Education and Technology: Impact on Social Inequality in Suburban Communities

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Abstract: This paper explores the intersection of education and technology and its influence on social inequality within suburban communities. While technological advancements in education are often hailed as democratizing tools, disparities in access, digital literacy, and infrastructure can exacerbate existing social divides. This study examines how unequal distribution of educational technology impacts students' academic outcomes, parental involvement, and long-term socioeconomic mobility in suburban settings. Using a combination of literature review and case analysis, the research identifies critical gaps in policy and practice that contribute to the digital divide. The findings suggest that although technology has the potential to bridge educational gaps, without equitable implementation strategies, it risks reinforcing systemic inequalities. Recommendations are provided to guide educators, policymakers, and community stakeholders in promoting inclusive technological integration in education.

Keywords: Education, Technology, Social Inequality, Suburban Communities, Digital Divide, Equity in Education, Socioeconomic Mobility, Educational Access.

Abstrak: Artikelini mengeksplorasi hubungan antara pendidikan dan teknologi serta pengaruhnya terhadap kesenjangan sosial dalam komunitas pinggiran kota. Sementara kemajuan teknologi dalam pendidikan sering dipuji sebagai alat demokratisasi, kesenjangan dalam akses, literasi digital, dan infrastruktur dapat memperburuk kesenjangan sosial yang ada. Studi ini meneliti bagaimana distribusi teknologi pendidikan yang tidak merata memengaruhi hasil akademis siswa, keterlibatan orang tua, dan mobilitas sosial ekonomi jangka panjang di lingkungan pinggiran kota. Dengan menggunakan kombinasi tinjauan pustaka dan analisis kasus, penelitian ini mengidentifikasi kesenjangan kritis dalam kebijakan dan praktik yang berkontribusi terhadap kesenjangan digital. Temuan penelitian menunjukkan bahwa meskipun teknologi memiliki potensi untuk menjembatani kesenjangan pendidikan, tanpa strategi implementasi yang adil, teknologi berisiko memperkuat kesenjangan sistemik. Rekomendasi diberikan

untuk memandu para pendidik, pembuat kebijakan, dan pemangku kepentingan masyarakat dalam mempromosikan integrasi teknologi yang inklusif dalam pendidikan.

Kata Kunci: Pendidikan, Teknologi, Ketimpangan Sosial, Komunitas Pinggiran Kota, Kesenjangan Digital, Keadilan dalam Pendidikan, Mobilitas Sosial Ekonomi, Akses Pendidikan.

INTRODUCTION

In the era of the Industrial Revolution 4.0, technology has become a transformative force in almost all aspects of life, including the world of education.[1] The use of digital technology such as online learning platforms, educational applications, and smart devices is considered a progressive step in advancing the quality of education and expanding the reach of learning.[2] The Indonesian government has designed various school digitalization programs as part of a national strategy to improve the quality of human resources. This digitalization is believed to be able to break down geographical and economic barriers that have so far been barriers to access to quality education, with the hope of creating equal learning opportunities for all students.[3] However, in its implementation, this optimism is not always directly proportional to the social reality that occurs in the field, especially in suburban or city outskirts areas.

Suburban areas, which are geographically located between urban and rural areas, often experience unique problems that differentiate them from both areas. On the one hand, this area is exposed to modernity and technological

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[1] I Gusti Ngurah Santika, "Grand Desain Kebijakan Strategis Pemerintah Dalam Bidang Pendidikan Untuk Menghadapi Revolusi Industri 4.0," *Jurnal Education and Development* 9, no. 2 (2021): 369–77; Nabillah Purba, Mhd Yahya, and M. Kom Nurbaiti, "Revolusi Industri 4.0 : Peran Teknologi Dalam Eksistensi Penguasaan Bisnis Dan Implementasinya," *Jurnal Perilaku Dan Strategi Bisnis Vol.9* 9, no. 2 (2021): 91–98.

[2] Muhamad Rizaludin Rizal, Fari Katul Fikriah, and Husni Hidayat, "Pengenalan Augmented Reality (AR) Sebagai Media Pembelajaran Di SMK NU Kesesi," *Jurnal Pengabdian Masyarakat TEKNO* 3, no. 2 (2023): 77–83, https://doi.org/10.29207/jamtekno.v3i2.4668; Ais Isti'ana, "Integrasi Teknologi Dalam Pembelajaran Pendidikan Islam," *Indonesian Research Journal on Education* 4, no. 1 (2024): 302–10, https://doi.org/10.31004/irje.v4i1.493.

[3] Jeffriansyah Dwi et al., "Transformasi Ekonomi Digital Dan Evolusi Pola Konsumsi : Tinjauan Literatur Tentang Perubahan Perilaku Belanja Di Era Internet," *Jurnal Minfo Polgan* 14, no. 1 (2025): 28–37; Kasmirandi Kasmirandi, Subhan Akbar Abbas, and Chaeruddin Chaeruddin, "Digitalisasi Dan Kepemimpinan Transformasional: Kunci Peningkatan Kinerja Pegawai Di Enrekang, Sulawesi Selatan," *Jurnal Ilmiah Metansi (Manajemen Dan Akuntansi)* 7, no. 1 (2024): 249–56, https://doi.org/10.57093/metansi.v7i1.287.

developments from the city center. On the other hand, this area is still bound by various limitations typical of rural areas, such as unequal access to infrastructure, low economic capacity of the community, and minimal educational support from families. In the context of digitalization of education, suburban areas face a double challenge: the pressure to keep up with technological advances like in the city, but with inadequate facilities and infrastructure.[4] Many students in this region do not have the tools to support online learning such as laptops or tablets, stable internet connections, or even a conducive place to study. As a result, instead of bringing access to education closer, technology actually widens the gap of social inequality.

This inequality in access to educational technology has serious implications, especially for students' academic achievement and socio-economic future. Children from well-off families can easily access digital learning resources, take online supplementary classes, and even build global educational networks.[5] On the other hand, students from poor families, especially in suburban areas, tend to lag behind academically because they do not have adequate access to technology. In addition, parental involvement in the learning process is very limited. Many parents are not digitally literate or work all day so they cannot accompany their children in the online learning process. This condition further strengthens the social stratification that is inherited from generation to generation, making the dream of social mobility increasingly difficult for marginalized groups to achieve.[6]

The problem that then arises is: how can technology, which is ideally positioned as a tool for equalizing education, actually have the potential to reproduce social injustice? If technology is only accessible to a handful of groups with adequate resources, then the digital transformation in education is no longer a tool for democratization, but rather a new instrument of exclusion. In the

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[4] Yuni Antika et al., "Digitalisasi Pelayanan Publik Di Era Revolusi Industri 4.0," *Jurnal Riset Multidisiplin Edukasi* 2, no. 5 (2025): 358–69, https://doi.org/10.71282/jurmie.v2i5.337; Lalu Adi Adha, "Digitalisasi Industri Dan Pengaruhnya Terhadap Ketenagakerjaan Dan Hubungan Kerja Di Indonesia," *Journal Kompilasi Hukum* 5, no. 2 (2020): 267–98, https://doi.org/10.29303/jkh.v5i2.49.

[5] Bambang Priyo Cahyono, Sohirin, and Nurmaputra Zamzam Al-Asfahani, "Implementasi Digitalisasi Koperasi Sebagai Penguatan Ekonomi Kerakyatan Di Era Revolusi Industri 4.0," *Jurnal Ilmiah Ekonomi Dan Pajak (EJAK)* 3, no. 1 (2023): 1–8, www.depkop.go.id; Roni Susanto and d Afif Ulin Nuhaa Muhamma, "Transformasi Budaya Islam Nusantara Di Tengah Tantangan Modernitas: Peran Nahdatul Ulama," in *Trajectory Visi Kemanusiaan Sarjana NU* (Publica Indonesia Utama, 2024), 468–77.

[6] Roni Susanto et al., "Interreligious Harmonization (Analytic Study of Kalicinta Village, Kotabumi, Lampung)," *Jurnal Kodifikasia: Jurnal Penelitian Keagamaan San Sosial-Budaya* 17, no. 1 (2023), https://doi.org/http://dx.doi.org/10.21154/kodifikasia.v17i1.5729.

suburban context, this inequality is not only about device ownership, but also related to the lack of digital literacy training for students, teachers, and parents, as well as the weakness of local policies in responding to the digital divide that occurs. In other words, without a fair and responsive distribution approach to local realities, technology actually strengthens the dominance of certain groups and eliminates other groups from academic competition. [7]

Therefore, it is necessary to formulate structural and contextual solutions. An equity-based approach must be the mainstay in the integration of educational technology. The government needs to ensure that digital transformation is not only enjoyed by leading schools in big cities, but also by schools in remote areas. Subsidies for digital devices and cheap internet access must be provided to students from poor families. In addition, digital literacy training for teachers and parents needs to be held continuously. The role of the private sector, non-profit organizations, and local communities is very important in creating an inclusive and sustainable technology ecosystem. Collaborative programs involving various stakeholders can strengthen the position of suburban areas as part of the national education transformation.

Several previous studies have highlighted the importance of technology access in education. Muhammad Chaidir et al.[8], which explains that the digital divide is not only determined by the availability of devices, but also by the social ability to utilize them. Khusnul Nur Khomariyah et al.[9] reminds us that optimism about technology often ignores the power structures and inequalities inherent in it. In the Indonesian context, Nurjanah and Iswant reveal a positive relationship between technology use and academic achievement, but the impact is greater in areas with strong infrastructure. Meanwhile, Maulidyanawati et al. [10] noted that

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[7] Fazila Ghani Revirgin et al., "Analisis Ekonomi Dan Sosial Terhadap Kesetaraan Ntar Wilayah Di Kota Makassar , Sulawesi Selatan," *Socius: Jurnal Penelitian Ilmu-Ilmu Sosial* 02, no. June (2025): 418–27, https://doi.org/: https://doi.org/10.5281/zenodo.15618798 Analisis.

[8] Mohamad Chaidir, Grace Yulianti, and Seger Santoso, "Dampak Digitalisasi Terhadap Inovasi Teknologi Pada Usaha Mikro, Kecil, Dan Menengah," *Jurnal Visi Manajemen* 10, no. 2 (2024): 74–87, https://stiepari.org/index.php/jvm/article/view/523.

[9] Khusnul Nur Khomariyah and Umu Nur Afia, "Digitalisasi Dalam Proses Pembelajaran Sebagai Dampak Era Keberlimpahan," *Organized by Faculty of Letters*, no. 2019 (2020): 72–76, http://isolec.um.ac.id/proceeding/index.php/issn/article/view/50/26.

[10] Maulidyanawati Aqmarina Ma'ruufah, Rivan Gestiardi, and Ms. Chumdari, "Pemanfaatan Teknologi Dalam Pembelajaran Daring Era Covid-19 Pada Peserta Didik Kelas V Sekolah Dasar," *Jurnal Nalar Pendidikan* 9, no. 1 (2021): 36, https://doi.org/10.26858/jnp.v9i1.20299.

online learning during the pandemic increased psychological stress on students from low-income families.

Although these studies make important contributions, not many have specifically highlighted the context of suburban areas as a space of digital inequality. This is where the novelty of this study lies. This study specifically examines how the integration of educational technology impacts social inequality in suburban areas, which are often marginalized in the design of educational policies. In addition, this study does not only focus on technical aspects such as the distribution of devices and networks, but also examines the social and cultural dimensions that strengthen or weaken the role of technology in education. This perspective provides a new contribution to understanding the challenges and opportunities of digitalization of education in the context of marginalized communities.

This research uses a qualitative approach with a combination of literature studies and case analysis.[11] Literature study was conducted to identify previous theories and empirical findings related to educational digitalization and social inequality. Meanwhile, case analysis focused on certain suburban communities that experience significant educational technology gaps. Data were obtained from policy documents, educational institution reports, and credible journal articles and online media. Data analysis techniques were interpretive and reflective, focusing on exploring the social meaning of existing findings. Data validity was maintained through source triangulation and cross-confirmation with field data. The main objective of this study was to understand how the integration of educational technology affects social inequality in the context of suburban areas. This study also aims to identify social variables that strengthen or weaken the impact of technology, as well as to develop practical recommendations to strengthen equal access to educational technology. Thus, this study is not only descriptive, but also analytical and solution-oriented. It is hoped that the results of this study can be used as consideration for policy makers, education practitioners, and other stakeholders in designing more inclusive educational digitalization strategies.

The urgency of this research cannot be ignored. In the midst of the spirit of digital transformation, many schools and disadvantaged areas are not fully

[11] A. Michael Huberman and Saldana Jhonny, *Qualitative Data Analysis a Methods Sourcebook* (America: Arizona State University, 2014); Sugiyono, *Metode Penelitian : Kuantitatif, Kualitatif, Dan R&D* (Bandung: CV Alfabeta, 2016); J. W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (Thousand Oaks: CA: SAGE Publications, 2018).

prepared to face this change. Without fair and sustainable interventions, technology will become a new tool for the reproduction of injustice. Therefore, this research is here to provide empirical and conceptual guidance in understanding and responding to the challenges that arise due to the digitalization of education, especially in suburban areas. These findings are important not only for the academic community, but also for local communities who want to fight for educational justice in their areas.

The novelty of this research can be seen from three main aspects. First, its focus on suburban communities as a space that is rarely touched upon in the study of technological inequality. Second, the integration of a comprehensive technological and social approach in viewing the impact of educational digitalization. Third, a reflective-critical approach to public policy that is often trapped in technocratic logic. Through these three aspects, this research contributes to broadening the horizon of our understanding of the relationship between education, technology, and social justice.

DISCUSSION,

Disparities in Access to Educational Technology in Suburban Areas

Suburban areas are areas located between urban and rural areas.[12] Its transitional geographic and sociological characteristics make this region very unique. On the one hand, suburban areas are quite close to city centers so that they have the potential to be exposed to rapid modernization and technological development. However, on the other hand, suburban areas also have structural limitations typical of rural areas such as inadequate infrastructure, low levels of community income, and limited access to public services. In the context of education, suburban areas are often not a top priority in the educational technology development agenda, thus creating significant inequality.

The nationally promoted digitalization of education does offer various opportunities, but its implementation shows a sharp disparity in access between urban and suburban areas. Schools in big cities tend to be more prepared with computer labs, stable internet access, and competent human resources in mastering technology. This is very different from schools in suburban areas that are still struggling with basic facilities. Many schools in the suburbs do not yet have a

[12] Taufiq Harris et al., "Innovation in Building Digital Literacy: Stakeholder Challenges in Growing Suburban Communities," *IJORER : International Journal of Recent Educational Research* 5, no. 6 (2024): 1448–60, https://doi.org/10.46245/ijorer.v5i6.716.

proper computer room, limited projector equipment, and not all classrooms have stable electricity. Access to the internet is still a big challenge, especially in schools located in hills, valleys, or villages on the outskirts.[13]

In addition, information and communication technology (ICT) training for educators in suburban areas is also not evenly distributed. Teachers in these areas often do not receive regular training on the use of digital learning media. In fact, the role of teachers in the success of technology-based learning processes is very crucial. Teachers are not only required to master the material, but also to be able to integrate technology into the learning delivery process. When teachers do not understand how to use digital platforms such as Learning Management Systems (LMS), online quiz applications, or video conferences, the potential of technology as a learning aid is wasted.[14]

This inequality is increasingly felt in the lives of students' families. Many students from suburban areas come from lower-middle class families. In limited economic conditions, the provision of learning devices such as laptops, computers, or even smartphones is a luxury in itself. Most students only rely on their parents' cellphones which must be used alternately, or even do not have a device at all.[15] Even if the device is available, the next obstacle is expensive and unstable internet quota. Some students even have to climb hills, go to coffee shops with free WiFi, or wait for the night when the internet network is smoother just to download learning materials.

The impact of these limitations is very real. Students have difficulty following online lessons optimally. School assignments are not completed on time, learning materials are not absorbed well, and interaction with teachers is very limited. In the long term, this inequality creates an achievement gap between suburban and urban students. Students from families who have complete devices and stable internet access are able to take online classes, take additional training, and utilize digital learning media such as educational videos or academic

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[13] Wulandari Erika and Erlin Kurniati, "Karakteristik Pertanian Di Indonesia : Antara Tradisi , Tantangan, Struktural Dan Peluang Transformasi," *Jurnal Ekonomi Pertanian Da n Agribisnis (JUEPA)* 2, no. 1 (2025): 58–72.

[14] Syehan Aulia Iskandar et al., "Membangun Wilayah Berkelanjutan Melalui Inovasi Digital Dan Kepedulian Lingkungan Di Kelurahan Kebalen," *Journal Of Computer Science Contributions (JUCOSCO)* 5, no. 1 (2025): 77–86, https://doi.org/10.31599/061gxj46.

[15] Robbin Dayyan Yahuda et al., "Musafahah Method Transformation on Learning Qiraah Sab'ah in PPTQ Al-Hasan Ponorogo," *Masdar Jurnal Studi Al-Qur'an & Hadis* 5, no. 2 (2023), https://doi.org/https://doi.org/10.15548/mashdar.v5i2.7293.

discussion platforms. In contrast, students who are constrained by devices and networks only rely on limited materials and tend to be monotonous.[16] This certainly has an impact on the quality of their understanding and exam results.

This inequality of access not only creates academic disparities, but also has an impact on the psychological and motivational aspects of students. Feelings of being left behind, feeling inferior, and even losing the spirit of learning are often experienced by suburban students who feel unable to keep up with the times. In the long term, they feel unable to compete with students from big cities, and this can hinder their social mobility. In fact, education should be a means to break the chain of intergenerational poverty. However, if technology is only available to those who have capital, then the opportunity to realize social justice through education becomes increasingly distant from expectations.[17]

In addition to students, parents also feel the impact of this inequality. Many parents in suburban areas do not have digital skills, so they are unable to help their children learn from home. When learning shifted to online, the responsibility of accompanying children to study shifted to the home. However, what if the parents themselves do not know how to download materials, open class applications, or connect devices to the internet? This condition creates a psychological burden for parents who feel they have failed to accompany their children in education. In the end, children are left to learn on their own, or even not learn at all.

Another problem that worsens the situation is the absence of an effective device assistance or subsidy system for poor students. Assistance programs such as internet quotas from the government during the pandemic are indeed helpful, but they are temporary and do not address the root of the problem, namely device ownership and digital literacy. In fact, in some suburban areas, information about assistance programs does not even reach the community due to poor communication channels between schools and parents. Not to mention the

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[16] Roni Susanto and Syahrudin Syahrudin, "Social Transformation Through Education: Building a Caring and Empowered Generation," *Ngabari : Jurnal Studi Islam Dan Sosial* 17, no. 2 (2024): 37–48.

[17] Nurul Fadhilah H.M, Andi Tenri Ola Rivai, and Syamsul Syamsul, "Development of Interactive Learning Media Based on Applications Articulate Storyline 3 Human Coordination System Material," *JURNAL PAJAR (Pendidikan Dan Pengajaran)* 7, no. 3 (2023): 658, https://doi.org/10.33578/pjr.v7i3.9437.

complicated and slow bureaucratic process, causing many students to fail to access the assistance they should receive.[18]

To conclude, it is important to emphasize that suburban areas need serious attention in education digitalization policies. Equal access to devices, internet connections, teacher training, and parental guidance must be a priority in every technology-based education program. Without comprehensive and sustainable intervention, existing inequalities will deepen, and the hope of realizing education as a tool for equalizing life opportunities will become a mere utopia. By understanding the complexity of inequality in access to technology in suburban areas as a whole, we can begin to design policies and strategies that are more equitable, inclusive, and oriented towards real social transformation.

The Role of Social and Family Environment in Strengthening or Weakening the Benefits of Technology

Digital transformation in the world of education cannot be separated from the role of non-technical actors outside the school institution. Although the integration of technology in learning is considered a modern breakthrough in improving access and quality of education, its effectiveness is highly dependent on the social and cultural conditions of the community where the technology is implemented. In this case, the social and family environment plays an important role in determining whether technology is truly a productive tool or a tool that widens the gap. In suburban areas, namely transitional areas between cities and villages, families tend to come from the lower middle class. Many students' parents work as factory workers, seasonal farmers, small traders, online motorcycle taxi drivers, or other informal workers. This job generally requires a lot of time and energy, so they come home tired and do not have much time to accompany their children to study. In fact, most of them do not have an adequate understanding of digital technology, either in the form of learning applications, software, or basic digital literacy concepts.[19]

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[18] Fatakhul Huda Roni Susanto, "Education as an Agent of Social Change: A Sociological Persfective," *Taqorrub: Jurnal Bimbingan Konseling Dan Dakwah* 5, no. 2 (2024): 79–94, https://scholar.google.com/scholar?oi=bibs&cluster=16197885558079716437&btnI=1&hl=id; K. Wilber, *The Religion of Tomorrow* (Mesir: Shambhala Publications, 2020).

[19] Fadhilah H.M, Rivai, and Syamsul, "Development of Interactive Learning Media Based on Applications Articulate Storyline 3 Human Coordination System Material"; Roni Susanto et al., "Implications of Developing Fayd Al-Barakat Book on Learning Qiraat Sab'ah in the Digital Era," *Jurnal Pendidikan Al-Ishlah* 15, no. 4 (2023), https://doi.org/https://doi.org/10.35445/alishlah.v15i4.3009.

This situation makes the role of families in supporting the use of educational technology very weak. In many cases, students in suburban areas must learn independently, using technology that they do not necessarily fully understand. These children often only use cellphones to access assignments, but do not know how to search for additional information or utilize educational platforms. Moreover, most of them use gadgets more to play games, access social media, or watch entertainment videos than to study. The lack of control and supervision from parents makes technology a distraction rather than a constructive learning tool. This becomes a serious problem when schools and the government only focus on providing devices and networks, without paying attention to the socio-cultural readiness of families as technology users. Online or digital-based learning programs will fail if they are not accompanied by strengthening the capacity of families to accompany their children in learning. Many parents are not even used to reading WhatsApp messages from teachers or opening Google Form links sent by the school. They are also confused when asked to accompany their children to access learning platforms such as Google Classroom, Zoom, or Edmodo. This gap is a major challenge in realizing inclusive technology-based education.

Teachers are also an important part of the social environment that can either strengthen or weaken the benefits of technology in education. In suburban areas, many teachers are not yet fully digitally literate. They are not yet accustomed to using technology-based learning media or have not received adequate training in digital pedagogy. In some cases, teachers simply replace face-to-face with assignments sent via WhatsApp, without providing adequate explanation, interaction, or feedback. This makes students lose their motivation to learn, because learning becomes boring and less meaningful.[20]

On the other hand, teachers who are creative and sensitive to students' conditions can create adaptive digital learning methods. For example, teachers can use social media such as YouTube to upload learning videos that can be accessed at any time by students. Teachers can also create friendly and interactive online discussion groups, and provide appreciation to active students. The role of teachers is not only as a deliverer of material, but also as a motivator of enthusiasm and facilitator of inclusive digital learning. For this reason, teacher training is very

[20] Ali Akbar and Mahyuddin Barni, "Pendidikan Islam Multi, Inter Dan Transdisiplin (Tinjauan Sejarah)," *Tarbiyah Islamiyah: Jurnal Ilmiah Pendidikan Agama Islam* 12, no. 1 (2022): 15–28, https://doi.org/10.18592/jt.

important in supporting the success of the digital transformation of education, especially in suburban areas that have their own challenges. In addition to teachers, community leaders, local organizations, and religious institutions can also be a force in forming a healthy digital culture. For example, mosques can be used as free Wi-Fi places for learning, or village halls provide digital literacy classes for parents and students. The role of the community is very large in expanding social support for technology-based learning. Collaboration between schools, families, and communities is key to creating a mutually reinforcing learning ecosystem. However, all of this will not succeed without awareness and political will from the government, both at the central and regional levels. The government must recognize that the technology gap cannot be overcome simply with the help of quotas or device distribution. There must be a community-based approach that understands the socio-cultural context of suburban communities. Digital literacy training programs for parents, strengthening teacher capacity, providing community digital learning spaces, and educational campaigns on healthy technology use must be part of the education digitalization policy.[21]

In conclusion, the success of implementing technology in education cannot be separated from the role of the social environment and family. In suburban areas, where economic challenges and digital literacy are still high, the existence of supportive families and a conducive social environment greatly determines whether technology will be an opportunity or a threat. Therefore, the strategy for educational transformation must be holistic and contextual, recognizing social complexity as part of the solution. Only in this way can technology become a bridge that strengthens the learning process, not a wall that separates.

Inclusive Strategies and Policy Recommendations to Address Digital Inequality

Facing the increasingly real reality of digital inequality in suburban areas, an inclusive strategy is needed that is designed based on the social, economic, and geographical context of marginalized communities. Digital transformation in the education sector is not enough with a technical approach alone—such as providing devices and networks—but must involve socio-cultural aspects, cross-sector participation, and comprehensive policy alignments. When technology-based educational transformation is combined with a strong understanding of the real

[21] Peni Haryanti et al., "Peningkatan Literasi Perbankan Syariah Berbasis Digital Platform Di SMK Perguruan Muallimat Cukir Jombang," *MARTABE : Jurnal Pengabdian Masyarakat* 6, no. 7 (2023): 2562–68.

conditions of suburban communities, then efforts to achieve equality will have a greater chance of success.[22]

The first inclusive strategy that must be a priority is equal access to technological devices and internet networks. Currently, owning devices such as laptops, tablets, or smartphones is still a luxury for many families in rural areas. The central and regional governments need to collaborate with telecommunications service providers to develop subsidy packages or CSR (Corporate Social Responsibility) programs that target students from poor families. The provision of free digital devices or a lend-use system must be combined with the distribution of cheap and stable internet quotas. Not only that, the existence of free public Wi-Fi in schools, mosques, or village halls is also a short-term solution that can be utilized by learning communities. This is important so that students do not have to look for signals in dangerous places or walk far just to complete schoolwork.[23]

The policy of equalizing digital devices must also be accompanied by a massive and contextual digital literacy training program. Digital literacy is not simply understood as the ability to operate devices, but also includes the ability to think critically about information, technology ethics, and the use of digital for academic and social interests. This training must target three main groups: teachers, students, and parents. Teachers need to be provided with digital pedagogy training so that they are able to design meaningful and interactive learning through digital media. Students need technical skills training as well as an understanding of how to use technology for learning, not just for entertainment. Parents, as the main companions at home, also need a basic understanding so that they can be actively involved in assisting their children to learn online. The training approach must be adapted to the local context, for example using regional languages, cultural approaches, or integrating training with existing community

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[22] Widodo Wahyu, Roni Susanto, and Kolis Nur, "The Relevance KI Hajar Dewantara's Thinking on Multicultural Educational Values," *International Conference on Islam, Law, and Society (INCOILS) Conference Proceedings 2023* 2, no. 2 (2023): 93, https://doi.org/10.24198/jkrk.v2i2.28154.

[23] Roni Susanto, Ahmad Munir, and Basuki Basuki, "Preserving the Authenticity of Qirā'āt Sab'ah : A Comparative Study of Musy ā Fahah Methods at Al-Hasan and Al-Munawwir Boarding School," *Dialogia : Jurnal Studi Islam Dan Sosial* 23, no. 01 (2025): 101–21, https://doi.org/10.21154/dialogia.v23i01.10500; Andrew R. Davidson et al., "Cross-cultural Model Testing: Toward a Solution of the Etic-emic Dilemma," *International Journal of Psychology* 11, no. 1 (1976): 1–13, https://doi.org/10.1080/00207597608247343.

activities. The third very important strategy is building cross-sector collaboration.[24] Digital inequality cannot be addressed by the government or schools alone. It requires synergy between various parties, including non-governmental organizations (NGOs), community organizations, the private sector, academics, and local communities. An example of collaboration that can be replicated is the establishment of a community learning house that provides free computer facilities and internet access. In it, IT volunteers or education students can be involved to accompany students in learning. Local digital libraries can also be developed to provide technology-based learning resources that can be accessed together. Another form of collaboration can be free digital training conducted by technology companies as part of their social responsibility.[25]

Such good practices have proven successful in some areas and need to be encouraged to be expanded to other suburban areas. However, for this inclusive strategy to be effective and sustainable, it requires the support of data-driven public policies and ongoing evaluation. Local governments must have accurate data on device needs, digital literacy levels, and the distribution of technology access in each school. This data-driven policy allows for more targeted programming and avoids wasting resources. In addition, regular evaluation of the implementation of digitalization programs in schools needs to be carried out to identify obstacles and potential improvements. Overall, an inclusive strategy to address digital inequality in suburban areas must involve four main elements: equal access to devices and the internet, relevant digital literacy training, cross-sector collaboration, and data-driven and sustainable public policies. When these four components are designed in an integrated manner and implemented with a real bias towards marginalized groups, the digital transformation of education will not just be a slogan, but a real movement towards educational justice.

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[24] Muh Ibnu Sholeh, "Strategi Efektif Dalam Manajemen Pendidikan Untuk Meningkatkan Kualitas Pembelajaran," *Tarbawi Ngabar: Jurnal of Education* 4, no. 2 (2023): 139–64, https://doi.org/10.55380/tarbawi.v4i2.462; Moh Faizin Faizin, Faruq Futaqi Futaqi, and Maulida Nurhidayati, "Bankziska as Lazismu Innovation and BMT Hasanah in Economic Empowerment in Ponorogo," *Laa Maisyir : Jurnal Ekonomi Islam* 8, no. 1 (2021): 91, https://doi.org/10.24252/lamaisyir.v8i1.20578.

[25] Isti'ana, "Integrasi Teknologi Dalam Pembelajaran Pendidikan Islam"; Gretha Paduli, *Sustainable Well-Being & Clinical Resilience: Psikologi Positif Untuk Krisis Mental* (PT. Star Digital Publishing, Yogyakarta-Indonesia, 2025).

CONCLUSION

This study shows that the integration of technology in education has not fully provided equal access, especially in suburban areas that are at the crossroads of social inequality and digital infrastructure. This inequality is reflected in limited device ownership, weak digital literacy, low parental involvement, and the suboptimal role of teachers and communities in supporting the use of technology. Rather than being a tool for empowerment, technology has the potential to deepen social gaps if not accompanied by inclusive policies that support marginalized groups. Therefore, the digital transformation of education must be designed by considering the local, social, and cultural contexts of suburban communities. Future research also needs to dig deeper into the best practices of local communities in overcoming the digital divide in education. Longitudinal studies based on in-depth field data can help formulate more precise and adaptive policy intervention models. In addition, comparative studies between regions—both between suburbs and between suburbs and urban and rural—are also important to obtain a comprehensive picture of the dynamics of digitalization of education in the context of social inequality in Indonesia.

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