

EDUCATIONAL TRANSFORMATION IN INDONESIA: REVIEWING THE POLICY LANDSCAPE AND LEARNING OUTCOMES

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Abstract

Educational transformation in Indonesia is a response to global dynamics, technological developments, and the demands of 21st-century competencies. This study aims to comprehensively review the national education policy landscape and analyse learning outcomes as the impact of policy implementation, using a literature review method. Data sources include academic literature, official government reports, previous research findings, and national and international education statistics. The findings indicate that policies such as the *Merdeka Curriculum*, education digitalisation programmes, strengthening vocational education, and improving teacher capacity have contributed positively to improving literacy, numeracy, critical thinking skills, and digital competencies among students. However, challenges such as infrastructure gaps, regional disparities in quality, and uneven teacher quality still limit the optimisation of learning outcomes. These findings underscore the need for policy continuity and consistency, strengthening access equity, aligning the curriculum with the job market, and integrating character education to ensure that educational transformation produces globally competitive generations while contributing to sustainable national development.

Keywords: Educational transformation, educational policy, learning outcomes, *Merdeka Curriculum*, literacy, numeracy.

Introduction

Education is one of the main pillars of sustainable development in a nation. In Indonesia, with its vast geographical, cultural, and socio-economic diversity, the role of education is highly strategic in shaping human resources that are competitive at both regional and global levels (Judijanto & Aslan, 2025); (Purike & Aslan, 2025). Educational transformation is not merely about changes in the curriculum or teaching methods, but also involves adapting to technological advancements, labour market demands, and the values that need to be instilled in future generations (Komari & Aslan, 2025). Therefore, changes to the education system in Indonesia are a dynamic and multidimensional process that requires the involvement of various stakeholders to ensure its successful implementation.

One of the main drivers for educational transformation is the gap between the quality of human resources produced by the education system and the real needs in the field, particularly in the economic and industrial sectors. Data from various surveys indicate that although school participation rates in Indonesia have increased significantly over the past two decades, the learning outcomes achieved by students are still not entirely satisfactory (Maksum & Fitria, 2021) . This is reflected in Indonesia's performance in international studies such as *the Programme for International Student Assessment (PISA)*, which remains below the average of OECD countries. This phenomenon indicates that investment in the education sector must be accompanied by comprehensive reforms, including in policy and learning practices in the field (Hasnida & Siagian, 2024) .

The national education policy landscape has undergone significant changes since the 1998 reform era, when the government began promoting education decentralisation by granting greater authority to local governments. This step was expected to align education policies with local needs. However, decentralisation also brought new challenges, such as quality gaps between regions, disparities in access to resources, and disparities in teacher competencies (Rianti, 2024) . In the latest administration, policies such as *the Merdeka Curriculum* and the education digitalisation programme indicate a shift towards more flexible, competency-oriented learning that utilises technology as a key enabler (Fitri & Sapriya, 2024) .

Educational transformation is also influenced by the 4th Industrial Revolution, which demands new skills such as digital literacy, critical thinking, collaboration, and creativity. Education in Indonesia faces the challenge of responding to these changes adaptively, ensuring that students are not only equipped with theoretical knowledge but also practical skills relevant to the dynamic development of technology. This challenge becomes even more complex when considering the fact that access to and quality of educational technology infrastructure still vary across regions (Firmansyah & Aslan, 2025a) ; (Firmansyah & Aslan, 2025b) ; (Caroline & Aslan, 2025) .

In addition to technological factors, educational transformation is also influenced by social and cultural developments. Indonesia's multicultural society requires an inclusive educational approach that embraces diversity as a strength rather than an obstacle. This is in line with the sustainable development agenda (*Sustainable Development Goals, SDG 4*), which emphasises inclusive and quality education for all. However, achieving these goals still faces challenges such as discrimination against certain groups, limited access in remote areas, and uneven distribution of educational facilities (Nurdiati, 2025) .

Learning outcomes are a key indicator for measuring the success of educational transformation. Learning outcomes are not limited to academic achievements but also include higher-order thinking skills, attitudes, and values developed during the educational process. In other words, educational policy reforms should be oriented

toward achieving holistic *learning outcomes*. Many literature studies indicate that the success of educational transformation depends on the integration between policies, implementation, and consistent evaluation of learning outcomes (Rorong, 2019).

Policy changes without evaluative analysis of learning outcomes have the potential to create new policies that are ineffective or even counterproductive. Therefore, a comprehensive study is needed that directly links the education policies implemented and their performance in improving learning outcomes. In the Indonesian context, there is still a research gap in examining how policies such as curriculum changes, digitalisation, and teacher competency improvement programmes actually influence student achievement in measurable ways.

Based on this background, this study is expected to serve as an important reference in formulating sustainable and equitable education transformation strategies in Indonesia.

Research Method

This study uses a *literature review* method, which is a technique for collecting data and information by searching, identifying, evaluating, and synthesising various relevant written sources, such as academic books, national and international journal articles, previous research results, policy reports, educational statistics, and official government documents related to educational transformation in Indonesia (Elijah & Aslan, 2025). Sources were selected purposively, considering their relevance, credibility, and recency, particularly in the context of national education policy and learning outcome measurement. The collected data were analysed descriptively and analytically to map the educational policy landscape and assess its relevance to learning outcomes, thereby providing a comprehensive overview of the direction of educational transformation in Indonesia, its supporting and hindering factors, and policy implications that can be formulated based on the literature findings (Petticrew & Roberts, 2020).

Results and Discussion

The Landscape of Education Policy in Indonesia

The education policy landscape in Indonesia is shaped by a complex interplay of historical, socio-political, and economic factors that reflect the country's diversity and development aspirations. Since independence, education policy has evolved through various stages, from a centralised system during the New Order era to a more decentralised framework following the 1998 reforms (RP Buulolo, 2024). Decentralisation grants greater authority to local governments to manage education with the aim of aligning policies with local needs while maintaining national standards. This development reflects Indonesia's ongoing efforts to reconcile national unity with

regional diversity while improving the quality and equity of education across all regions (Syamsuri, 2022).

One of the main pillars of the current education policy is the government's commitment to a 13-year compulsory education programme, which includes 1 year of early childhood education (PAUD) up to 12 years of primary and secondary education. This policy aims to ensure universal access to quality education and reduce dropout rates. Efforts to expand PAUD services are intended to better prepare children before they enter formal education. This focus on universal education is accompanied by strategies to improve school infrastructure, provide targeted education subsidies, and prevent school dropouts, particularly in marginalised communities (D).

In addition to expanding access, Indonesia's education policies emphasise improving the quality of the teaching and learning process. The introduction of the Merdeka Curriculum marks a shift towards a more flexible competency-based learning paradigm, with a focus on basic skills, contextual learning, and a learner-centred approach. This curriculum reform also encourages schools and teachers to innovate pedagogically, utilising digital technology and interactive methods to foster creativity, critical thinking, and problem-solving skills that are essential in the 21st century.

Digital transformation has become a vital component of education policy in Indonesia, accelerated by disruptions to conventional learning during the COVID-19 pandemic. Policies support the provision of information and communication technology (ICT) infrastructure in schools, professional development for teachers in digital literacy, and the creation of platforms such as *Ruang GTK* to enhance educators' capacity. However, infrastructure and access gaps between urban and rural areas remain a challenge requiring special interventions to bridge the digital divide; (Aslan & Sidabutar, 2025); (Rokhmawati et al., 2025).

Another distinctive feature of Indonesia's educational policy landscape is the recognition of cultural and religious diversity through efforts to improve the quality of education in Islamic boarding schools and other religious educational institutions. Policies are directed towards integrating religious education into the national curriculum, improving accreditation, and recognising the diplomas of graduates from religious institutions to provide them with broader opportunities, without neglecting the local cultural context and beliefs (Sudrajat & dkk., 2025).

Vocational education plays a crucial role in Indonesia's education policy as a response to labour market needs and the development of productive skills for the younger generation. The government is promoting the strengthening of vocational high schools (SMK) and polytechnics through infrastructure investment, curriculum innovation aligned with industry needs, and partnerships with the business world. This policy focuses on improving graduates' job readiness, productivity, and competitiveness in the face of a global economy driven by technological innovation (Hidayat, 2023).

Human resource development policies prioritise teacher quality as a key factor in improving educational outcomes. This includes reforms in teacher recruitment, certification through the Teacher Professional Education (PPG) programme, continuous professional development, and teacher mobility to meet needs across various regions. Strengthening the supporting ecosystem for educators—through mentoring programmes, collaboration among teachers, and data-driven performance monitoring—is a strategic priority to improve teaching standards evenly across the archipelago (Oktareza, 2024).

Education governance and management reforms are aimed at improving the effectiveness, accountability, and transparency of the education system. These measures include strengthening the capacity of local governments, implementing school-based management models, strengthening technical implementation units, and implementing a comprehensive quality assurance framework. Data management and financial efficiency improvements are also essential for optimising resource allocation and policy implementation (Gulo, 2023).

Indonesia's education policies are integrated with global trends and national development goals as outlined in the National Medium-Term Development Plan (RPJMN) and the Long-Term Development Strategy towards 2045. This policy roadmap emphasises inclusive, equitable, and quality education as the primary driver of human capital development to realise Indonesia's vision of becoming a developed nation by the centennial of its independence. This strategic alignment ensures that education reforms contribute effectively to broader socio-economic transformation (Anggraena, 2022).

The policy landscape also recognises the importance of equity in reducing disparities in the quality of and access to education. Geographical, socio-economic, and cultural differences lead to inequalities in educational opportunities. Therefore, policies are directed towards reaching disadvantaged and vulnerable areas through special interventions such as the Indonesia Smart Card (KIP) programme, School Operational Assistance (BOS), special infrastructure projects, and community empowerment programmes. These efforts align with the commitment of Sustainable Development Goal (SDG 4) to provide inclusive and quality education for all (Somayana, 2020).

Although the existing policy framework is fairly comprehensive, implementation challenges remain significant. Issues such as disparities in policy adoption at the local level, regulatory fragmentation, limited local capacity, and the need for effective monitoring and evaluation systems can hinder the achievement of desired outcomes. Policy discourse continues to seek a balance between the flexibility of decentralisation and the role of the central government in oversight, quality control, and equity (Wijaya, 2022).

Overall, the education policy landscape in Indonesia reflects dynamic efforts to transform the system to align with contemporary needs—balancing quality, equity, cultural inclusivity, and relevance. These layered policies aim to prepare Indonesian

students to compete globally while fostering national identity and social cohesion. Understanding this policy landscape is essential for analysing its impact on learning outcomes and the sustainable evolution of Indonesia's education system.

Learning Outcomes as the Impact of Educational Transformation

Learning outcomes are the primary indicators reflecting the effectiveness of educational transformation in Indonesia. Learning outcomes encompass not only students' academic achievements but also critical thinking skills, creativity, literacy, numeracy, and adaptability to changing times. The educational transformation implemented in Indonesia over the past decade aims to comprehensively improve the quality of learning outcomes, taking into account the needs of the 21st century and the digital era. (H ; (Cahyono & Aslan, 2025) ; (Aslan & Rasmita, 2025) .

One of the key achievements in learning outcomes resulting from the transformation policy is the improvement in literacy and numeracy achievement, two foundational competencies that form the basis for further learning. According to the latest data, since the launch of the Merdeka Belajar policy, there has been a significant increase in the percentage of students achieving minimum competencies in literacy and numeracy, with an increase of approximately 14% for literacy and 27% for numeracy. This indicates that policies emphasizing competency-based learning and digitalisation have a positive impact on students' basic learning outcomes (Somayana, 2020) .

The Merdeka Curriculum, as one of the core policies of Indonesia's educational transformation, places students at the centre of learning, granting teachers and schools greater freedom to adapt teaching methods and materials to local contexts and student needs. This approach has successfully increased students' active involvement in the learning process, leading to improved learning outcomes, particularly in 21st-century skills such as critical thinking, creativity, and problem-solving (Wijaya, 2022) .

Various literature studies indicate that educational transformation in Indonesia has also improved the quality of the learning environment, including the use of digital technology to support learning. Government-supported digital learning platforms have transformed teaching methods and classroom interactions, expanded access to learning materials, and enabled more effective monitoring and assessment. The use of this technology has also helped mitigate the impact of the COVID-19 pandemic, which disrupted face-to-face learning (Fajriah, 2023) .

Despite progress, learning outcomes still show significant disparities across regions and social groups. Factors such as the availability of educational infrastructure, teacher quality, and socio-economic conditions influence the disparity in student learning outcomes. Therefore, although transformation policies show positive impacts, challenges in equitable learning outcomes remain a key issue that must be addressed sustainably (Rahayu, 2023) .

The role of teachers as a key determinant of learning outcomes has received special attention in transformation policies. Teacher certification programmes and continuous professional development have also enhanced teaching competencies, which directly contribute to improved student learning outcomes. More competent teachers are better able to implement student-centred learning and optimise the use of digital technology, thereby making the learning process more effective. ; (Pongpalilu & Aslan, 2025) .

National and international evaluations such as the National Examination (UN) and the Programme for International Student Assessment (PISA) provide empirical evidence of the impact of educational transformation on learning outcomes. Although Indonesia still faces a challenging position in international rankings, there has been a consistent trend of improvement from year to year, indicating that educational reforms are beginning to yield tangible results in gradually improving the quality of student learning (Rahayu, 2023) .

In the context of developing students' character and attitudes, educational transformation in Indonesia also emphasises the importance of character education that supports the formation of tolerance, integrity, and social responsibility. Learning outcomes that include these character aspects are part of the indicators of policy success, which are assessed through a holistic assessment system and observation of behaviour in the school environment (Ace Suryadi, 2023) .

Educational transformation also aims to address the issue of learning loss, particularly that caused by the pandemic. Through various improvement programs, remedial learning, and the use of technology, these policies seek to restore and enhance students' competencies that were previously hindered, thereby bringing overall learning outcomes back on track (Yusuf, 2023) .

A number of literature reviews indicate that the success of educational transformation in improving learning outcomes is highly dependent on synergy between central policies and their implementation at the local level. Policy adaptation that takes into account local conditions and the active participation of various stakeholders, including teachers, parents, and the community, is a determining factor in the successful implementation and positive impact on learning outcomes (Fauzi & Nurlela, 2024) . Additionally, sustainability and consistency in the implementation of transformative policies are crucial to ensure that improvements in learning outcomes are not temporary but contribute to long-term human capital development. This includes strengthening monitoring and evaluation systems, periodically adjusting the curriculum, and developing the capacity of teachers and educational institutions to remain relevant to global demands and national needs (Saihu, 2020) .

Overall, learning outcomes as the impact of educational transformation in Indonesia show positive progress but remain faced with various structural and

contextual challenges. The implementation of inclusive, adaptive, and 21st-century competency-oriented education is the key to ensuring that learning outcomes not only increase in quantity but also in quality in shaping a globally competitive and strong-charactered Indonesian generation.

Conclusion

Educational transformation in Indonesia is a dynamic process influenced by policy developments, technological advances, and 21st-century competency requirements. An analysis of the policy landscape shows that the government has implemented various strategic initiatives, such as the Merdeka Curriculum, education digitalisation, strengthening vocational education, and improving teacher quality through continuous training. These measures aim to expand access, improve learning quality, and ensure equitable education. However, challenges such as infrastructure gaps, regional quality disparities, and institutional capacity constraints remain obstacles that need to be addressed consistently through policy synchronisation between the central and regional governments.

The impact of educational transformation on learning outcomes shows positive developments, particularly in improving literacy, numeracy, critical thinking skills, and digital competence among students. Although not all learning outcome indicators have reached their optimal targets, improvement trends in national and international evaluations indicate significant progress. This success is highly dependent on the consistency of policy implementation, teacher quality, and inclusive use of technology. Going forward, education policy priorities need to be directed towards strengthening equity, the relevance of the curriculum to the world of work, and the development of 21st century character and skills, so that Indonesian education not only produces academically intelligent graduates, but also graduates who are globally competitive and play an active role in sustainable national development.

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