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Educational Innovation Through the Independent Learning Initiative in Indonesia

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ABSTRACT: This study systematically reviews how Merdeka Belajar Initiative and innovative Indonesia's pedagogy close the gap between access to education and learning quality. It explores how these reforms equip students with critical thinking and problem-solving skills for the digital era. The author analyzed recent academic studies, policy documents, and international reports to evaluate the initiative's goals, innovative teaching practices, and their impact on educational outcomes in Indonesia. This research finds that the Merdeka Belajar Initiative shifts Indonesia's education system towards autonomy, flexibility, and studentcentered learning. Differentiated instruction, project-based learning, and gamification significantly enhance critical thinking and student engagement. However, teachers face challenges such as inadequate preparation, resource disparities, and resistance to change. Our findings highlight the importance of providing continuous professional development, strengthening technological infrastructure, and creating a national framework that accommodates regional diversity. It can be concluded that the Merdeka Belajar initiative and innovative pedagogy have the potential to transform Indonesia's education system. These reforms enhance academic performance and holistic student development. Overcoming systemic barriers strengthening policy support will ensure their success. This study emphasizes the need to align educational reform with innovative teaching practices to prepare students for the demands of the 21st century. It provides actionable insights for policymakers, educators, and researchers to improve education quality and equity in Indonesia.

Keywords: Merdeka Belajar, Inovative Pedagogy, Education.



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INTRODUCTION

Education is indeed the bedrock upon which the development of a nation is built, and Indonesia's educational system has reached a pivotal moment in its evolution. Indonesia is one of the countries that deserves praise for its progress in expanding access to education. In this case, education in Indonesia increased by 88% for children aged 13-15 in 2011 and almost 95% in four

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years (OECD, 2016). However, this expansion has not been matched by an increase in the quality of education. This gap between access and quality has been a persistent problem, as more than three-quarters of 15-year-olds in Indonesia do not meet minimum proficiency levels in mathematics and reading (OECD, 2023a). This comprehensive review from the OECD revealed that student learning outcomes in Indonesia are still considered very low even though the number of Indonesians attending school is more significant than before (Asian Development Bank, 2015).

This situation calls for urgent reforms beyond the quantitative expansion of education to address the qualitative aspects, ensuring Indonesian students acquire the necessary competencies for the 21st century. The Merdeka Belajar initiative is one such response, aiming to transform the educational paradigm from rote learning to a focus on foundational understanding and critical thinking (OECD, 2023b). The initiative strongly emphasizes empowering teachers and building their capacity to change instructional practices, which is crucial for improving learning outcomes. The need for reform is further underscored by the impact of the COVID-19 pandemic, which led to school closures and contributed to a decline in learning outcomes across all domains from 2018 to 2022. Despite these challenges, Indonesia has shown resilience, with the decline in results being less pronounced than the average across OECD countries. This resilience, coupled with the ongoing efforts to improve the quality of education through initiatives like Merdeka Belajar, provides a hopeful outlook for the future of Indonesia's educational landscape. The country's commitment to educational reform is essential for equipping its youth with the skills and knowledge necessary to thrive in an increasingly complex and digitalized world (Herrmann et al., 2023; Nawaz, 2022).

In response to this imperative need, the Indonesian government launched the Merdeka Belajar, or "Emancipated Learning," initiative in 2019 (OECD, 2023b), representing a significant shift in the country's educational approach. This reform agenda is driven by the recognition that traditional rote learning methods and teacher-centered instruction are no longer sufficient to prepare students for the complexities of the modern world. Instead, the initiative aims to cultivate foundational understanding and promote student-centric discovery, which is essential for developing critical thinking and problem-solving skills. The "Emancipated Learning" model of Merdeka Belajar is designed to empower teachers by increasing their flexibility and autonomy, thereby enabling them to tailor their teaching methods to the needs and competencies of their students (Randall et al., 2022). It also encourages the adoption of innovative teaching methods that make learning more engaging and enjoyable. It is a crucial development, as research indicates that student engagement is strongly linked to better learning outcomes.

Furthermore, the initiative strongly emphasizes making school a joyful experience, a significant departure from the high-pressure environments often associated with traditional education systems. By fostering an environment where learning is enriching and enjoyable, the initiative seeks to improve not only academic performance but also the overall well-being of students. This ambitious reform agenda aims to overhaul the educational paradigm, shifting the focus from rote learning to foundational understanding and from teacher-centered instruction to student-centric discovery. The Merdeka Belajar initiative represents a transformative approach to education, aiming to empower teachers, engage students, and foster an environment where learning is a joyful and enriching experience.

Existing studies have explored various aspects of the Merdeka Belajar Initiative, shedding light on its development, implementation, and impact on education in Indonesia(Hansén et al., 2012; Swift-Morgan, 2014a, 2014b). Hunaepi and Suharta (2024) analyze the Merdeka Curriculum's influence on student engagement and learning outcomes, emphasizing its role in fostering autonomy and 21st-century skills (Hunaepi & Suharta, 2024). However, they also highlight challenges such as logistical constraints, teacher preparedness, and disparities in digital resources. Similarly, Budirahayu and Saud (2023) investigate the relationship between pedagogical innovation, teacher collaboration, and student learning success, particularly in the context of remote learning (Budirahayu & Saud, 2023). Their findings underscore the significance of teacher collaboration and effective student-teacher interactions while also pointing out the need for further improvement in teachers' pedagogical innovation capabilities. Additionally, Kartika (2024) examines the Merdeka Curriculum from the perspectives of educators and policymakers, focusing on its effectiveness in internalizing Pancasila values, promoting contextual learning, shifting student mindsets, enhancing parental involvement, and strengthening character education through active learning (Kartika, 2024).

Despite these valuable contributions, there remains a significant research gap in understanding how innovative pedagogical approaches within the Merdeka Belajar Initiative directly enhance students' critical thinking and problem-solving skills. While previous studies have discussed aspects of curriculum reform and student engagement, there is limited research that specifically evaluates the effectiveness of differentiated instruction, project-based learning, and gamification in fostering these essential skills. Moreover, the challenges teachers face in adopting these pedagogical strategies—ranging from inadequate preparation and resource limitations to resistance to change—have not been thoroughly examined.

Addressing this gap, the present study offers a novel contribution by focusing on the intersection of Merdeka Belajar reforms and innovative teaching practices. By evaluating how differentiated instruction, project-based learning, and gamification enhance students' critical thinking and problem-solving abilities, this research provides a deeper understanding of the pedagogical impact of these approaches. Furthermore, by identifying the challenges teachers encounter in implementing such strategies, the study presents actionable insights for policymakers and educators. These findings contribute to the broader goal of improving education quality and equity in Indonesia, ensuring that Merdeka Belajar reforms align effectively with the demands of 21st-century learning.

This paper delves into the heart of the Merdeka Belajar initiative, examining its role as a catalyst for change within the Indonesian educational system. Furthermore, it underscores the pivotal role of innovative pedagogy—a key driver in this educational revolution. Innovative pedagogy, characterized by dynamic teaching methods and a focus on critical thinking and problem-solving, is posited as the linchpin in transforming the educational experiences of Indonesian learners. By embracing these novel approaches, Indonesia aspires to cultivate a generation of individuals who are not only knowledgeable but also adept at applying their learning in meaningful ways.

METHOD

This study employs a Systematic Literature Review (SLR) approach to examine the selected research topic comprehensively. SLR is a structured and replicable method that identifies, selects, and synthesizes existing knowledge from academic literature. This approach is particularly suitable for exploring educational reforms and innovative pedagogy, as it enables the integration of diverse findings to address specific research questions and identify trends, challenges, and opportunities.

The primary data sources include academic journals, conference proceedings, books, and reports from reputable organizations such as the OECD, UNESCO, and the World Bank. Relevant articles were accessed through online databases, including Scopus, PubMed, Google Scholar, and ERIC. Search queries were constructed using Boolean operators, combining keywords such as "innovative pedagogy," "Merdeka Belajar," "education reform in Indonesia," and "student-centered learning." The review focuses on literature published between 2010 and 2024 in English or Bahasa Indonesia to ensure the inclusion of recent and regionally relevant studies.

The data collection process followed a systematic multi-step approach. First, keyword searches identified potential studies, ensuring relevance by screening titles and abstracts. Articles not aligned with the research objectives, non-peer-reviewed works, or duplicates were excluded. Full-text articles were then evaluated against inclusion criteria focusing on their relevance, methodological rigor, and contributions to the topic.

The key data points extracted from each study included research design, population, findings, and recommendations. The analysis involved thematic coding and qualitative synthesis to identify recurring patterns, gaps, and significant findings across the selected studies. Data were organized into thematic categories such as teaching methodologies, student engagement, and policy implications. Each study was critically appraised for reliability and validity using the CASP (Critical Appraisal Skills Programme) checklist. Finally, the synthesized findings were presented in a cohesive narrative, emphasizing emerging trends, best practices, and unresolved challenges in educational reform and pedagogical innovation. Quantitative data, where available, were integrated to support qualitative insights.

The Merdeka Belajar Initiative

The Merdeka Belajar Initiative marks a pivotal shift in Indonesia's educational landscape. It aims to transition from conventional pedagogical methods to a more liberated and student-centric approach. This reform is designed to foster an academic environment where autonomy and flexibility are paramount, enabling students to engage with learning materials that resonate with their learning preferences (Prahastina et al., 2024)

Under this initiative, significant policy changes have been enacted to decentralize educational control, granting schools and educators the latitude to customize curricula and teaching methodologies. This customization level is intended to accommodate students' varied needs better, ensuring the educational experience is relevant and practical. Furthermore, the initiative empowers students to select courses that align with their personal interests and professional

aspirations, which is instrumental in cultivating a sense of ownership and intrinsic motivation towards their educational pursuits (Prahastina et al., 2024)

By encouraging active participation in the learning process, students are prompted to engage in higher-order thinking tasks such as questioning, analyzing, and synthesizing information. This active engagement is crucial in developing the skills necessary for success in the 21st-century workforce. Research has shown that open-ended questions can effectively assess and develop critical thinking skills in Indonesian elementary schools. A study found that open-ended questions are a valid, reliable, and practical instrument for evaluating students' critical-thinking skills, which are essential life skills students need (Sarwanto et al., 2020). Another study highlighted the positive impact of problem-based learning on the critical thinking skills of elementary school students, indicating that this approach significantly influences students' abilities to think critically (Darmawati & Mustadi, 2023).

The Merdeka Belajar Initiative's emphasis on differentiated instruction is particularly noteworthy. It encourages implementing diverse teaching strategies catering to each student's unique learning style, enhancing the overall learning experience. For instance, a study on implementing differentiated instruction in science learning within the Merdeka Belajar framework found that such an approach significantly improves students' science literacy (Hidayah et al., 2023).

Moreover, the initiative has been linked to cheerful readiness and commitment among teachers to adapt to new learning approaches, as evidenced by a study on implementing the Merdeka Curriculum at the elementary level. The study revealed that while teachers understand the concept of Merdeka Belajar and are prepared to embrace the new curriculum, there are challenges related to project-based learning assessments that require further understanding and training (Prahastina et al., 2024).

Innovative Pedagogy in Indonesian Education

Innovative pedagogy in Indonesia is gaining momentum, particularly with the implementation of the Merdeka Belajar Initiative. This initiative responds to the need for educational reform, emphasizing the development of autonomous and flexible learning environments that cater to individual student needs. Innovative teaching methods are central to this initiative, with educators adopting creative and engaging strategies to facilitate deep learning. These methods are designed to meet the evolving needs of students in a rapidly changing world. For instance, project-based learning encourages students to apply knowledge to real-world problems, fostering critical thinking and collaboration skills. Collaborative group work promotes teamwork and communication while integrating technology in classrooms enhances digital literacy and provides access to a broader range of learning resources (Wang et al., 2003)

Gamification is an innovative method that is being implemented in Indonesian classrooms. It uses game design elements in non-game contexts to enhance student motivation and engagement. Flipped classrooms, where students review content at home and participate in interactive classroom activities, are another example of innovative pedagogy. This approach allows for more hands-on learning experiences and better utilization of classroom time. Service-learning projects connect academic content with community service, allowing students to apply their learning

meaningfully while contributing to their communities (Jayanegara et al., 2024).

These innovative teaching methods align with the goals of the Merdeka Belajar Initiative, which seeks to transform the educational paradigm from rote learning to one that fosters foundational understanding and critical thinking. By embracing these changes, Indonesia is working towards cultivating a generation of knowledgeable learners capable of applying their learning in complex, real-world situations. The synergy between the Merdeka Belajar Initiative and innovative pedagogical practices holds the promise of a bright future for education in Indonesia, preparing students to navigate and contribute to a global society.

Challenges and Opportunities

Recent academic research highlights several challenges to adopting new teaching methods in Indonesia. One of the primary challenges is the resistance to changing from traditional, teacher-centered methods to more student-centered approaches. This resistance can stem from various factors, including a lack of familiarity with new techniques, insufficient teacher training, and a lack of resources to implement these strategies effectively (Zein, 2022)

Teachers' preparedness to adopt new pedagogies is crucial for the success of educational reforms. A study examining English language teacher education in Indonesia found that while there have been significant changes and innovations in teacher education, there remains an apparent disconnect between the academic work of Indonesian scholars and the policies on teacher education developed by the Ministry of Education, Culture, Research, and Technology (Zein, 2022). This gap can hinder the effective implementation of new teaching methods.

Furthermore, the disparity in educational resources across different regions of Indonesia exacerbates the challenge of standardizing innovative pedagogy nationwide. The OECD's report on Indonesia highlights that socio-economic status influences learning outcomes significantly, with a more considerable disparity in educational achievement between the top and bottom quartiles of the socio-economic index than the OECD average (OECD, 2021). This suggests that students in less affluent regions may not have the same access to quality education as their counterparts in more developed areas.

Additionally, a study on regional inequality in education in Indonesia emphasizes that decentralizing education management to regional governments has led to varying education levels across provinces (Azizah, 2017). While this decentralization allows for localized education management, it also contributes to the difficulty of standardizing teaching methods and resources across the country.

The Merdeka Belajar initiative is a transformative educational reform in Indonesia that presents numerous opportunities to address the challenges of adopting new teaching methods. It emphasizes a talent and interest-based approach, encouraging students to engage in learning that aligns with their passions. This approach is supported by research indicating that students are more likely to engage deeply and perform better academically1 when interested in the subject matter (Prahastina et al., 2024). Moreover, the initiative grants teachers greater autonomy in the classroom, allowing for a more adaptable and responsive educational environment. This shift

is crucial because it enables educators to implement pedagogical strategies that are most effective for their specific student populations. A study on implementing the Merdeka Curriculum at the elementary level revealed that teachers showed overall readiness and commitment to adapt to the new curriculum, which emphasizes creativity and innovation (Prahastina et al., 2024). However, the study noted significant challenges, particularly in project-based learning assessments, highlighting the need for deeper understanding and additional teacher training.

Technology's role in facilitating innovative pedagogy is also pivotal. It provides tools for personalized learning, access to a wealth of online resources, and platforms for collaboration among students and teachers. The Indonesian government has developed technological solutions like the Platform Merdeka Mengajar (PMM) to support the initiative. PMM stands as a government initiative to bolster the understanding and implementation of the Merdeka Curriculum, aiming to assess the extent to which PMM contributes positively to supporting the comprehension of concepts and the implementation of the Merdeka Curriculum (Elpin et al., 2024).

Policy Recommendations

A focus on continuous professional development for teachers is essential for policymakers to support the effective implementation of innovative pedagogies. This development should be ongoing and tailored to the evolving educational landscape, ensuring teachers have the latest pedagogical skills and knowledge. A UNESCO publication emphasizes the importance of evidence-based policy and practice to promote Sustainable Development Goal 4, which includes quality education (UNESCO, 2024). It suggests that policymakers use solid and reliable data and evidence to progress toward their education targets and understand policies and programs that could improve educational outcomes.

Investment in technological infrastructure is also crucial. As the UNESCO guide for policymakers on AI and education points out, technology can address some of the most significant educational challenges today, innovate teaching and learning practices, and ultimately accelerate progress toward inclusive and equitable quality education (Miao et al., 2021).

Creating a national framework for innovative pedagogy that respects regional diversity is recommended to scale successful models across Indonesia. This framework would allow adapting educational models to fit different regions' unique cultural and societal needs. Establishing partnerships with EdTech companies can also significantly scale these models, as these companies often bring innovative solutions and technologies to enhance learning experiences. Furthermore, promoting collaborative networks among educators to share best practices is vital. Such networks facilitate the exchange of ideas, strategies, and resources, contributing to a more cohesive and effective educational system.

These strategies are supported by research indicating that when educational reforms are backed by political commitment, trust, and coalitions, they are more likely to be scaled and preserved over time, as seen with Indonesia's gradual approach with its latest Merdeka Belajar (Emancipated Learning) reform (World Bank, 2023). By focusing on these areas, policymakers can help ensure that educational reforms are implemented, sustained, and scaled effectively across the country.

CONCLUSION

In conclusion, the Merdeka Belajar Initiative marks a transformative shift in Indonesia's education system, moving away from rigid, standardized instruction toward a more flexible, student-centered approach. By decentralizing academic control, the initiative empowers schools, educators, and students to tailor learning experiences that align with individual needs and aspirations. The integration of innovative pedagogy, including project-based learning, gamification, and service learning, fosters an engaging and skill-oriented educational environment that prepares students for real-world challenges.

Despite challenges such as resistance to change and regional disparities, the initiative's emphasis on interest-based learning and the adoption of digital tools like Platform Merdeka Mengajar create opportunities for overcoming these barriers. Success stories, particularly from vocational schools and regions like Malang, highlight the positive impact of innovative teaching strategies on student engagement and academic outcomes. To ensure the long-term success of this reform, Indonesia must prioritize teacher professional development, equitable access to technology, and a national framework that accommodates regional diversity. Collaborations with EdTech companies and the establishment of educator networks will further support the scalability of these innovations.

Future research should explore the long-term impact of the Merdeka Belajar Initiative on student achievement and workforce readiness, as well as effective strategies for scaling innovation in diverse educational settings. Comparative studies with other education systems undergoing similar transformations could also provide valuable insights for policy refinement.

Ultimately, the Merdeka Belajar Initiative represents Indonesia's commitment to fostering critical thinking, problem-solving, and adaptability—essential skills for thriving in a rapidly evolving global landscape. By continuously refining and expanding this approach, Indonesia can cultivate a generation of learners ready to lead and innovate for the future.

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