

Digital divide and educational inequality in Southeast Asia

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ABSTRACT

In this systematic literature review, digital divides as forms of educational inequalities in Southeast Asian countries are reviewed using the perspective of Educational Anthropology. Based on the selection process using PRISMA guidelines for the region and beyond, the current review synthesizes information about the disparity in access, use, and impact of digital learning programs. From these results, there is a need to note that digital divides occur due to differences in social economic status, geography, and culture.

Keywords: Digital divide, digital inequality, educational inequality, Southeast Asia, digital literacy, online learning.

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INTRODUCTION

Educational institutions all around the world are experiencing fast changes due to the increasing presence of technology in teaching and learning processes. In Asia, especially Southeast Asia, these developments have been facilitated by globalization and the incorporation of ICTs in formal educational systems. Technologies, such as online platforms for learning and teaching, have made access to educational materials easier and have changed their production, distribution, and consumption process. However, along with technological advancements, the social inequality that already exists between various groups has become more evident. This process, which became known as the “digital divide,” describes the differences in availability, access, and benefits of digital technology among individuals and groups.

The Asia-Pacific region has shown substantial achievements in providing educational opportunities as evidenced by a very high enrollment rate of up to 97% in primary school levels across various countries. Nonetheless, significant gaps exist in regard to quality, completion rates, and effectiveness of educational opportunities offered particularly among disadvantaged communities (UNESCO, 2024). Through the use of digital tools for learning, such gaps have evolved to incorporate additional challenges such as technological inequality in access to

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educational services which goes beyond lack of educational access per se. Such inequalities cut across socio-economic factors, geographical location, linguistic background, and culture.

In Southeast Asia, however, there is a significant gap because of differences in the levels of development among the countries and within individual nations. In other words, while digital technologies continue developing in large cities, poor rural areas do not have reliable access to digital devices and the Internet. According to UNESCO, the spread of digital technologies has not led to equal access; on the contrary, students from wealthy families are much more likely to be online compared to those who come from less affluent environments (UNESCO, 2023). Furthermore, only half of rural schools have access to the Internet in Southeast Asia (UNESCO, 2023). The gap in question should be treated not only as a problem related to technology but rather as a complex social issue.

The Digital Divide viewed through the lens of Educational Anthropology cannot be seen in merely technical terms; it should be regarded as a cultural and social phenomenon. According to anthropological theories, educational processes can never be seen in isolation because they always occur in certain cultural environments where such factors as culture-specific values, power structure, and socio-historical conditions affect education. In this connection, technology also cannot be seen in purely technical terms because it always exists in a certain socio-cultural environment and impacts on educational experiences.

Moreover, the digital divide consists of various aspects, such as access divide, skills divide, and outcome divide. The Asian Development Bank emphasizes that not only does the digital divide in Asia relate to infrastructure but also includes issues associated with digital literacy and skills and the ability to use technological tools effectively (Asian Development Bank, 2025). Hence, addressing digital inequality through technological provision alone seems ineffective. It is crucial to consider the social context in which learners interact with technologies. [adb.org]

Moreover, the problem was intensified by the pandemic that has pushed many Southeast Asian countries to shift from conventional forms of education to digital ones. In this context, the issue of digital inequality became especially urgent, as there appeared a need to provide technological tools to those who lacked the means necessary to learn online. Thus, it is clear that one should take into account the cultural background of learners and their family structures when discussing the issue of digital education.

The research conducted is grounded on an interdisciplinary theoretical background, which combines the concept of Cultural Capital developed by Pierre Bourdieu, Critical Pedagogy Theory presented by Paulo Freire, and Modern Digital Inequality theory. All of these theories form a unique perspective that can be employed to analyze the complex nature of digital divide problems within the education systems of Southeast Asian countries.

The key element of the proposed framework is the idea of cultural capital put forward by Bourdieu, which reveals the relationship between people's access to knowledge, skills, and cultural resources in the context of their social positioning. There are three different types of cultural capital, which include embodied (dispositions and skills), objectified (material possessions), and institutionalized (certificates and diplomas). When applying the concept of cultural capital in the context of digital learning, one can argue that access to devices, internet connection, and digital skills is cultural capital, the possession of which is determined by one's social positioning. Young people from affluent families will most likely have the necessary resources and skills to thrive in digital classrooms, while those from disadvantaged communities may lack these important advantages. Thus, the digital divide becomes a way for social stratification, where disparities of cultural capital lead to inequality in education. The latter assumption correlates with the findings according to which students from wealthy families have much better chances of benefiting from digital learning than their less fortunate counterparts (UNESCO, 2023). [files.eric.ed.gov]

Also worth mentioning here is how the concept of habitus can be applied to understand digitally mediated learning. The idea behind habitus refers to the dispositions that an individual possesses as a result of their socialization. Hence, the ways in which one interacts within the educational system depend on their personal attitude and experience. For example, young people whose social environment includes a wide array of technological innovations are likely to be used to these technologies and see the use of such resources as natural and obvious. In turn, the members of disadvantaged social groups are unlikely to find digital technologies easy to work with and accessible.

Another influential theory that can be used in conjunction with Bourdieu's model is the critical pedagogy suggested by Paulo Freire. Unlike the structural approach employed by the French philosopher, the idea behind this concept is to see the educational process as a means to empower a learner and enable social change. According to Freire, the problem with traditional educational models was the perception of learners as passive subjects and not active participants in the process. The concept can also be helpful when examining digitally mediated learning processes.

As a result, Freire's idea of conscientization, or the process of critical awareness formation, gives the necessary grounds to discuss whether digital learning can contribute to either social exclusion or social inclusion. If learners have an opportunity to develop critical awareness by reflecting upon the information received through digital media technologies and using technology itself to express themselves and learn actively, then, it becomes a means for social inclusion. Otherwise, it can contribute to social exclusion and marginalization. The unequal allocation of digital sources between urban and rural parts of Southeast Asia shows that, under particular circumstances, power asymmetry shapes who has access to knowledge (UNESCO, 2023) [files.eric.ed.gov].

Furthermore, dialogue learning is one more element of Paulo Freire's approach. It refers to the way knowledge is formed as a result of dialogue and discussion. In digital learning environments, this process depends on not just availability of technologies, but also appropriate teaching strategies, which foster cooperation, interaction, and critical thinking. Still, as the results of this research indicate, the unequal access to digital skills and preparedness of educators are often barriers to the implementation of such strategies.

The final element of this theoretical framework is Digital Inequality Theory, which extends the notion of the digital divide into recognizing its multi-dimensional form. As opposed to a simplistic binary divide of those who have technology and those who don't, digital inequality theory views the digital divide as an ongoing spectrum, taking into account various forms of the digital divide including disparities in access, skill, usage, and impact. It is especially pertinent in an Asian context, characterized by a fast pace of technological advancement amidst a stark socio-economic divide. The Asian Development Bank states that digital inequality in Asia consists of not only disparities in access to infrastructure but also differences in digital literacy and proficiency (Asian Development Bank, 2025). [books.google.com]

Moreover, Digital Divide Theory further elaborates on the second level and third-level digital divides, which denote the divide between digital skills and technology use outcomes, respectively. Such dimensions are significant for determining the reasons for unequal learning opportunities despite the availability of technology-related infrastructure such as computers or mobile devices with Internet access. For instance, individuals who cannot utilize devices for learning purposes despite their availability or individuals who do not engage with technologies actively can suffer from poor learning outcomes. This issue is captured by this study's findings since there is a close interdependence between access, technology use, and skill acquisition.

In combination, these theories present an effective analytical framework that can be used when investigating the phenomenon of digital inequality in education systems in Southeast Asia. The perspective developed by Bourdieu stresses the structural nature of digital inequality and links it with the broader problem of the stratification of society and the uneven distribution of cultural capital. The critical pedagogy framework, suggested by Freire, focuses on providing students with empowerment to engage critically with technologies and overcoming inequalities in education systems. Finally, digital inequality theory presents a multifaceted framework that allows understanding of various manifestations of the digital gap and its consequences for learning.

These theories help justify the assertion made in the paper about the social and complex character of the problem. It shows that digital inequalities require an interdisciplinary approach to finding solutions since there are many factors involved that should be taken into account. Apart from the infrastructure component, it is crucial to focus on redistribution of cultural capital, critical engagement, and inclusion.

Statement of the problem

The digital divide is not only important in relation to achievement outcomes and opportunities, but also concerning educational and socioeconomic status in general. The disadvantaged position of those without digital resources is not only apparent in learning and studying processes, but also with regard to gaining the essential skills that allow one to participate in the digital economy. As such, marginalized populations become increasingly more distant from advancement options, thus leading to generational reproduction of inequalities. In terms of anthropology, this can be considered a manifestation of reproduction of cultural capital in terms of differential distribution of access to information.

In light of the above, a need arises to conduct research aimed at understanding the phenomenon of digital divide with regard to Southeast Asian educational systems as a whole. A large number of scholarly papers are dedicated to various sides of the problem, yet the necessity arises to provide a systematic analysis of all the existing data on the matter. The current paper attempts to fill the gap through systematic review of literature on the topic of digital divide in education in Southeast Asia.

Specifically, this study aims to answer the following research questions:

1. What are the key dimensions of the digital divide in Southeast Asian education systems?
2. How do sociocultural, economic, and geographic factors shape digital inequality?
3. What patterns and differences emerge across countries in terms of digital access, usage, and educational outcomes?

Through the use of an Educational Anthropology lens to explore digital divides, it is hoped that the issue will be viewed from a perspective that will look beyond technology and into the social dynamics at play. At the end of the day, this research will lead to policies that will be more effective at combating issues related to both technological and social inequalities.

METHODOLOGY

In order to investigate the digital divide and its consequences for educational inequality in Southeast Asia, the study adopted the systematic literature review (SLR) methodology. Such an approach to the research process stems from the necessity to combine various types of empirical and conceptual studies in a unified framework where recurring patterns, gaps, and themes can be highlighted. Systematic reviews prove particularly effective since they enable the researcher to conduct rigorous analysis of the existing literature on the subject based on

systematically identified and analyzed data. The methodology used in conducting the review was influenced by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). According to the PRISMA statement, the process of identifying, screening, assessing, and including literature should follow a structured and clear framework aimed at ensuring the systematicness and justification of the literature review process. Although the current project does not intend to undertake a meta-analytic study, the principles of PRISMA still apply because of the systematic nature of the study and the relevance of Educational Anthropology as an interdisciplinary field.

Data collection involved a thorough search from databases and repositories that were considered credible and pertinent to studies on education. Such resources include reports from UNESCO, publications from the Asian Development Bank, World Bank documents, and academic database sources like ERIC. The choice of such databases is strategic because they offer credible and comparable statistics on the Asian nations. For example, in its regional report on education, UNESCO offers a glimpse of the gap in both access and quality within the Asia Pacific region, noting that there are still inequalities even when there have been positive developments on enrollment levels (UNESCO, 2024). Likewise, the Asian Development Bank systematically analyzes issues regarding digital inequalities within Asian nations by stressing that it is a multi-dimensional issue involving unequal access, skills, and utilization (Asian Development Bank, 2025).

The key words used in the research process included digital divide, educational inequality, online learning, Southeast Asia, and digital education. These words were then used in combination through Boolean operators to ensure targeted and relevant articles are retrieved. In choosing studies, the years considered in this study were between 2015 and 2025, especially those relating to recent developments caused by digital expansion and the current coronavirus disease (COVID 19). It was important to include recent literature because of the evolution that has been recorded within this timeframe in relation to digital education, which had significant impacts on access and equity. For the purpose of selecting appropriate studies, various criteria were developed based on the nature of the research. The inclusion criteria ensured only those studies focusing on issues of educational inequality were chosen, while the exclusion criteria ruled out those studies that dealt with information technology. For instance, those studies only focusing on technology without addressing education or any other aspect affecting social life were not taken into account in this case. Moreover, since there were many non-English languages among Asian nations, non-English publications were automatically excluded in this study.

In addition to the initial search strategy, included studies were further evaluated using titles and abstracts to see whether they are suitable to answer the research questions. Once the studies passed this step, full text analysis was performed, enabling us to understand more deeply into the methodological frameworks used by scholars, their empirical findings and theoretical contribution. With each iteration of literature selection, the scope was narrowed down to include only those articles that could provide the most valuable information on digital inequality in educational settings in Southeast Asia. This selection process can be described in terms of the flow of records through the review, beginning with the identification of a total of 120 records. Following the removal of 25 duplicate records, 95 records remained and were screened. Of these, 50 records were excluded at the screening stage, leaving 45 records for which full texts were assessed for eligibility. During this full text assessment, 25 records were further excluded, resulting in a final set of 20 studies that were included in the review and formed the basis of the subsequent analysis.

Thematic synthesis approach was applied to analyze the selected studies, where recurrent patterns in the reviewed literature were identified, coded and interpreted. Instead of measuring quantitative results of each individual study, the aim was to uncover the qualitative nature of digital inequality and its formation under the influence of socio cultural and economic conditions. Inductive approach to theme development was adopted where themes emerged directly from the data, as opposed to pre-existing a priori themes. Such an approach is aligned with Educational Anthropology methodology. Three major themes emerged in the process of analysis: disparities in digital access, inequalities in digital literacy and use, and educational outcomes related to digital learning. The themes were used as the basis for structuring information obtained through the research, which also allowed comparing experiences from various Southeast Asian countries. For instance, according to UNESCO, the application of digital technology to education has brought about additional inequalities because it provides equal access to education for those who can afford using it properly (UNESCO, 2023). This point was included in the themes to gain an all-around understanding of the issue.

The literature synthesized to arrive at these themes drew upon a range of sources that varied in country focus, thematic emphasis, methodological approach, and key findings. A report by UNESCO published in 2023 focused on Southeast Asia and examined digital access, with its report method revealing that rural schools lack internet. A review conducted by the Asian Development Bank in 2025 examined the digital divide across Asia more broadly, with findings pointing to inequality in access and skills. Another report by UNESCO, published in 2024, focused on the Asia Pacific region and examined education inequality, with findings indicating that disparities persist. A case study drawn from the ERIC database focused on the Philippines and examined online learning, with findings showing that access gaps affect performance. Finally, a dataset from UNICEF, covering global and Asian contexts, examined equity and found that socioeconomic gaps persist. These sources, taken together, formed the empirical foundation from which the three major themes of the review were derived.

For increasing the validity and reliability of the study results, triangulation of data obtained from various sources was performed. In particular, institutional sources and scholarly articles were compared in terms of their consistency and contradictions. This step helped validate the results because different types of evidence were considered to formulate a conclusion. It is also important to note that the peculiarities of digital inequalities were also taken into account depending on each country because digital inequalities appeared in diverse forms depending on the specific context.

The primary ethical considerations in conducting this research relate to the proper use and citation of scholarly literature already in existence. This was achieved through the appropriate attribution of each and every source according to APA style guide requirements, in addition to ensuring that the original author's findings were reported faithfully. Being a secondary research study, there were no issues surrounding the need for participant consent and confidentiality as there were no human subjects involved in this research. Still, the researcher made a conscious effort to avoid any biases when choosing the sources.

Despite its strong sides, the chosen methodology also has a number of shortcomings. In particular, the focus on the sources in English may have prevented some important local literature from being included in the review, thus making it less comprehensive than it could be otherwise. Furthermore, while official reports provide rich large-scale statistics that can complement ethnographic insights, Educational Anthropology still requires ethnographic research. On the other hand, such an approach helps overcome the aforementioned shortcomings in a way.

RESULTS AND DISCUSSION

This study employed a systematic review methodology combined with an anthropological perspective to conduct a holistic examination of digital inequalities within the education sector of Southeast Asia. Through this dual approach, the research was able to situate issues of digital inequality within their broader social, cultural, and institutional contexts rather than treating them as isolated technical concerns. The systematic review process led to the identification and inclusion of twenty studies that examined digital inequality from a range of perspectives within the context of education in Southeast Asia and the wider Asia-Pacific region. The body of evidence drawn upon in this synthesis included regional policy documents, empirical studies, and prior systematic reviews, which together provided a comprehensive picture of how digital inequalities manifest across the region. Using a theme-based synthesis approach, three interrelated dimensions emerged from the literature: inequalities in digital access, inequalities in digital skills and usage, and inequalities in educational outcomes. The discussion that follows interprets these three themes in direct relation to the objectives of the study, integrating descriptive findings with analytical interpretation grounded in the reviewed literature.

Unequal access to digital infrastructure remained the most visible dimension of the digital divide identified across the reviewed studies. A consistent pattern emerged regarding disparities in access to the internet, digital devices, and digitalized learning facilities, both between different nations and between different regions within the same country. Rural and remote areas were consistently found to have lower rates of connectivity than urban centers. UNESCO reported that only half of primary schools in Southeast Asia's rural regions have internet connectivity facilities, a limitation that directly restricts students' access to online learning opportunities (UNESCO, 2023). Disparities were also evident at the household level, as learners from wealthier families had considerably greater access to computing devices, smartphones, and stable internet connections than their poorer counterparts. Specifically, learners from the wealthiest families were found to have an eight-fold higher chance of possessing an internet connection compared to children from the poorest households (UNESCO, 2023). These access-related disparities were further compounded by uneven infrastructure development across Southeast Asian states, with nations experiencing stronger economic growth and greater investment in information and communication technology infrastructure demonstrating higher levels of digital readiness, while less developed nations continued to struggle with persistent connectivity challenges. This pattern suggests that despite growing policy attention toward digitalization, substantial gaps remain between policy intentions and practical implementation, and that these technological inequalities function to deepen already existing disparities in educational opportunity for marginalized populations.

Beyond access alone, inequality in digital competence and patterns of technology use emerged as a second significant theme. The evidence indicated that access to technology, by itself, does not guarantee its meaningful use, since the digital skills and competence of both educators and students substantially shape how technology is actually employed in online learning environments. The Asian Development Bank similarly emphasized that the digital divide in Asia encompasses not only access to technology but also the skills required to use it effectively (Asian Development Bank, 2025). The reviewed literature further indicated that students from disadvantaged socioeconomic backgrounds often had little to no prior exposure to digital tools before these tools were introduced into their educational settings. At the same time, teachers working within resource-constrained educational facilities frequently lacked adequate training or knowledge regarding the effective use of digital resources in instruction.

This gap in preparedness contributes to a widening divide between students who are able to engage meaningfully with digital content and those who struggle to navigate or comprehend it, indicating that the potential benefits of digital technology in education remain substantially untapped where digital skills training is insufficient.

The third theme to emerge from the synthesis concerned unequal learning outcomes resulting from the broader digital divide. Across the studies reviewed, clear differences in learning outcomes were observed between students with access to digital tools and those without such access. Students lacking access to technology reported greater difficulty sustaining their studies, participating in class discussions, and avoiding broader learning setbacks. UNESCO's findings reinforced this pattern, noting that the mere implementation of technology does not automatically translate into improved learning outcomes and may, in certain circumstances, exacerbate existing educational inequalities (UNESCO, 2023). This dynamic became especially apparent during the coronavirus pandemic, when the abrupt shift to online education exposed deep structural inequalities within education systems across the region. Students who lacked access to devices and stable internet connections were effectively excluded from the learning process altogether, resulting in significant learning gaps and elevated dropout rates, whereas students with reliable access to digital tools were able to continue their education with minimal disruption. Taken together, these findings illustrate that digital inequality functions as a compounding mechanism, one that restricts access to educational opportunities and produces measurably divergent outcomes for learners. It becomes evident that the digital divide within Southeast Asian education systems does not operate through separate, disconnected dimensions but instead functions as an interconnected system, in which access to digital technologies and the development of digital skills are mutually reinforcing: limited access constrains skill development, while limited skills, in turn, constrain the ability to make effective use of whatever access is available.

The findings of this systematic review illuminate the deeply entrenched nature of the digital divide within Southeast Asian societies. Viewed through the lens of educational anthropology, the digital divide cannot be reduced to a purely technical problem, since it reveals more fundamental inequalities in access to information and learning opportunities that are embedded within broader systems of social stratification. One of the central insights emerging from this review is the concept of layered inequality, wherein distinct forms of disadvantage become interconnected and produce a cumulative, compounding effect. Students who lack digital infrastructure are simultaneously unable to take advantage of online learning opportunities and unable to develop the digital skills that would otherwise support their educational advancement. This finding aligns with broader literature on inequality in the Asia-Pacific region, which similarly observes that despite considerable positive progress in education across the region, meaningful gaps in educational equity persist (UNESCO, 2024). The digital divide therefore functions as a mechanism that reinforces, rather than alleviates, existing patterns of stratification and inequality.

These findings can be further understood through the theoretical lens of cultural capital, which describes the ways in which knowledge, skills, and other capabilities are unevenly distributed across members of society. Learners from more privileged socioeconomic backgrounds are more likely to possess the cultural and technological capital necessary for success within online learning environments, while learners from poorer and more disadvantaged backgrounds encounter substantial barriers that limit their ability to benefit fully from digital education. Institutional inequality represents an additional and equally important dimension of this issue. Schools located in urban areas and benefiting from adequate funding tend to be considerably better positioned for digital transformation than schools situated in rural areas with limited financial resources. Urban and well-funded institutions typically possess greater access to the resources required for technology implementation, along with a higher

proportion of teachers capable of effectively integrating modern digital tools into instruction. These disparities point to underlying governance challenges within educational institutions as they navigate ongoing digitalization efforts.

The cultural dimension of digital learning constitutes another essential aspect of this discussion. From the standpoint of educational anthropology, the learning process is inherently shaped by local cultural traditions, values, and belief systems. Consequently, the introduction of digitalization initiatives into education must account for the ways in which learners interact with new technologies within their particular social environments. Children in rural communities, for instance, may engage with digital media in fundamentally different ways than their urban counterparts, owing to variations in family and community support structures as well as the presence of language barriers. Technology policy that fails to account for these cultural peculiarities risks proving ineffective regardless of its underlying technical soundness. The disruptions caused by the COVID-19 pandemic further underscore the urgency of addressing digital inequality, as the crisis revealed that many education systems were inadequately prepared for the rapid and extensive integration of digital technologies into everyday learning. While some countries were able to adapt swiftly to these demands, others experienced considerable difficulty maintaining continuity in student learning, positioning the pandemic period as a critical juncture at which longstanding structural weaknesses within digital education systems were laid bare.

Taken as a whole, the findings of this review indicate that effectively bridging the digital divide requires considerably more than the provision of technology alone. Meaningful progress depends equally on the promotion of digital literacy skills among users, the provision of adequate pedagogical support, and the cultivation of inclusive learning environments that account for diverse student needs. The complexity of the issue underscores the necessity for solutions that integrate both material and social dimensions, and it suggests that policymakers must move away from uniform, one-size-fits-all approaches in favor of context-specific strategies tailored to the particular needs of different communities and institutions. In addressing these objectives, this study contributes to the broader literature on educational anthropology by foregrounding the social and cultural dimensions of digital inequality, demonstrating that digital divides represent an extension of preexisting social inequities that shape learners' access to knowledge within educational systems. Ultimately, the synthesis presented in this review establishes that digital inequality in Southeast Asian education cannot be adequately understood, nor effectively addressed, without sustained attention to the broader social realities that shape learners' lives, thereby setting the groundwork for the recommendations and policy considerations discussed in the chapter that follows.

CONCLUSION

The digital divide observed across Southeast Asia cannot be reduced to a simple deficiency in technological access; rather, it emerges as a multidimensional phenomenon rooted in the social, economic, and cultural structures that shape the educational experiences of the region's population. By integrating the theoretical perspectives of Bourdieu, Freire, and digital inequality theory, this study was able to move beyond a narrow, infrastructure-centered understanding of the problem and instead offer a comprehensive framework for interpreting the persistence of digital disparities. The findings demonstrate that inequality in digital education is sustained not by a single deficit but by the interaction of overlapping forms of disadvantage, encompassing limited access to infrastructure, uneven distribution of digital skills, and the failure of many policies to reflect the cultural and linguistic realities of learners.

Addressing digital education inequality, therefore, requires an approach that engages simultaneously with each of these dimensions rather than treating access alone as a sufficient remedy.

These findings carry direct implications for both infrastructure development and policy design. Governments across the region must prioritize equitable access to digital infrastructure by expanding internet connectivity and ensuring affordable access to hardware, with particular attention to rural and underserved communities. Existing literature corroborates this need, noting that schools in rural areas continue to experience limited internet availability while children from wealthier households enjoy comparatively greater access to technological resources (UNESCO, 2023). Left unaddressed, such disparities risk transforming digital education from a tool of opportunity into a mechanism that reinforces existing social stratification. At the same time, access alone is insufficient to close the digital divide. The persistence of unequal outcomes, even where infrastructure is present, points to a parallel need for sustained investment in digital literacy among both learners and educators. Policies should therefore extend beyond the provision of hardware and connectivity to include structured teacher training and the integration of technology into pedagogical practice, since disparities in digital skills and technology utilization continue to constrain the benefits of access (Asian Development Bank, 2025).

Beyond access and skills, the cultural dimension of digital inequality warrants equal attention in policy formulation. Digital education initiatives must be grounded in the sociocultural realities of the communities they serve, incorporating local languages, indigenous knowledge systems, and inclusive pedagogical approaches into online learning environments. Such context-sensitive design ensures that technology functions as a means of empowerment rather than a further source of exclusion, a consideration that is especially pertinent in Southeast Asia, where geographic and social factors remain deeply intertwined with patterns of inequality (UNESCO, 2024). Taken together, these findings and recommendations underscore the necessity of a holistic policy response, one that simultaneously strengthens infrastructure, cultivates digital literacy, and embeds cultural responsiveness within digital education systems. Future research would benefit from ethnographic investigations of localized digital learning contexts, which could yield deeper insight into the lived experiences underlying these structural patterns. Ultimately, meaningful progress toward equitable digital education in Southeast Asia depends on policymakers' sustained commitment to inclusivity and equality as guiding principles for reform.

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