate adaptive and globally competitive graduates (Wilson, 2021). In contrast, Indonesia's standing within the international educational landscape reveals a notable disparity. Findings from the Programme for International Student Assessment (PISA) consistently demonstrate that Indonesian students' performance in reading literacy and mathematics remains significantly below the OECD average (Nafi'ah, 2025). These outcomes suggest that deep learning principles have not yet been comprehensively integrated into classroom practice across the country.

In response to these challenges, the Indonesian Ministry of Education introduced the Merdeka Belajar initiative alongside the Kurikulum Merdeka, both of which emphasize flexible, student-centered instruction aimed at strengthening character formation and future-oriented competencies. Nevertheless, implementation remains uneven, particularly in regions facing infrastructural and resource constraints (Suwannaphima & Vibulphol, 2023; Musfidah, et al., 2023).

Within South Sumatra specifically in Banyuasin Regency educational quality continues to exhibit significant disparities. SD Negeri 20 Muara Telang, an institution accredited at level C, encounters substantial obstacles in implementing deep learning practices. These challenges include limited educational facilities, low levels of teacher and student motivation, insufficient governmental support, and underdeveloped school-parent collaboration. As a result, instructional practices have yet to fully align with the competency standards envisioned under the Merdeka Curriculum framework (Bhwana, 2023; Wulandari, 2020); James, 2021).

Given these circumstances, conducting an in-depth investigation into the implementation of deep learning at SD Negeri 20 Muara Telang is both timely and necessary. Such research is expected to generate empirical insights into prevailing constraints and formulate strategic recommendations to facilitate a meaningful transition toward transformative, student-centered learning.

2. METHOD

This research adopted a descriptive qualitative design to explore the implementation of deep learning within the framework of the Kurikulum Merdeka at SD Negeri 20 Muara Telang. The study sought to obtain an in-depth understanding of instructional practices and their alignment with student-centered learning principles (Rahmawati, 2022; Ferdaus & Novita, 2023).

Participants were selected through purposive sampling, involving one school principal, five teachers, and five students who were directly engaged in classroom activities. Data collection techniques encompassed in-depth interviews, systematic classroom observations, and comprehensive document analysis to ensure a rich and contextualized dataset (Salim, et al., 2020; Sari, et al., 2022).

The analytical process followed the interactive model proposed by Miles and Huberman, which consists of three interconnected stages: data reduction, data display, and conclusion drawing/verification. To enhance the credibility and trustworthiness of the findings, data validity was established through both source triangulation and technique triangulation, thereby ensuring consistency and reliability across multiple data sources and collection methods.

3. RESULT AND DISCUSSION

The findings of this study were obtained through classroom observations, in-depth interviews, and document analysis involving the school principal, five teachers, and five students at SD Negeri 20 Muara Telang. The analysis followed the interactive model of data reduction, data display, and conclusion drawing. The results indicate that the implementation of deep learning within the framework of the *Kurikulum Merdeka* is still in the early stages and has not yet been implemented optimally across learning activities.

Based on classroom observations, most teachers still rely on conventional instructional approaches, particularly lecture-based explanations followed by worksheet completion. Although teachers are aware of the concept of deep learning promoted in the *Kurikulum Merdeka*, their understanding of how to translate the concept into classroom practices remains limited. Interviews with teachers revealed that they have not received sufficient professional development training specifically focused on deep learning pedagogy. This situation confirms previous studies indicating that teacher readiness is a crucial factor in the successful implementation of innovative learning approaches (Elliana et al., 2025; Fitriah et al., 2025). Deep learning requires teachers to design learning experiences that promote conceptual understanding, critical thinking, and meaningful engagement with knowledge (Wilson, 2021; Nafi'ah, 2025).

Furthermore, observations show that classroom interaction patterns remain largely teacher-centered. Students tend to act as passive recipients of information rather than active participants in knowledge construction. Only a small number of learning activities involve collaborative discussion or problem-solving tasks. This condition indicates that the transition from traditional teaching approaches toward student-centered learning has not yet been fully realized. Similar findings were reported by Smith and Li (2022), who argue that curriculum reform often encounters challenges when teachers are still adapting to new pedagogical paradigms.

Interviews with students also revealed relatively low levels of engagement in reflective and collaborative learning activities. Many students reported that classroom activities mostly involve listening to explanations and completing assignments individually. Consequently, opportunities to develop higher-order thinking skills remain limited. Deep learning approaches emphasize inquiry-based learning, reflection, and collaboration as essential elements in fostering critical and creative thinking among students (Johnson & Adams, 2020; Safitri, 2024). When these components are not fully integrated into classroom practice, the potential benefits of deep learning cannot be maximized.

Another challenge identified in this study relates to the availability of learning facilities and technological infrastructure. Teachers reported that limited access to digital learning resources and multimedia equipment restricts their ability to design project-based or inquiry-based learning activities. This finding supports the argument that infrastructure disparities significantly influence the success of curriculum implementation, particularly in schools located in rural or resource-limited contexts (Tomasouw, 2024; Sulasmi, 2025). Similarly, Hernández et al. (2023) emphasize that educational equity plays an essential role in enabling schools to implement innovative learning strategies effectively.

The role of school leadership also emerged as an important factor influencing the implementation of deep learning. Interviews with teachers indicate that the principal mainly focuses on administrative supervision rather than providing instructional mentoring or pedagogical guidance. As a result, teachers receive limited support in improving instructional practices related to the *Kurikulum Merdeka*. Previous research highlights that instructional leadership plays a crucial role in guiding teachers toward effective implementation of curriculum innovations (Aprilia, 2024; Wiryawan, 2024). School leaders are expected to facilitate professional development programs and create a collaborative learning culture among teachers.

In addition to internal school factors, external support from families also appears to influence the effectiveness of deep learning implementation. Interviews with teachers revealed that parental involvement in students' learning activities remains relatively limited. Many parents are still unfamiliar with the concept of student-centered learning promoted in the *Kurikulum Merdeka*. Consequently, students receive minimal encouragement to engage in inquiry-based or project-based activities outside the classroom. Studies have shown that family engagement plays a significant role in supporting innovative learning practices and enhancing students' learning motivation (Halimah, 2024; Santoso, 2023; Sumarsono, 2025).

Despite these challenges, several positive developments have begun to emerge in the school. Observations indicate that some teachers have started to introduce simple collaborative activities, such as group discussions and small project assignments. Although these initiatives remain limited in scope, they represent an important step toward implementing deep learning practices in the classroom. Teacher learning communities within the school have also begun to function as platforms for sharing teaching experiences and discussing innovative instructional strategies. Such collaborative professional learning environments are widely recognized as effective mechanisms for improving teaching quality and supporting educational reform (Hidayat, 2023; Price, 2023).

Moreover, the introduction of the *Kurikulum Merdeka* itself has encouraged teachers to gradually reconsider their instructional approaches. The curriculum promotes flexible learning, differentiation, and the development of the *Profil Pelajar Pancasila*, which emphasizes critical thinking, creativity, and collaboration (Kemdikbud, 2023; Safitri, 2024). At the national level, the Ministry of Education has also emphasized that the *Kurikulum Merdeka* aims to improve educational quality by fostering meaningful and contextual learning experiences (Bhwana, 2023).

Overall, the findings of this study suggest that the successful implementation of deep learning requires systemic support across multiple dimensions. These include strengthening teacher competence through continuous professional development, improving learning infrastructure, promoting instructional leadership among school principals, and encouraging stronger collaboration between schools and families. Such comprehensive support is necessary to ensure that the principles of deep learning can be effectively integrated into classroom practices and contribute to the broader goals of educational transformation and the achievement of Sustainable Development Goal 4, which emphasizes inclusive and quality education for all (Morris et al., 2023).

4. CONCLUSION

The implementation of deep learning within the framework of the *Kurikulum Merdeka* at SD Negeri 20 Muara Telang is still in its preliminary phase. Several fundamental challenges persist, including limited teacher comprehension of student-centered pedagogical principles, insufficient instructional innovation, and inadequate educational facilities. These

constraints are further compounded by suboptimal instructional leadership and minimal parental involvement, both of which impede the acceleration of meaningful educational transformation.

Despite these limitations, initial initiatives such as collaborative learning activities and the introduction of project-based tasks indicate promising prospects for progressive development. These emerging practices demonstrate the school's potential to gradually align with deep learning principles.

To advance this transformation, strategic efforts are required across multiple dimensions. Strengthening continuous professional development for teachers, enhancing educational infrastructure, reinforcing effective instructional supervision, and fostering collaborative partnerships with families are crucial steps. Such integrated measures are essential to support the realization of deep learning and to cultivate the Profil Pelajar Pancasila, even within schools operating under

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