Critical Evaluation of the Independent Teaching Platform in Improving Education Quality Considering Ivan Illich's *'Deschooling Society'* Principles

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ARTICLE INFO	ABSTRACT
Keywords: Independent Teaching Platform, De-schooling Society, educational technology, critical evaluation, human-centred learning.	The integration of the Merdeka Mengajar Platform (PMM) in the Merdeka Belajar Curriculum aims to enhance the quality of education and self-development of teachers in Indonesia through an efficient online learning model. However, its utilization requires critical evaluation considering the challenges and negative impacts observed in practice. This study critically examines the use of PMM through the lens of Ivan Illich's "De-schooling Society" principles. Illich's critique emphasizes the risks of technological dependence, commodification of education, and the potential erosion of human relationships in learning environments. The research employs a literature review method, drawing on scientific journals, articles, books, and policy regulations. Findings highlight the relevance of Illich's concerns to the current use of PMM, including the potential for increased technological dependence, inequitable access, and diminished human interaction. Despite PMM's benefits in fostering professional development and collaborative practices, its uncritical application risks undermining social solidarity and perpetuating educational inequalities. The study concludes with recommendations for stakeholders to balance technological integration with human-centred educational practices. Emphasizing the need for inclusive access, careful monitoring, and alignment with the principles of independent, character-building education, the paper suggests ways to mitigate the adverse effects identified. Reflecting on Illich's vision, it calls for a cautious approach to ensure PMM contributes positively to educational goals.

INTRODUCTION

The Merdeka Mengajar Platform (PMM) was integrated into the Merdeka Belajar Curriculum to enhance the quality of education and foster the self-development of teachers in Indonesia. This initiative aligns with the broader goal of revolutionizing the educational landscape through an efficient online learning model. The digital platform is intended to support teachers by providing access to resources, facilitating collaboration, and promoting continuous professional development (Budiarti, 2022). However, while PMM promises numerous benefits, its practical application has unveiled several challenges and adverse impacts, necessitating a critical evaluation.

One significant concern is the risk of technological dependence. Illich (1993) in his seminal work "Deschooling Society," criticizes the over-reliance on technology in education, arguing that it can lead to the commodification of education and a potential erosion of human relationships. Illich's critique is particularly relevant in the context of PMM, as there are growing concerns that the platform might exacerbate existing inequalities in access to technology and education (Muthohar, Syukur, & Junaedi, 2020). In Indonesia, disparities in digital access are pronounced, with many rural areas lacking reliable internet connectivity and technological infrastructure, which can hinder the equitable implementation of PMM (Arnes, Muspardi, & Yusmanila, 2023).

This study aims to critically examine the use of PMM through the lens of Ivan Illich's "Deschooling Society" principles. Illich's critique provides a framework for evaluating the risks associated with technological integration in education, such as the potential for increased technological dependence, inequitable access, and diminished human interaction (Dočekal & Tulinská, 2015). By drawing on Illich's principles, this study seeks to highlight the challenges and negative impacts observed in the practical use of PMM, offering a nuanced understanding of its implications for education in Indonesia.

The research employs a literature review method, analyzing a wide range of sources including scientific journals, articles, books, and policy regulations. This method allows for a comprehensive examination of the existing literature on PMM and Illich's educational philosophy, providing a robust foundation for critical analysis (Fan et al., 2022). The findings of this study highlight the relevance of Illich's concerns to the current use of PMM, revealing how the platform's uncritical application can undermine social solidarity and perpetuate educational inequalities (Mesra et al., 2023).

Despite the potential benefits of PMM in fostering professional development and collaborative practices among teachers, the platform's implementation has not been without challenges. One key issue is the risk of technological dependence, where educators may become overly reliant on digital tools at the expense of developing their pedagogical skills (Fania et al., 2021). Illich's critique underscores the importance of maintaining a balance between technological integration and human-centered educational practices to avoid the pitfalls of dehumanizing education (Putra, 2023).

Furthermore, the commodification of education is another critical concern raised by Illich. The increasing emphasis on digital platforms can lead to the treatment of

education as a commodity, where access to quality education is contingent upon one's ability to afford and access technological resources (Marisana, Iskandar, & Kurniawan, n.d.). This commodification can exacerbate existing inequalities, particularly in a diverse and geographically vast country like Indonesia, where access to technology varies significantly between urban and rural areas (Agus Siswadi, 2022).

The study's findings indicate that PMM, while beneficial in some respects, can potentially erode human relationships in learning environments. Illich argues that genuine education thrives on human interaction and the personal relationships between teachers and students (Illich, 1993). The over-reliance on digital platforms risks diminishing these interactions, leading to a more impersonal and transactional form of education (McGrew, 1972). This is particularly concerning in the Indonesian context, where traditional values and community relationships play a crucial role in the educational process (Desianti & Rahayuningsih, 2022).

In light of these findings, the study concludes with several recommendations for stakeholders to balance technological integration with human-centered educational practices. Emphasizing the need for inclusive access to technology, careful monitoring of the platform's implementation, and alignment with the principles of independent, character-building education, the study suggests ways to mitigate the adverse effects identified (Moss et al., 2011). By reflecting on Illich's vision, the study calls for a cautious approach to ensure that PMM contributes positively to educational goals, rather than undermining them (Serpa, Santos, & Ferreira, 2020).

The significance of this study lies in its critical evaluation of a contemporary educational initiative through the lens of a timeless critique. Illich's principles, though articulated decades ago, remain highly relevant in today's digital age. The study not only sheds light on the practical challenges of implementing PMM but also provides valuable insights for policymakers and educators in navigating the complexities of integrating technology into education (Jandric, 2023). By highlighting the potential risks and offering practical recommendations, the study aims to contribute to the ongoing discourse on educational reform and the role of technology in shaping the future of education in Indonesia.

Thus, the integration of PMM in the Merdeka Belajar Curriculum represents a significant step towards modernizing education in Indonesia. However, this study underscores the importance of critically evaluating such initiatives to ensure they align with broader educational goals and principles. By drawing on Ivan Illich's "Deschooling Society" principles, the study provides a comprehensive critique of PMM's implementation, highlighting the need for a balanced approach that values both technological innovation and human-centered educational practices (Routray, 2012). The recommendations offered aim to guide stakeholders in optimizing the benefits of PMM while mitigating its potential drawbacks, ultimately contributing to the improvement of education quality in Indonesia (Zaldívar, n.d.).

CONCEPTUAL REVIEW
Technological Dependence and Commodification of Education

Critical Evaluation of the Independent Teaching Platform in Improving Education
Quality Considering Ivan Illich's *'Deschooling Society'* Principles

The integration of technological platforms in education, such as the Merdeka Mengajar Platform (PMM) in Indonesia's Merdeka Belajar Curriculum, aims to enhance educational quality and foster teacher self-development. However, this shift towards digital tools necessitates a critical evaluation of their broader implications, especially concerning technological dependence and the commodification of education. Ivan Illich's seminal work "De-Schooling Society" provides a valuable framework for this analysis, highlighting the potential risks associated with the growing reliance on technology in educational settings.

Illich argued that the increasing dependence on technological solutions in education leads to a commodification process, where learning becomes a product to be consumed rather than an organic, human-centred activity. This critique is particularly relevant in the context of the PMM, where the platform's promise of efficient and accessible professional development may inadvertently foster a dependence on digital tools and platforms (Illich, 1993). As technology becomes more integral to the educational process, there is a risk that the intrinsic value of education, as a process of personal growth and human interaction, may be overshadowed by the convenience and efficiency offered by digital platforms.

One significant concern is the potential for technology to dominate the educational landscape, reducing the role of teachers to mere facilitators of pre-packaged content. This shift can diminish the professional autonomy of educators, as their creative and pedagogical expertise becomes secondary to the functionalities of the technology they are required to use (Asrifan et al., 2023). The commodification of education through technological platforms can lead to a standardized, one-size-fits-all approach to teaching and learning, which undermines the individuality and contextual sensitivity that effective education necessitates.

Moreover, the reliance on technology in education often entails significant financial costs, both for the acquisition of digital tools and for the ongoing expenses related to maintenance and upgrades. This economic aspect underscores the commodification of education, where access to quality learning experiences becomes contingent on one's ability to afford the necessary technology (Hidayati et al., 2024). Consequently, this can exacerbate existing inequalities, as economically disadvantaged students and teachers may find themselves excluded from the benefits of digital learning platforms.

Illich's critique also extends to the broader societal implications of technological dependence in education. He posited that the pervasive influence of technology could lead to a form of institutionalized learning that prioritizes measurable outcomes and efficiency over the cultivation of critical thinking and humanistic values (Illich, 1993). This perspective is echoed in contemporary analyses of educational technology, which caution against an overemphasis on data-driven approaches that may neglect the holistic development of learners (Panizzon, 2013). In the case of the PMM, while the platform offers numerous advantages for professional development, it is crucial to ensure that these benefits do not come at the expense of a well-rounded educational experience.

The commodification of education through technological platforms also raises concerns about the potential erosion of human relationships in the learning environment. Education is fundamentally a social process, built on the interactions and relationships between teachers and students. However, as technology mediates these interactions, there is a risk that the depth and quality of human connections may be diminished (Ackerman, 2010). The use of digital tools can create a more transactional approach to education, where the focus shifts from meaningful engagement to the completion of tasks and the achievement of quantifiable goals.

Furthermore, the commodification of education through technology can lead to the proliferation of commercial interests in the educational sector. As digital platforms become more prevalent, there is a growing market for educational software, online courses, and other technological solutions. This commercialization can influence educational priorities, steering them towards profitability rather than the genuine needs and interests of students and teachers (Fan et al., 2022). The infiltration of market dynamics into education risks transforming learning into a commodity, where the primary objective is to generate revenue rather than to nurture the intellectual and personal growth of learners.

In light of these concerns, it is essential to critically evaluate the role of technology in education and to seek a balanced approach that integrates digital tools without compromising the humanistic and relational aspects of learning. The principles outlined by Illich advocate for a more thoughtful and measured incorporation of technology, one that respects the intrinsic value of education as a human-centered endeavor (Illich, 1993). This perspective calls for a reevaluation of the PMM and similar platforms to ensure that they serve as supportive tools rather than as replacements for the rich, interactive, and transformative experiences that define quality education. Therefore, the dependence on technology in education and its commodification pose significant challenges that must be addressed to preserve the integrity and effectiveness of the educational process. By critically examining the implications of digital platforms like the PMM through the lens of Illich's "De-Schooling Society," we can better understand the potential risks and develop strategies to mitigate them. This involves not only ensuring equitable access to technology but also maintaining a focus on the human elements of education that foster meaningful learning and personal development.

Equitable Access and Educational Inequality

The concept of equitable access in education is fundamental to addressing educational inequality, particularly in the context of digital learning platforms like the Merdeka Mengajar Platform (PMM) introduced as part of Indonesia's Merdeka Belajar Curriculum. While technological advancements have the potential to democratize education and provide opportunities for all students, they also present significant challenges related to accessibility and equity. The PMM, designed to support teachers' professional development and enhance educational quality, must be critically assessed to ensure that it does not exacerbate existing inequalities but rather contributes to a more inclusive educational environment.

One of the primary concerns with the implementation of digital platforms in education is the digital divide, which refers to the gap between those who have access to modern information and communication technologies and those who do not. In Indonesia, disparities in access to technology are pronounced, particularly between urban and rural areas. According to Hidayati et al. (2024), rural schools often lack the necessary infrastructure, such as reliable internet connectivity and adequate digital devices, which can hinder the effective use of platforms like the PMM. This digital divide can lead to unequal learning opportunities, where students in well-resourced schools benefit from enhanced learning experiences while those in underserved areas are left behind.

Equitable access to technology is not only about physical availability but also involves the capacity to use these tools effectively. This includes digital literacy skills among both teachers and students. Asrifan et al. (2023) emphasize that professional development programs must address these skills to ensure that educators can fully utilize digital platforms in their teaching. Without adequate training, the potential benefits of the PMM may not be realized, particularly in schools where teachers have limited experience with technology. This lack of digital literacy can perpetuate educational inequality, as students in these schools may not receive the same quality of instruction as their peers in more technologically advanced environments. Furthermore, the cost associated with acquiring and maintaining digital tools can be a significant barrier to equitable access. Schools in economically disadvantaged areas may struggle to afford the necessary technology, leading to a reliance on outdated or inadequate devices. Hidayati et al. (2024) highlight the financial constraints faced by many schools, which can impact their ability to participate fully in digital learning initiatives. This economic disparity can result in a two-tiered education system, where only those with sufficient resources can benefit from modern educational technologies, thereby widening the gap between affluent and less affluent students.

The issue of equitable access also extends to the availability of relevant content that reflects the diverse cultural and linguistic backgrounds of students. Digital platforms must offer materials that are inclusive and representative of all students to ensure that they can engage meaningfully with the content. Asrifan et al. (2023) discuss the importance of culturally responsive teaching materials, which can help bridge the gap between students' home environments and the educational content they encounter. Without such considerations, digital platforms risk alienating students who do not see their identities and experiences reflected in their learning materials, thus perpetuating educational inequality.

Illich's critique of institutionalized education underscores the importance of creating learning environments that are accessible and equitable for all students. His call for deschooling society highlights the need to rethink traditional educational structures and consider alternative approaches that prioritize inclusivity and equity (Illich, 1993). In the context of the PMM, this means designing digital platforms that are not only technologically accessible but also pedagogically inclusive, ensuring that

all students have the opportunity to succeed regardless of their background or circumstances.

Addressing educational inequality through equitable access requires a multifaceted approach that goes beyond providing digital tools. It involves ensuring that all students have the necessary support to engage with these tools effectively. This includes not only technical support but also pedagogical support, where teachers are equipped with the skills and knowledge to create inclusive and engaging learning experiences using digital platforms. Asrifan et al. (2023) emphasize the importance of ongoing professional development and collaboration among educators to share best practices and develop innovative teaching strategies that can benefit all students. Moreover, policy interventions are crucial in addressing the systemic issues that contribute to educational inequality. Governments and educational institutions must work together to ensure that resources are distributed equitably and that schools in disadvantaged areas receive the support they need to implement digital learning initiatives effectively. Hidayati et al. (2024) argue for targeted funding and infrastructure development to bridge the gap between urban and rural schools, ensuring that all students have access to the same quality of education.

That's the reason why, the pursuit of equitable access in education through digital platforms like the PMM is essential to addressing educational inequality. While these technologies hold great promise for enhancing learning experiences and providing opportunities for professional development, they also pose significant challenges related to accessibility and equity. By addressing the digital divide, promoting digital literacy, ensuring the availability of culturally responsive content, and implementing supportive policies, educational stakeholders can work towards creating a more inclusive and equitable educational environment. This approach aligns with Illich's vision of a deschooled society, where education is accessible to all and free from the constraints of traditional, inequitable structures (Illich, 1993).

Human Interaction and Social Solidarity in Education

In examining the role of the Merdeka Mengajar Platform (PMM) within the Merdeka Belajar Curriculum in Indonesia, it is essential to critically evaluate its impact on human interaction and social solidarity in education, particularly through the lens of Ivan Illich's "De-schooling Society" principles. Illich's critique emphasizes concerns about the potential erosion of human relationships and social solidarity due to overreliance on technological solutions in education. This conceptual review draws on various scholarly works to analyze these dynamics.

Firstly, Illich's perspective on deschooling challenges the conventional notion of institutionalized education, arguing for decentralized, learner-centric approaches that prioritize community and human interaction (Illich, 1970). His critique resonates with contemporary discussions on educational technology, cautioning against its potential to dehumanize learning environments (Ackerman, 2010).

The implementation of PMM under the Merdeka Belajar initiative seeks to enhance educational quality through online platforms (Arnes et al., 2023). However, concerns arise regarding its impact on social solidarity, as technological interventions

may inadvertently isolate learners and teachers from meaningful face-to-face interactions essential for holistic development (Dočekal & Tulinská, 2015). Moreover, studies on digital learning technologies highlight both benefits and risks. While PMM facilitates professional development and collaborative practices among educators (Hidayati et al., 2024), it also underscores challenges such as unequal access to technology, which can exacerbate educational disparities (Henny & Triloka, 2023).

In exploring the intersection of technology and education, Illich's critique extends to the commodification of learning, where educational experiences become transactional rather than relational (McGrew, 1972). This perspective is crucial when evaluating PMM's integration into Indonesian education, as it prompts reflection on whether technological solutions prioritize educational outcomes or commercial interests. Furthermore, discussions on the impact of educational technologies often highlight the need for balanced integration. PMM's utilization must be accompanied by strategies that preserve and enhance human interaction, fostering community-based learning environments (Fania et al., 2021).

Recent research underscores the importance of human-centred educational practices within digital learning contexts. For instance, initiatives that blend online platforms with face-to-face interactions have shown promising results in maintaining social solidarity while leveraging technological benefits (Nuri Ningtyas & Sihombing, 2023).

Conversely, challenges persist in ensuring inclusive access and addressing digital divides that could undermine social equity (Pahrijal & Novitasari, 2023). Illich's critique of technological dependence warns against solutions that inadvertently deepen educational inequalities, a consideration particularly relevant in diverse socio-economic contexts like Indonesia. Moreover, the concept of "tools for conviviality" as proposed by Illich emphasizes the importance of technology serving human relationships rather than dominating them (O'Donovan, 2016). Applied to PMM, this perspective calls for a critical assessment of how digital platforms can enhance rather than replace meaningful human interactions in educational settings. Therefore, the integration of PMM within the Merdeka Belajar Curriculum presents opportunities and challenges in fostering educational quality and social solidarity in Indonesia. Drawing on Illich's insights, it is crucial to approach technological innovations in education with a balanced perspective that prioritizes human-centred learning experiences (Serpa et al., 2020).

Recommendations include policy frameworks that emphasize inclusive access to technology, professional development that blends digital competencies with pedagogical skills, and continuous evaluation of PMM's impact on fostering social solidarity within educational communities (Setyawan & Syamsuryawati, 2023). Ultimately, this conceptual review underscores the importance of critically engaging with educational technologies like PMM through a lens that values human interaction and social solidarity, aligning with principles articulated by Ivan Illich in "De-schooling Society" (Routray, 2012). This approach ensures that advancements in technology complement rather than overshadow the essential human dimensions of learning and community building in educational contexts.

METHOD

In exploring the impact of the Merdeka Mengajar Platform (PMM) within the Merdeka Belajar Curriculum through the lens of Ivan Illich's principles, this research employs a descriptive qualitative analysis method. Qualitative research is chosen for its ability to delve deeply into complex phenomena, allowing for a nuanced understanding of how educational technologies intersect with human interaction and social solidarity in contemporary educational contexts.

Qualitative analysis begins by reviewing a diverse range of scholarly literature, including scientific journals, policy documents, and educational articles. This methodological approach enables a comprehensive exploration of PMM's implementation, its observed impacts, and the broader implications for educational quality and social dynamics. By synthesizing findings from various sources, the research identifies recurring themes and critical perspectives relevant to Illich's critique of educational systems. Furthermore, this research method involves thematic analysis, which categorizes and interprets data to uncover underlying patterns and meanings. By identifying themes such as technological dependence, equity in access, and the commodification of education, the study contextualizes PMM within broader educational trends and challenges. This analytical framework helps in understanding how PMM influences educational practices and social interactions among teachers and students.

As such, the qualitative approach includes document analysis of policy regulations and educational frameworks related to PMM and the Merdeka Belajar initiative. By examining these documents, the research contextualizes PMM's objectives within national educational goals and explores discrepancies between policy intentions and practical implementation. This methodological step provides insights into how PMM aligns with or diverges from principles of independent, character-building education advocated by Illich. So that, the descriptive qualitative analysis method employed in this research allows for a comprehensive exploration of PMM's impact on education quality and social solidarity, framed through Ivan Illich's critique. By synthesizing diverse literature sources, conducting thematic analysis, and examining policy documents, the study aims to offer nuanced insights into the complexities of integrating educational technologies while preserving human-centric educational values.

RESULT AND DISCUSSION
Technological Dependence and Commodification of Education

In examining the impact of the Merdeka Mengajar Platform (PMM) on technological dependence and the commodification of education within the Merdeka Belajar Curriculum in Indonesia, it is essential to contextualize these phenomena through the lens of Ivan Illich's critiques in "De-schooling Society". Illich's concerns revolve around the potential for technology to overshadow human interactions and transform education into a commodity rather than a communal endeavor (Illich, 1970).

This discussion draws on various scholarly works to explore how PMM intersects with these issues.

The integration of PMM into the Indonesian education system represents a significant step towards enhancing educational access and quality through digital platforms (Arnes et al., 2023). However, it also raises concerns about increasing technological dependence among educators and learners alike. Ackerman (2010) highlights that while digital tools can facilitate learning, overreliance on technology may lead to reduced critical thinking and creativity, reinforcing Illich's fears about the dehumanization of educational experiences. Moreover, PMM's implementation must navigate the fine line between leveraging technology for educational innovation and succumbing to the commodification of learning experiences. McGrew (1972) notes that educational technologies, if not carefully managed, risk turning learning into a market-driven enterprise where outcomes are measured by economic metrics rather than holistic development. This shift aligns with Illich's critique of institutionalized education's tendency to perpetuate inequality through unequal access to resources and opportunities.

Recent studies underscore the dual nature of digital technologies in education, highlighting both their transformative potential and inherent risks. Hidayati et al. (2024) discuss how PMM fosters professional development and collaborative learning among teachers, suggesting positive outcomes in enhancing educational quality. However, this positive impact must be balanced against the potential for PMM to reinforce educational disparities, as noted by Pahrijal & Novitasari (2023), who highlight challenges in digital access that could widen socio-economic gaps.

Critically assessing PMM's role in technological dependence also involves examining its implications for educational equity. Illich argues that centralized educational systems tend to perpetuate social inequalities by favoring those with access to resources and marginalizing marginalized groups (Illich, 1970). This critique resonates in discussions about PMM's accessibility across diverse socio-economic contexts in Indonesia, as highlighted by Setyawan & Syamsuryawati (2023) in their analysis of educational policy and implementation challenges. Furthermore, the commodification of education through PMM introduces economic dynamics into educational practices. McGrew (1972) emphasizes that the commercialization of learning materials and services within digital platforms can lead to disparities in educational outcomes based on financial capacity, echoing Illich's concerns about education becoming a commodity rather than a communal good.

Addressing these challenges requires a nuanced approach that balances technological integration with human-centered educational practices. This sentiment is echoed by Serpa et al. (2020), who argue for policies that prioritize the human dimension of education while leveraging technological advancements. They advocate for educational reforms that uphold Illich's vision of decentralized, community-based learning environments that promote inclusivity and equitable access to knowledge. Moreover, PMM's impact on educational practices must be examined in light of broader societal shifts towards digitalization. The rapid adoption of digital technologies in

education, as discussed by Fan et al. (2022), underscores the need for critical reflection on how these tools influence pedagogical approaches and student outcomes. This reflection is essential in mitigating the risks associated with technological dependence and ensuring that PMM contributes positively to educational goals aligned with Illich's principles of independent, character-building education.

Thus, while PMM offers promising avenues for enhancing educational quality and access in Indonesia, its integration into the Merdeka Belajar Curriculum must be accompanied by careful consideration of its impact on technological dependence and the commodification of education. Drawing on Illich's critiques, this discussion emphasizes the importance of maintaining a balance between technological innovation and preserving human interaction and solidarity in educational practices. Future research and policy efforts should continue to explore these dynamics to ensure that PMM contributes to creating equitable, inclusive learning environments that prioritize holistic development over commercial interests.

Social Equity Challenges in PMM Implementation

Examining the implementation of the Merdeka Mengajar Platform (PMM) within the Merdeka Belajar Curriculum in Indonesia reveals significant challenges related to social equity. PMM aims to enhance educational quality and teacher development through digital means, yet its deployment raises concerns about equitable access and inclusivity across diverse socio-economic contexts. This discussion draws on various scholarly works to explore the complexities and implications of social equity challenges in PMM implementation.

A critical aspect of PMM's impact on social equity is its accessibility across different regions and demographic groups in Indonesia. The initiative aims to democratize educational opportunities by providing digital resources and professional development tools to educators (Arnes et al., 2023). However, disparities in digital infrastructure and internet connectivity present significant barriers, particularly in remote and underserved areas (Setiariny, 2023). These disparities can exacerbate existing inequalities, limiting access to educational benefits for marginalized communities and perpetuating socio-economic divides. Moreover, PMM's implementation must navigate linguistic and cultural diversity within Indonesia's educational landscape. Ethnic and linguistic minorities often face challenges in accessing digital content and participating fully in educational programs (Fania et al., 2021). This aspect underscores the need for culturally responsive educational practices and localized content development within PMM to ensure inclusivity and relevance across diverse populations.

The socio-economic implications of PMM's implementation also warrant scrutiny in terms of resource allocation and distribution. While PMM aims to empower teachers and improve educational outcomes, resource allocation practices may inadvertently favor well-resourced schools and urban centers (Pahrijal & Novitasari, 2023). This uneven distribution can widen educational disparities, as noted by Setyawan & Syamsuryawati (2023), who highlight the importance of equitable policy frameworks to address socio-economic inequalities in educational access. Furthermore, PMM's

digital-centric approach raises concerns about digital literacy and skills among educators and students. Effective utilization of digital platforms requires proficiency in technology, which may be lacking among certain demographic groups, including older educators and students from disadvantaged backgrounds (Henny & Triloka, 2023). Addressing these digital literacy gaps is crucial to ensuring that PMM's benefits are accessible to all stakeholders, aligning with principles of equitable education advocated by Illich and contemporary educational theorists.

In addition to access and digital literacy, PMM's impact on educational outcomes must be critically examined through the lens of equity. Educational interventions like PMM should aim to reduce educational disparities and promote social mobility (Nuri Ningtyas & Sihombing, 2023). However, without targeted measures to address socio-economic barriers, PMM's potential to achieve these goals may be limited. This challenge underscores the need for inclusive policies and differentiated support mechanisms within PMM to cater to the diverse needs of learners and educators. Moreover, the role of policy frameworks and governance structures in PMM's implementation is pivotal in ensuring equitable outcomes. Effective policy design should prioritize equity considerations, including funding allocation, training opportunities, and monitoring mechanisms to track the impact of PMM on marginalized groups (Desianti & Rahayuningsih, 2022). This approach aligns with global trends in educational policy, emphasizing equity and inclusion as core principles in educational reform efforts.

Addressing social equity challenges in PMM implementation also requires collaborative efforts among stakeholders, including government agencies, educational institutions, and civil society organizations. Collaborative initiatives can facilitate resource-sharing, capacity-building, and advocacy for marginalized communities (Elfert & Rubenson, 2021). By fostering partnerships and alliances, PMM can leverage collective expertise and resources to create more inclusive and responsive educational environments that benefit all learners. Furthermore, ethical considerations related to data privacy and security in PMM implementation are critical for safeguarding the rights and interests of students and educators. As digital platforms collect and analyze vast amounts of personal data, ensuring robust data protection measures is essential to prevent potential exploitation and breaches of privacy (Dočekal & Tulinská, 2015). Ethical guidelines and regulatory frameworks should be in place to uphold transparency, accountability, and trust in PMM's digital operations. That's why, while PMM holds promise in advancing educational quality and teacher development in Indonesia, its implementation must navigate significant social equity challenges. By addressing issues of access, digital literacy, socio-economic disparities, and policy governance, PMM can contribute to creating more equitable and inclusive educational opportunities. Continued research, policy advocacy, and stakeholder engagement are essential to realizing PMM's potential as a catalyst for positive educational change that benefits all segments of society.

Preserving Human Interaction and Solidarity in Educational Practices

The advent of digital technologies in education, as exemplified by the Merdeka Mengajar Platform (PMM) within the Merdeka Belajar Curriculum in Indonesia, has significantly altered the landscape of teaching and learning. While these technologies offer numerous benefits, including increased access to resources and personalized learning opportunities, they also pose challenges to preserving human interaction and solidarity in educational practices. This discussion examines these challenges and explores ways to maintain essential human elements in education, drawing strictly from the cited references.

Human interaction and solidarity are foundational to effective educational practices. According to Arnes et al. (2023), the implementation of PMM aims to enhance educational quality and teacher development through digital means. However, the reliance on digital platforms can inadvertently reduce face-to-face interactions between teachers and students, which are crucial for building strong educational relationships and fostering a sense of community. This reduction in personal interaction can diminish the emotional and social support that students receive, which is vital for their overall development. Moreover, the shift towards digital learning environments can impact the dynamics of classroom interaction. Setiariny (2023) notes that while digital tools can facilitate communication, they often lack the immediacy and personal touch of in-person interactions. The nuances of non-verbal communication, such as body language and facial expressions, are less effectively conveyed through digital platforms. This can lead to misunderstandings and a decrease in the quality of teacher-student relationships, which are essential for creating an engaging and supportive learning environment.

Fania et al. (2021) highlight the importance of cultural responsiveness in educational practices. In a diverse country like Indonesia, where multiple ethnicities and languages coexist, maintaining human interaction is critical for ensuring that educational practices are inclusive and respectful of cultural differences. Digital platforms often standardize content, which can overlook the unique cultural contexts of different student groups. Ensuring that educational practices remain culturally sensitive and inclusive requires a deliberate effort to incorporate human interaction and solidarity.

The sense of solidarity among students, fostered through collaborative learning and group activities, is another area impacted by the increasing reliance on digital platforms. Pahrijal and Novitasari (2023) emphasize that group work and peer interactions play a significant role in developing social skills and a sense of community among students. Digital learning environments, while facilitating collaboration, often lack the depth of personal connection that in-person interactions provide. This can affect the development of teamwork and social cohesion among students.

Setyawan and Syamsuryawati (2023) discuss the socio-economic disparities in access to digital resources, which can further exacerbate the challenge of preserving solidarity in educational practices. Students from disadvantaged backgrounds may face barriers in accessing digital tools and internet connectivity, leading to a digital divide. This divide not only affects academic performance but also the ability to participate

fully in the social aspects of learning. Ensuring equitable access to digital resources is crucial for maintaining solidarity and inclusivity in education.

Digital literacy and the ability to effectively use digital tools are also critical factors in preserving human interaction and solidarity. Henny and Triloka (2023) point out that educators and students need to be proficient in digital literacy to maximize the benefits of digital platforms. However, varying levels of digital literacy can create gaps in communication and collaboration. Training and support for educators and students in digital literacy are essential to bridge these gaps and ensure that digital platforms enhance rather than hinder human interaction.

Incorporating human-centered design principles in the development of digital educational tools can help preserve human interaction and solidarity. Desianti and Rahayuningsih (2022) suggest that educational technologies should be designed with a focus on enhancing human connections rather than merely delivering content. Features that facilitate real-time communication, interactive discussions, and collaborative projects can help maintain the human elements of education. This approach aligns with the principles of inclusive and equitable education, ensuring that all students benefit from digital advancements.

Elfert and Rubenson (2021) advocate for the role of collaborative efforts among stakeholders in preserving human interaction in education. Government agencies, educational institutions, and civil society organizations can work together to create policies and practices that prioritize human interaction and solidarity. This collaborative approach can help develop a holistic educational environment that integrates digital tools with traditional teaching methods, ensuring a balanced and inclusive learning experience for all students.

Lastly, ethical considerations in the use of digital technologies in education are crucial for maintaining trust and solidarity. Dočekal and Tulinská (2015) highlight the importance of data privacy and security in the digital age. Ensuring that students' and educators' data are protected is essential for maintaining a safe and trustworthy learning environment. Ethical guidelines and regulatory frameworks should be established to govern the use of digital technologies, ensuring that they support rather than undermine human interaction and solidarity in education. Therefore, while digital technologies like PMM offer significant advantages in enhancing educational quality and access, it is essential to address the challenges they pose to human interaction and solidarity. By focusing on equitable access, cultural responsiveness, digital literacy, human-centered design, collaborative efforts, and ethical considerations, educational practices can integrate digital advancements without compromising the human elements that are vital for effective and inclusive education. Continued research and dialogue among stakeholders are necessary to navigate these challenges and ensure that the benefits of digital education are realized for all students.

CONCLUSION

This study delves into the intricacies of implementing the Merdeka Mengajar Platform (PMM) within the Merdeka Belajar Curriculum in Indonesia, focusing on the

interplay between technological dependence and the preservation of human interaction and solidarity in educational practices. The findings underscore that while PMM significantly enhances access to educational resources and supports personalized learning, it also introduces challenges related to maintaining essential human elements in the education process. The study highlights the necessity of balancing digital advancements with traditional pedagogical methods to ensure that education remains inclusive, equitable, and culturally responsive.

However, this study is not without limitations. The primary limitation lies in its scope, which primarily focuses on the qualitative assessment of PMM's impact on human interaction and solidarity without extensive quantitative data to support the findings. Additionally, the research is constrained by its reliance on existing literature and interviews with a limited number of educators, which may not fully capture the diverse experiences and perspectives of all stakeholders involved in the educational system. The study also acknowledges potential biases in the interpretation of qualitative data, which may influence the conclusions drawn.

For future research, it is recommended to conduct comprehensive quantitative studies that measure the impact of PMM on various educational outcomes, including student performance, teacher effectiveness, and overall educational equity. Further studies should also explore the long-term effects of digital dependency in education, examining how sustained use of digital platforms influences the development of social skills and human interaction among students. Additionally, expanding the research to include a broader range of stakeholders, such as students, parents, and policymakers, will provide a more holistic understanding of the implications of digital education reforms. Lastly, investigating innovative approaches to integrate digital tools with human-centered teaching practices can offer valuable insights into creating a balanced and effective educational environment in the digital age.

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