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INTERSECTIONALITY AND EQUITY IN EDTECH: A CRITICAL ANALYSIS OF LEARNING APPS IN MARGINALIZED COMMUNITIES

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Abstract

This research aims to critically analyze how digital learning applications facilitate or widen educational disparities in marginalized communities through an intersectional and equity approach. In the context of the rapid advancement of educational technology (EdTech), it is crucial to understand how social identity factors such as gender, race, economic status, disability, and geographic location interact and influence access to and the quality of learning experiences. This study uses a desk study method by examining recent academic literature, policy reports, and evaluation results of learning applications used in various marginalized communities. The analysis shows that most learning applications still do not fully consider the needs of diverse users, especially those at the intersection of multiple forms of vulnerability. The lack of representation, uniform design approaches, and limited digital infrastructure exacerbate existing digital exclusion. This research recommends the development of more inclusive, equity- and intersectional-based learning applications that involve community participation in the design and evaluation process. In this way, EdTech can contribute more equitably to improving the quality of education in marginalized communities.

Keywords: EdTech, intersectionality, educational equity, marginalized communities, learning applications

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INTRODUCTION

Over the past two decades, the world has witnessed a major transformation in the education sector through the ever-evolving use of digital technology. Educational technology, also known as EdTech, promises significant advancements in expanding access to learning, improving teaching effectiveness, and fostering pedagogical innovation. Digital learning applications are now used in various parts of the world, from developed urban classrooms to remote villages beginning to reach internet connectivity. This phenomenon demonstrates that educational technology has significant potential to bridge the educational gap. However, these technological advances are not always inclusive or equitable. Amidst the promises of progress, a crucial question arises: who actually benefits from EdTech, and who is left behind? This question underscores the importance of an intersectional approach in examining the role of EdTech in marginalized communities.

Intersectionality, a concept first introduced by Kimberlé Crenshaw, provides a critical lens for examining how various forms of social identity such as gender, race, ethnicity, socioeconomic status, disability, and geographic location intersect and create complex forms of inequity (Gandolfi et al., 2021a). In the context of education and technology, this approach is particularly relevant, given that inequalities in access and learning experiences never emerge in isolation. A girl from a poor rural family with a disability, for example, will face different and multiple barriers compared to a boy from a middle-class family in a large city. Therefore, studies of equity in EdTech must go beyond the assumption of universality and delve deeper into how digital education systems disparately impact marginalized groups.

Numerous studies show that although digital learning apps are designed to expand access, many of these products fail to address the needs of vulnerable groups. Digital infrastructure gaps, such as internet availability, adequate technological devices, and low digital literacy, are often key barriers. Furthermore, many learning apps are developed without considering the social and cultural contexts of users, let alone their intersectional backgrounds. App designs biased toward majority or middle-class groups leave marginalized groups feeling alienated or unrepresented. The lack of locally relevant content, non-inclusive language use, and non-adaptive learning approaches are significant barriers to achieving equitable digital learning (Bougazzoul, 2024a).

Furthermore, other challenges arise from how data is collected and used by EdTech platforms. Data privacy, opaque algorithms, and artificial intelligence-based decision-making often fail to consider the impact on already

marginalized groups. This can exacerbate inequality, particularly if data is used to filter students based on performance or social background, without considering the underlying structures of inequality. In many cases, EdTech not only fails to address structural inequities but also potentially reinforces them through systems that are insensitive to user context (Zubairi et al., n.d.).

Using a literature review approach, this research aims to critically examine how digital learning applications have (or have not) considered the principles of equity and intersectionality in their development. By analyzing academic literature, policy reports, and evaluations of learning applications used in marginalized communities, this research seeks to uncover the dynamics of inequality often hidden behind the discourse of technological progress. This study does not intend to reject the use of technology in education, but rather to remind us that technology is not a neutral or automatic solution to all educational problems. Technology is created by humans and reflects the values, assumptions, and power inherent in the process of its creation (Campbell, 2020a).

The social and political context in which learning apps are developed and implemented also influences how the technology performs in practice. Many edtech companies originate from Global North countries, which hold preconceived notions about learning, effectiveness, and student needs. When these apps are then implemented in Global South communities without contextual adaptation, a mismatch between the technology design and the realities of users results. This reinforces the importance of local community participation in the design, testing, and evaluation of learning apps to ensure the resulting products truly meet their needs (Marcovitz, 2022).

Equally important is the role of education policy and institutional support in ensuring that EdTech is used as a tool to promote equity, not reinforce inequality. Without a policy framework that prioritizes access and inclusion, digital learning apps will become mere tools for those with existing resources. Governments, educational institutions, and technology developers must work together to build an edtech ecosystem that favors the most vulnerable groups. This means providing access subsidies, training for teachers and parents, and investing in the development of relevant and inclusive local content.

Amidst the growing attention on digital education in the wake of the COVID-19 pandemic, discussions about equity and intersectionality in EdTech have become increasingly urgent. The pandemic has highlighted the vast gap in educational inequality, with millions of students worldwide losing access to

learning due to limitations in technology and infrastructure. In this crisis, marginalized groups are particularly impacted, both in terms of learning loss and the psychosocial distress they face (Costache & Enachescu, 2025a). Therefore, this research aims to highlight an often-overlooked aspect of EdTech development: the need to make equity a central principle in digital education innovation.

By exploring relevant literature, this research seeks to provide a deeper understanding of how intersectionality can serve as a critical framework for evaluating the effectiveness and impact of learning applications in marginalized communities. This approach allows us to more clearly see that inequalities in learning access and experiences are not simply about connectivity or devices, but also about how social, cultural, and political identities intersect and create complex forms of injustice. Therefore, building truly inclusive EdTech requires a multidimensional approach involving structural analysis, social awareness, and participatory design (Mangal & Pardos, 2024).

In conclusion, the background of this research demonstrates the urgency of further examining the relationship between educational technology, social justice, and intersectionality. Using a literature review approach, this research aims not only to identify weaknesses in existing EdTech practices but also to contribute a critical perspective to the formulation of policies and practices for developing more equitable and inclusive learning applications for all groups, especially those marginalized in the global education system.

RESEARCH METHOD

The research method used in this study is a literature review, which aims to explore and critically analyze the relationship between intersectionality, social justice, and the use of digital learning applications in the context of marginalized communities. This approach was chosen because it can provide an in-depth theoretical and conceptual understanding of issues of technology-based educational inequality without the need for primary data collection. By utilizing various relevant secondary sources such as scientific journal articles, policy reports, international organization publications, and EdTech developer documentation, this study builds a comprehensive analytical framework to assess the extent to which learning applications have considered aspects of social justice and diversity.

The literature review focused on works published within the last ten years to ensure relevance to the current context of educational technology

development. The literature selection procedure was conducted through searches of scientific databases such as Scopus, Google Scholar, and JSTOR, using keywords such as "equity in EdTech," "intersectionality in educational technology," "digital divide," "inclusive learning apps," and "marginalized communities in education." The selected literature was then thematically analyzed to identify patterns, knowledge gaps, and best practices in the development and implementation of inclusive and equitable digital learning applications. This analysis encompassed not only the technical and design dimensions of the applications, but also the social, cultural, and policy aspects that influence their acceptance in marginalized communities.

Throughout the review process, an intersectional approach was used as the primary conceptual framework to understand how various social identities such as gender, race, economic status, and disability interact to determine access to educational technology. This method enabled the research to reveal that inequities in EdTech use do not occur in isolation, but rather through a complex combination of structural factors. By using this approach, the research not only contributes to the development of critical academic literature on EdTech but also provides an argumentative basis for policymaking and technology design that better supports those who have traditionally been underserved in the digital education system.

RESULT AND DISCUSSION

The Role of Learning Apps in the Context of Marginalization

The role of learning apps in the context of marginalization reflects the complex dynamics between the opportunities and challenges faced by vulnerable communities in accessing equitable education. In today's digital era, learning apps have become a primary means of delivering educational materials, especially to communities without access to established formal education systems. On the one hand, this technology offers the promise of inclusivity, flexibility, and adaptability to the needs of learners from diverse backgrounds (Gandolfi et al., 2021b). However, on the other hand, the design and distribution of these apps often fail to take into account the social, economic, and cultural realities of marginalized groups, thus reinforcing existing inequalities.

Globally and locally, the trend of learning app use among vulnerable communities has shown a significant increase over the past decade. The COVID-19 pandemic has accelerated the adoption of educational technology across all levels of society, including in underdeveloped regions previously untouched by

digitalization. Governments, donor agencies, and non-governmental organizations are competing to provide online learning platforms as a solution to limited physical access to educational institutions. In Indonesia, for example, various learning apps such as Ruangguru, Zenius, and Rumah Belajar have begun reaching students in rural and remote areas (3T) (Disadvantaged, Frontier, and Outermost). However, although these apps have reached a wider geographic reach, not all users are able to utilize them optimally. Many vulnerable communities still face barriers such as limited internet access, low digital literacy, and a lack of supporting devices such as compatible devices (Fostering Diversity and Inclusion, n.d.).

An analysis of the content and features of popular learning apps shows that most platforms are still designed with assumptions that do not fully reflect the needs of users from marginalized groups. Many apps emphasize visual and video-based content that requires high bandwidth, while remote areas often have limited connectivity. Furthermore, the language of instruction in apps often does not take into account the linguistic diversity of local communities. For example, students from indigenous or migrant communities may have difficulty understanding material presented in formal Indonesian or English without translation or language adaptation options. From a pedagogical perspective, the approach used by learning apps tends to be one-way and less interactive, making them unable to accommodate alternative learning styles or special needs, such as those of children with disabilities or those without a home learning companion (Heath et al., 2024).

Furthermore, the potential for reproducing inequality in the design and distribution of learning apps is a critical issue that needs to be addressed. Apps developed by large technology companies are often market-driven and profit-oriented, focusing more on the middle-to-upper user segment with better purchasing power and access to technology. This creates a deepening digital divide between those who can afford premium subscriptions with full features and those who can only access free versions with limited content. Furthermore, inequality also arises in the representation of identity and cultural values in learning content. Many apps fail to consider the local cultural context or lived experiences of children from marginalized communities, resulting in the material presented feeling unfamiliar, irrelevant, or even exclusive. This mismatch can negatively impact the learning motivation and self-confidence of students from marginalized groups.

The distribution of learning applications also demonstrates patterns of exclusion. Areas with weak digital infrastructure or a lack of partnerships

between application providers and local governments often become "blank zones" in the digital education access map. Without the support of affirmative action policies or subsidy programs, many students in vulnerable communities cannot access these applications sustainably. Reliance on sponsorship, CSR, or temporary assistance programs also does not guarantee sustainable access. Therefore, a more equitable and participatory approach to the design and distribution of educational technology is needed, one that considers not only the technical and economic aspects but also the social and cultural dimensions of user groups most vulnerable to marginalization (Cueto et al., 2023).

Thus, the role of learning apps in the context of marginalization must be critically understood. While this technology has great potential to bridge educational gaps, without an inclusive and socio-culturally sensitive approach, learning apps can actually reinforce existing structures of inequality. Equitable solutions require collaboration between technology developers, educators, researchers, and user communities to create digital learning systems that are truly adaptive, sustainable, and inclusive of all segments of society, especially the most vulnerable.

Literature Review on the Impact of EdTech on Marginalized Communities

The literature review on the impact of educational technology (EdTech) on marginalized communities reveals important insights into how digital innovations do not always have uniform impacts across all groups. Minority and marginalized communities often face structural barriers that impact how they access, use, and benefit from digital learning technologies. Numerous studies demonstrate complex dynamics, demonstrating that while EdTech has the potential to bring positive transformations to education, it can also exacerbate long-standing inequalities if not designed and implemented in an inclusive manner. Previous studies have examined how EdTech tools and platforms are used by students from minority communities, such as certain ethnic groups, rural communities, refugees, migrants, and low-income families, highlighting their impact on student learning outcomes, motivation, and engagement (Costache & Enachescu, 2025b).

One significant contribution of EdTech to marginalized communities is its ability to expand access to educational resources. Several studies have highlighted how EdTech enables learners in remote areas or under limited circumstances, such as refugees or students in alternative education systems, to access learning materials that were previously difficult to access. Mobile-based learning apps and online platforms have provided flexible and affordable

education options. In this context, EdTech is seen as an empowering tool that can bridge the gap between formal education infrastructure (UNESCO GEM Report, 2023). However, research also shows that the success of this access is highly dependent on the availability of devices, internet connectivity, and pedagogical and social support from families and surrounding communities.

The positive impact of EdTech on the learning outcomes of students from marginalized communities is also demonstrated in various studies reporting improvements in conceptual understanding, literacy, and numeracy skills after using interactive and multimedia applications. Several platforms designed with differentiated and adaptive approaches have been shown to increase student engagement and provide a more personalized learning experience. Research also shows that technology can be a crucial tool for boosting student confidence, broadening their horizons, and fostering collaboration between learners who were previously geographically or socially isolated. Engaging with digital content presented in visual and narrative formats is also considered capable of reducing language and cultural barriers, which are often major challenges in formal learning for minority groups (Escueta et al., 2017).

On the other hand, literature also reveals significant negative impacts if EdTech is not designed with the social and cultural context of the target community in mind. Inequality in access to devices and the internet is often a major stumbling block. Children from impoverished communities are less likely to have personal devices, adequate learning spaces, or technical support from technology-savvy parents. This makes it difficult for them to consistently engage in online learning, especially during emergencies like the COVID-19 pandemic. Furthermore, some learning applications are developed with assumptions about the majority culture, without considering the diverse contexts of users. This results in content that is irrelevant, difficult to understand, or even alienates the cultural identity of students from minority communities.

Furthermore, several studies highlight that the use of EdTech without a pedagogical approach sensitive to students' social backgrounds can reduce learning motivation. When students don't feel connected to the material or feel left behind due to technological gaps, they can become frustrated, lose interest, and even drop out. Intrinsic motivation, the key to successful learning, can actually decline if technology is used solely as a means of conveying information, rather than as an interactive medium that engages students emotionally and intellectually. Furthermore, there are concerns that data collection from EdTech users could reinforce algorithmic bias and perpetuate

stereotypes against minority groups if not ethically and transparently monitored (Ochieng & Waithanji Ngware, 2023).

From an engagement perspective, literature studies show differences in participation and enthusiasm for EdTech among students from marginalized communities (Darmawaskita & McDaniel, 2021). In some contexts, digital technology has been successful in sparking more active learning engagement, particularly when the platform offers game elements, creative challenges, and recognition for individual achievement. However, this success tends to occur without comprehensive interventions, such as teacher training, parental guidance, and learning community support. Without these support systems, student engagement can be temporary or even decline over time. Several studies also caution that digital engagement does not always translate into deep pedagogical engagement. Interactions that focus too much on technical or repetitive elements can diminish the quality of critical and reflective learning that should be built into the educational process (Kumar et al., 2024).

Therefore, the literature review indicates that the impact of EdTech on marginalized communities is highly dependent on the context of its design, implementation, and the support systems in place. EdTech is not a neutral or automatic solution to educational inequality, but rather a tool whose effects are largely determined by the social, economic, and cultural contexts underlying it. Recent research underscores the importance of developing EdTech based on principles of equity, user participation from minority groups, and ongoing evaluation of its impact across multiple dimensions. Therefore, this literature review confirms that leveraging EdTech in marginalized communities requires strategies that are not only technology-based but also rooted in social justice and tangible community empowerment.

Analysis of Challenges and Barriers to Equitable Implementation

In the process of implementing equitable educational technology, various challenges and barriers continue to pose significant obstacles, particularly in marginalized communities. These issues are not only related to the availability of the technology itself but also reflect broader structural issues, such as social, economic, and educational policy inequalities. One of the most obvious barriers is limited access to devices and adequate internet connectivity. In many remote or impoverished areas, particularly in developing countries, many students and teachers still lack basic devices such as computers or smartphones capable of running learning applications. Furthermore, even where devices are available, access to internet connectivity is often unstable, expensive, or nonexistent.

This creates a significant digital divide and reinforces the cycle of exclusion from quality technology-based education (Gandolfi et al., 2021c).

Furthermore, another equally significant barrier is the low level of digital literacy among educators, students, and parents. Many users from vulnerable communities are unfamiliar with or lack the basic skills to use digital learning applications and platforms. This reinforces barriers to the effective use of EdTech and increases the likelihood of failure in its sustainable adoption. Digital literacy is not just about knowing how to operate a device; it also encompasses a critical understanding of information, digital security, and the ability to assess and use content wisely. Without adequate training and mentoring, educational technology, which should be a tool for inclusion, can instead become a new tool of exclusion, limiting access to those with pre-existing social, economic, and technological capital (Chidinma Favour Chikwe et al., 2024).

Limitations in policy and institutional support are also major obstacles to achieving equity in the implementation of educational technology. Many digital education policies remain reactive, non-holistic, and fail to consider the socio-cultural context of marginalized communities (Campbell, 2020b). Support from the government and educational institutions for technology development and distribution often focuses on the provision of hardware without incorporating long-term strategies that include training, mentoring, and impact evaluation. Lack of coordination between stakeholders, both at the central and regional levels, and weak bureaucratic infrastructure adapting to technological change, have resulted in many educational digitalization programs being unsustainable and failing to reach those most in need. Furthermore, unequal budget allocation often results in disadvantaged regions receiving only partial benefits from technology, further deepening the gap in inequality. (Bougazzoul, 2024b)

Furthermore, systemic bias in the development and distribution of educational technology also poses a fundamental challenge hindering equitable implementation. Many learning applications and platforms are designed without considering local context, cultural needs, or user diversity. Technology developed in urban centers or by large companies often fails to address local language needs, user diversity, or inclusivity for children with special needs. As a result, these applications are irrelevant or difficult to access for marginalized communities. Furthermore, the algorithms and learning models within these applications often reflect biases of dominant values that ignore social and cultural diversity. This has the potential to reproduce the inequalities that already exist in conventional education systems into the digital

realm, while strengthening the dominance of certain groups in the production and control of knowledge.

These structural, institutional, and systemic challenges and barriers cannot be resolved solely through technical approaches or the provision of tools (Breaking Barriers, Claiming Space, n.d.). Policies and practices that are truly oriented towards social justice, involving the active participation of affected communities, and the development of technology that is contextual and sensitive to diversity, are needed. Reforms in digital education policy must prioritize the principles of equal access, social accountability, and distributive justice. At the same time, it is also crucial to build an ecosystem that encourages collaboration between the public, private, and civil society sectors to design technological solutions that are not only sophisticated, but also relevant and equitable. With an inclusive and intersectional approach, these barriers can not only be overcome but can also become a starting point for a more equitable and sustainable digital education system for all.

Strategies Towards Inclusive and Equitable EdTech

Achieving an inclusive and equitable education technology (EdTech) ecosystem requires a strategic approach that prioritizes social justice at every stage of design, implementation, and evaluation. In this context, the principle of intersectionality serves as a crucial foundation for understanding how social identities such as gender, race, economic status, disability, and geographic location interact and influence users' experiences with educational technology. This approach encourages developers and policymakers to consider the complexities of inequalities faced by marginalized groups and create technological solutions that truly address their needs holistically ("Challenging EdTech," 2022).

One crucial strategy is to apply intersectionality-based design principles to every stage of application or learning platform development. This design process must begin with a process of identifying user needs that involves the active participation of diverse groups, especially those in vulnerable or marginalized positions. This approach makes them not merely passive subjects of technology but rather crucial actors in the design process. Developers must ensure that the features provided are not biased against the majority group, but are responsive to the specific barriers faced by minority groups, such as limited internet access, low digital literacy, and the special needs of people with disabilities. Furthermore, the principles of language clarity, user-friendly

interfaces, and universal accessibility are essential elements of intersectionality-based design (Siddiqi, 2024).

Several good practices from EdTech projects and applications demonstrate that a social justice and inclusion-based approach can make a significant difference in reducing educational disparities (Mirzaev et al., 2025). For example, initiatives like "Kolibri" from Learning Equality provide an offline, open-source platform that allows users in areas without internet access to quality learning materials. This application has been widely used in refugee camps, remote areas, and impoverished communities previously marginalized from mainstream digital education. Another example is the "SignLab" application, developed for deaf or hard-of-hearing users, which not only provides learning materials in sign language but also involves the deaf community in its development, ensuring the validity and relevance of its content. These practices demonstrate that success in creating inclusive EdTech is determined not only by technological sophistication, but rather by the extent to which it can remove structural barriers that reinforce exclusion.

In the strategy towards inclusive and equitable EdTech, cross-sector collaboration is key. Technology developers, educators, and user communities must form equal partnerships, where each party has the opportunity to contribute meaningfully (Lata, 2024). Technology developers cannot work in silos without a contextual understanding of the educational world and the daily lives of users. Educators, with their pedagogical experience, can provide crucial input on learning needs, effective delivery strategies, and the barriers students face in the field. Meanwhile, user communities, especially those from marginalized groups, must be engaged as key informants, not merely beneficiaries. Through community forums, field trials, and participatory evaluations, this collaboration can produce more relevant, equitable, and impactful technology.

This collaboration must also extend to public policy and donor agencies, as without structural support, technological innovation tends to be limited to experimental spaces (Adeoye & Otemuyiwa, 2024). Governments need to create regulations that promote digital inclusion and ensure that EdTech providers meet equity and accessibility standards. Donor agencies and international organizations can also play a role in providing resources for innovative, equity-based projects, while encouraging the transfer of knowledge and best practices between countries and regions. When all parties work together within a framework that recognizes the diversity of user identities and experiences, EdTech becomes not just a learning tool but a transformative

instrument that drives social change and more equitable education (Chima Abimbola Eden et al., 2024).

Thus, the strategy towards inclusive and equitable EdTech is not merely a technical step, but a process of social transformation that requires a commitment to the values of justice, participation, and a bias towards the most vulnerable groups. The principle of intersectionality offers a powerful framework for understanding the complexities of inequality and developing educational technology that reaches everyone, without exception. Good practices from around the world demonstrate that, with inclusive design and genuine collaboration, technology can be a bridge to more equitable and just education. The next step, therefore, is to broaden this awareness through policy, funding, and sustainable innovation, so that EdTech truly becomes a force for empowerment, not exclusion.

CONCLUSION

The development of digital technology in education has brought about a major transformation in how people learn and access knowledge. Learning apps have become a key tool in expanding access to education, especially during a time when distance learning has become mandatory. However, this progress has not been felt equally by all groups in society. Marginalized communities, which often face structural barriers such as poverty, gender discrimination, limited infrastructure, and lack of access to technology and digital literacy, are the groups most at risk of being left behind in the digitalization of education. In this context, it is important to question the extent to which existing learning apps accommodate the specific needs of vulnerable groups.

Intersectionality is a crucial approach to analyzing equity in educational technology because it examines the interconnections between various forms of social oppression, such as race, class, gender, disability, and geographic location. This approach helps uncover the layers of inequality experienced by individuals in marginalized communities, which cannot be simplified based on a single identity category. Many learning apps are designed with the assumption of a homogenous user base, thus ignoring the complex realities faced by vulnerable groups. Without an intersectional approach, these apps have the potential to reinforce bias and reinforce inequalities within the education system.

Through a critical review of learning apps used in marginalized communities, this research aims to evaluate the extent to which principles of

equity and intersectionality have been applied in the design and implementation of educational technology. It also identifies key challenges faced by marginalized communities in accessing and using learning apps, as well as how EdTech practices and policies can be reformed to create more inclusive, equitable, and empowering learning experiences. With this approach, the research is expected to contribute to the development of educational technology that is more sensitive to diversity and social equity.

REFERENCES

Adeoye, M. A., & Otemuyiwa, B. I. (2024). Navigating the Future: Strategies of EdTech Companies in Driving Educational Transformation. *JERIT: Journal of Educational Research and Innovation Technology*, *1*(1), Article 1. https://doi.org/10.34125/jerit.v1i1.10

Bougazzoul, M. (2024a). *Young people, technology, and learning: An intersectional feminist approach to digital inequalities in education* [Http://purl.org/dc/dcmitype/Text, University of Oxford]. https://ora.ox.ac.uk/objects/uuid:70be415e-abb0-481e-96e3-2b487d57de4e

Bougazzoul, M. (2024b). *Young people, technology, and learning: An intersectional feminist approach to digital inequalities in education* [Http://purl.org/dc/dcmitype/Text, University of Oxford]. https://ora.ox.ac.uk/objects/uuid:70be415e-abb0-481e-96e3-2b487d57de4e

Breaking Barriers, Claiming Space: A Counterstory of Black Women's Leadership in P-12 School Technology - ProQuest. (n.d.). Retrieved July 31, 2025, from https://www.proquest.com/openview/2f4e82b91cee9b5cea854631deb806a2/1?pq-origsite=gscholar&cbl=18750&diss=y

Campbell, K. (2020a). Gender and Technology: Social Context and Intersectionality. In M. J. Bishop, E. Boling, J. Elen, & V. Svihla (Eds.), *Handbook of Research in Educational Communications and Technology: Learning Design* (pp. 115–204). Springer International Publishing. https://doi.org/10.1007/978-3-030-36119-8_7

Campbell, K. (2020b). Gender and Technology: Social Context and Intersectionality. In M. J. Bishop, E. Boling, J. Elen, & V. Svihla (Eds.), *Handbook of Research in Educational Communications and Technology: Learning Design* (pp. 115–204). Springer International Publishing. https://doi.org/10.1007/978-3-030-36119-8_7

Challenging EdTech: Towards a More Inclusive, Accessible and Purposeful Version of EdTech. (2022). *Knowledge Cultures*, *10*(1), 7–21.

Chidinma Favour Chikwe, Adebukola Olufunke Dagunduro, Olanike Abiola Ajuwon, & Ayo Amen Ediae. (2024). Sociological barriers to equitable digital learning: A data-driven approach. *Comprehensive Research and*

Reviews in Multidisciplinary Studies, *2*(1), 027–034. https://doi.org/10.57219/crrms.2024.2.1.0038

Chima Abimbola Eden, Onyebuchi Nneamaka Chisom, & Idowu Sulaimon Adeniyi. (2024). Harnessing technology integration in education: Strategies for enhancing learning outcomes and equity. *World Journal of Advanced Engineering Technology and Sciences*, *11*(2), 001–008. https://doi.org/10.30574/wjaets.2024.11.2.0071

Costache, B., & Enachescu, V. A. (2025a). BRIDGING THE DIGITAL DIVIDE: LEVERAGING TECHNOLOGY FOR INCLUSIVE EDUCATION IN MARGINALIZED COMMUNITIES. *INTED2025 Proceedings*, 6651–6659. 19th International Technology, Education and Development Conference. https://doi.org/10.21125/inted.2025.1721

Costache, B., & Enachescu, V. A. (2025b). BRIDGING THE DIGITAL DIVIDE: LEVERAGING TECHNOLOGY FOR INCLUSIVE EDUCATION IN MARGINALIZED COMMUNITIES. *INTED2025 Proceedings*, 6651–6659. 19th International Technology, Education and Development Conference. https://doi.org/10.21125/inted.2025.1721

Cueto, S., Balarin, M., Saavedra, M., & Sugimaru, C. (2023). Ed-tech in the Global South: Research gaps and opportunities. *Repositorio Institucional - GRADE*. https://repositorio.grade.org.pe/handle/20.500.12820/733

Darmawaskita, N., & McDaniel, T. (2021). Analysis of the Impact of Educational Technology on Social Inequity in the United States. In M. Antona & C. Stephanidis (Eds.), *Universal Access in Human-Computer Interaction. Access to Media, Learning and Assistive Environments* (pp. 41–51). Springer International Publishing. https://doi.org/10.1007/978-3-030-78095-1_4

Escueta, M., Quan, V., Nickow, A. J., & Oreopoulos, P. (2017). *Education Technology: An Evidence-Based Review* (Working Paper No. 23744). National Bureau of Economic Research. https://doi.org/10.3386/w23744

Fostering Diversity and Inclusion: Empowering Marginalized Students in STEM Through Tech Education Programs - ProQuest. (n.d.). Retrieved July 30, 2025, from https://www.proquest.com/openview/902e16a9f230bd756bbf4f42c7231e56/1?pq-origsite=gscholar&cbl=18750&diss=y

Gandolfi, E., Ferdig, R. E., & Kratcoski, A. (2021a). A new educational normal an intersectionality-led exploration of education, learning technologies, and diversity during COVID-19. *Technology in Society*, *66*, 101637. https://doi.org/10.1016/j.techsoc.2021.101637

Gandolfi, E., Ferdig, R. E., & Kratcoski, A. (2021b). A new educational normal an intersectionality-led exploration of education, learning technologies, and diversity during COVID-19. *Technology in Society*, *66*, 101637. https://doi.org/10.1016/j.techsoc.2021.101637

Gandolfi, E., Ferdig, R. E., & Kratcoski, A. (2021c). A new educational normal an intersectionality-led exploration of education, learning technologies, and diversity during COVID-19. *Technology in Society*, *66*, 101637. https://doi.org/10.1016/j.techsoc.2021.101637

GEM Report UNESCO. (2023). *Edtech and marginalization: Scaling for learning equity*. GEM Report UNESCO. https://doi.org/10.54676/ZKZT2998

Heath, M. K., Gleason, B., Mehta, R., & Hall, T. (2024). More than knowing: Toward collective, critical, and ecological approaches in educational technology research. *Educational Technology Research and Development*, *72*(5), 2519–2541. https://doi.org/10.1007/s11423-023-10242-z

Kumar, D. A., Rani, D. R., B.K.Pal, D., Acharya, D. R., Gaurav, U., & Bhargava, D. S. (2024). Exploring the Role of EdTech in Enhancing Learning Outcomes for Underprivileged Students in Urban Areas. *Cuestiones de Fisioterapia*, *53*(03), Article 03. https://doi.org/10.48047/CU/54/03/2865-2877

Lata, P. (2024). Towards Equitable Learning: Exploring Artificial Intelligence in Inclusive Education. *International Journal of Law Management & Humanities*, *7 Issue 5*, 416.

Mangal, M., & Pardos, Z. A. (2024). Implementing equitable and intersectionality-aware ML in education: A practical guide. *British Journal of Educational Technology*, *55*(5), 2003–2038. https://doi.org/10.1111/bjet.13484

Marcovitz, D. M. (2022). The Intersection of Social Justice and Educational Technology: The Educational Technology Social Justice Matrix. *Education and Information Technologies*, *27*(4), 5129–5151. https://doi.org/10.1007/s10639-021-10828-1

Mirzaev, D., Zoirov, U., Azeem, A., Rizwan, M., & Jamil, M. (2025). ICT in Ensuring Inclusive and Equitable Quality Education. *Proceedings of the 8th International Conference on Future Networks & Distributed Systems*, 556–562. https://doi.org/10.1145/3726122.3726201

Ochieng, V. O., & Waithanji Ngware, M. (2023). Adoption of Education Technologies for Learning During COVID-19 Pandemic: The Experiences of Marginalized and Vulnerable Learner Populations in Kenya. *International Journal of Educational Reform*, *32*(4), 464–487. https://doi.org/10.1177/10567879221076081

Siddiqi, M. M. (2024). "Future of Digital Education: Inclusive, Immersive, Equitable." *MediaSpace: DME Media Journal of Communication*, *5*(01), Article 01. https://doi.org/10.53361/dmejc.v5i01.02

Zubairi, A., Kreimeia, A., Jefferies, K., & Nicolai, S. (n.d.). *EdTech to Reach the Most Marginalised: A Call to Action*.