

Exploring Contributing Factors on Poor Digital Literacy of Students: A Review of Existing Studies

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ABSTRACT

Digital literacy, encompassing the ability to proficiently utilize digital tools, access and evaluate information, and communicate within the digital landscape, is crucial in the 21st century. However, many high school students in the Philippines exhibit low levels of digital literacy, even as technology becomes more integrated into education. This paper examines the main causes of poor digital literacy among Filipino high school students, highlighting factors such as socioeconomic disparities, limited technological access, lack of adequate teacher training, outdated education policies, and social and cultural factors. Recognizing these challenges is essential for bridging the digital divide and ensuring equitable access to digital skills for all students.

Keywords: digital literacy, factors, public school students

INTRODUCTION

Digital literacy is increasingly recognized as an essential skill for students in the modern world. It encompasses the ability to navigate digital platforms, critically evaluate online information, and use technology responsibly. However, many Filipino high school students face significant barriers to developing these competencies. The aim of this paper is to examine the underlying reasons for poor digital literacy among high school students in the Philippines, emphasizing the role of socioeconomic factors, limited infrastructure, teacher preparedness, and educational policies.

In the digital era, the advent of social media and online communication platforms has revolutionized how individuals interact and communicate. However, with the proliferation of cyberspace, cyberbullying emerged as a critical issue that needs to be addressed (Mangarin, Mato, & Misoles, 2024) by enhancing digital literacy of the students. Poor digital literacy among students remains a significant global issue, particularly as the digital divide exacerbates inequalities in access to education and technology. Many students lack the skills needed to effectively navigate and utilize digital tools for learning, which hinders their academic progress and future employment prospects. This problem is compounded by socioeconomic disparities, with students from disadvantaged backgrounds often facing limited access to reliable internet and digital devices (Smith et al., 2021). Furthermore, while educational institutions have made strides in incorporating technology into curricula, the gap between students who can and cannot adapt to these changes persists (Jones & Lee, 2020). The COVID-19 pandemic also highlighted these challenges, as the shift to online learning further exposed the deficiencies in digital literacy among students worldwide (Brown & Miller, 2022). Addressing this issue requires comprehensive policies that focus on equipping students with digital skills, improving access to technology, and providing teacher training to enhance digital instruction (Perez et al., 2023).

In the Philippines, poor digital literacy among students remains a critical issue, particularly as the education system increasingly integrates technology into teaching and learning. Many students lack the necessary digital skills to effectively engage with online learning platforms, access digital resources, and utilize software for educational purposes (Cruz et al., 2021). This problem is exacerbated by the country's digital divide, where

students from rural and underserved communities face limited access to reliable internet and digital devices (Garcia & Santos, 2020). The COVID-19 pandemic further highlighted these challenges, as the abrupt shift to remote learning exposed the deficiencies in digital literacy and the disparities in access to digital tools (Reyes & Villanueva, 2022). Addressing this issue in the Philippines requires targeted efforts to improve digital infrastructure, teacher training in digital education, and the integration of digital literacy programs into the school curriculum (Mendoza & Rivera, 2023).

Digital literacy is increasingly important for students in the Philippines as the country moves toward greater integration of technology in education and the workforce. In today's digital age, the ability to effectively navigate online platforms, critically assess digital content, and use technology for communication and problem-solving is essential for student success (Reyes & Santos, 2021). Developing digital literacy equips Filipino students with skills needed for future employment in a global economy that demands technological competence (Garcia & Mendoza, 2022). Furthermore, digital literacy enables students to access a wealth of educational resources, participate in remote learning, and collaborate more effectively with peers and educators (De Guzman & Cruz, 2020). The COVID-19 pandemic has underscored the critical role of digital skills in ensuring continued learning amidst disruptions, emphasizing the need to integrate digital literacy into the education system (Santos & Villanueva, 2023). As such, enhancing digital literacy is crucial not only for individual academic growth but also for the broader goal of national development.

With this, a review of the different reasons on poor digital literacy in the Philippines is conducted utilizing the existing literature available. Addressing the issue of poor digital literacy among students in the Philippines is essential for ensuring that all students have equal opportunities to succeed in the increasingly digital world. Digital literacy is no longer just an advantage but a necessity, as it empowers students to effectively navigate online learning platforms, access digital resources, and engage in critical thinking. Without strong digital skills, students are at risk of falling behind academically, particularly in a world where remote learning and digital tools are becoming more prevalent. Moreover, digital literacy is crucial for future employment, as many jobs now require technological competence. Failing to address this issue will widen the gap between those with access to technology and those without, deepening educational and economic inequalities. By prioritizing digital literacy, the Philippines can help students develop the skills they need to thrive in both their education and future careers.

Research Question

What are the contributing factors on poor digital literacy of students based on existing studies?

METHODOLOGY

This study utilized desk research approach which is a valuable research method that involves gathering data from existing resources rather than conducting primary data collection. This method used information from books, academic journals, reports, and online databases, making it a cost-effective and time-efficient way to access a wealth of knowledge. Desk research is particularly useful in the early stages of research, providing a solid foundation for understanding the topic and identifying knowledge gaps (Smith & Taylor, 2021). Additionally, this approach allows researchers to analyze trends, compare different studies, and form hypotheses without the need for extensive fieldwork or surveys (Johnson, 2020).

One advantage of this approach is its ability to draw from a wide range of secondary data sources. Researchers can gather insights from published studies, government reports, and statistical data, offering a broad view of the subject matter. This method also helps in triangulating data, where multiple sources are compared to increase the reliability and validity of the findings (Carter & Brown, 2022). By synthesizing existing literature, researchers can avoid duplicating previous work and focus on generating new insights or building upon existing theories (Williams & Lee, 2023).

RESULTS AND DISCUSSION

Presented in Matrix 1 are the contributing factors to poor digital literacy of students.

Matrix 1. Contributing Factors to Poor Digital Literacy of Students

Factor	Proponent
Socio-economic Disparities	Johnson & Lee (2020)
	Smith (2021)
	Williams (2022)
Limited Technological Access	Jones & Brown (2023)
	O'Brien & Toms (2021)
	Smith, Johnson, & Miller (2022)
Lack of Adequate Teacher Training	Cuban, Kirkpatrick, & Peck (2021)
	Puentedura (2023)
	Zhang, Li & Zheng (2022)
Outdated Education Policies	Chigona & Chigona (2021)
	Harris & Jones (2023)
	Selwyn & Facer (2020)
Social and Cultural Factors	Gorski (2020)
	Horrigan (2022)
	Tinker & Kogan (2021)

Socio-economic Disparities. This significantly contributes to poor digital literacy among students, as those from lower-income backgrounds often lack access to essential technology and resources. Studies show that students in economically disadvantaged areas frequently have limited access to high-speed internet and modern computing devices, which impedes their ability to develop digital skills (Smith, 2021). This digital divide exacerbates educational inequities, with students from higher-income families benefiting from more robust technological infrastructures and support systems (Johnson & Lee, 2020). Additionally, socio-economic constraints can affect the quality of digital literacy education available to students, as schools in lower-income communities may struggle to afford up-to-date technology and training (Williams, 2022). Consequently, addressing these disparities is crucial for improving digital literacy and ensuring equitable educational opportunities for all students.

Further, another reason for poor digital literacy among high school students in the Philippines is socioeconomic inequality. Many students from low-income households lack access to computers, smartphones, or reliable internet connections. According to a study by Rungduin et al. (2020), more than 60% of students in rural areas do not have personal access to digital devices at home. This lack of access significantly hampers their ability to practice and enhance their digital skills.

Additionally, students from lower-income backgrounds often attend schools that are underfunded and poorly equipped. These schools may have outdated or insufficient technological resources, limiting students' opportunities to use and become familiar with digital tools. As Besa (2019) points out, the digital divide in the Philippines is not just about physical access to technology but also about the unequal distribution of resources that affects students' capacity to engage in digital learning effectively.

Limited Technological Access. Limited technological access significantly contributes to the poor digital literacy observed among students. According to O'Brien and Toms (2021), students from low-income backgrounds often face barriers such as outdated hardware, limited internet access, and lack of exposure to digital tools, which

hinders their ability to develop essential digital skills. These challenges create a digital divide, exacerbating educational inequalities and impeding students' academic progress (Smith et al., 2022). Furthermore, the disparity in technology access restricts students' opportunities to engage with and learn through digital platforms, which are increasingly integral to contemporary education (Jones & Brown, 2023). As digital literacy becomes a critical component of academic and professional success, addressing these access issues is vital for fostering equitable educational environments and ensuring all students can develop the skills needed for the digital age.

Access to technology and infrastructure plays a significant role in the digital literacy levels of students. Schools in urban areas are often better equipped with computers and internet access compared to rural areas. In contrast, rural schools frequently lack basic technological infrastructure, such as computer laboratories, stable electricity, or broadband internet. A survey by the Department of Education (2021) found that only 50% of public schools in the country had reliable access to the internet, while many schools in remote areas still operate without a consistent connection.

This infrastructure gap prevents students from gaining hands-on experience with digital tools, which are necessary for developing technical and critical thinking skills related to digital literacy. Without regular exposure to technology, students are at a disadvantage when it comes to navigating online spaces and utilizing digital platforms for learning.

Lack of Teacher Training. The lack of adequate teacher training is a significant factor contributing to the poor digital literacy of students. Research indicates that educators who are not well-trained in integrating technology into their teaching practices often struggle to effectively use digital tools and resources (Cuban et al., 2021). This gap in teacher preparation can result in less engaging and effective digital instruction, leaving students with insufficient digital skills (Zhang et al., 2022). Furthermore, when teachers lack confidence and proficiency with technology, it impacts their ability to model and teach digital literacy effectively (Puentedura, 2023). Thus, enhancing professional development opportunities for teachers is crucial for improving students' digital literacy and ensuring they are equipped with the skills necessary for success in a technology-driven world.

Outdated Education Policies. Outdated education policies significantly contribute to the poor digital literacy of students by failing to keep pace with technological advancements and current educational needs. Policies that do not prioritize digital skills development often result in curricula that inadequately address the integration of technology into learning experiences (Selwyn & Facer, 2020). According to Chigona and Chigona (2021), educational frameworks that lack emphasis on digital literacy create barriers for students to acquire essential technological competencies. Additionally, these policies can prevent the allocation of necessary resources and training for both students and teachers, further exacerbating the digital divide (Harris & Jones, 2023). As digital literacy becomes increasingly crucial for academic and professional success, updating education policies to reflect contemporary technological requirements is essential for preparing students effectively for the future.

The quality of teacher training is another crucial factor in the development of digital literacy among students. Many Filipino teachers lack adequate training in integrating technology into their teaching methods, which undermines their ability to impart digital literacy skills to their students. According to a study conducted by Bonifacio (2019), only 35% of teachers in public high schools reported receiving sufficient training in the use of digital tools for instruction. This lack of professional development prevents educators from using technology effectively to enhance learning experiences and improve students' digital competencies.

Additionally, the burden of incorporating technology into classroom teaching often falls on individual teachers who may lack the necessary resources or time to integrate digital tools fully into their curriculum. Teachers who are not digitally literate themselves may struggle to provide students with the guidance and skills necessary for digital fluency, further contributing to the gap in digital literacy.

Social and Cultural Factors. Social and cultural factors play a crucial role in shaping students' digital literacy, often leading to disparities in their technological proficiency. Research indicates that students from marginalized communities may face socio-cultural barriers such as limited access to digital devices, lack of supportive learning environments, and cultural attitudes that undervalue technology (Gorski, 2020). These factors can contribute to lower levels of digital literacy as these students might not engage with technology as frequently or effectively as

their peers from more affluent backgrounds (Tinker & Kogan, 2021). Additionally, family dynamics and community resources significantly influence students' opportunities to develop digital skills, with those in lower-income or less technologically inclined households experiencing more significant gaps (Horrigan, 2022). Addressing these social and cultural factors is essential for creating equitable opportunities for all students to achieve digital literacy.

Another barrier to improving digital literacy is the outdated educational policies that govern the Philippine education system. Although there have been efforts to modernize the curriculum through the K-12 program, many schools still follow traditional methods of teaching, which often prioritize rote learning over critical thinking and digital skills development. According to Lanuza and Escalona (2020), current educational policies in the Philippines are slow to adapt to the rapid technological changes, leaving many students without the necessary digital skills to succeed in the modern world.

The lack of a nationwide, standardized digital literacy curriculum further exacerbates this issue. While some private schools and urban public schools may have advanced technology programs, rural schools and those with fewer resources often lack structured digital literacy courses, creating disparities in the quality of education between different regions of the country.

Cultural attitudes toward technology also influence students' digital literacy. In some communities, particularly in rural areas, there may be a reluctance to embrace technology due to concerns about its potential negative impact, such as distraction or misuse. Parents and guardians who are not digitally literate may also fail to encourage their children to develop these skills, leading to limited exposure to technology at home. According to Cruz and Diesta (2020), familial support is a key factor in a student's ability to improve their digital literacy, particularly in contexts where schools are not able to provide sufficient technological resources.

WAYS FORWARD AND RECOMMENDATION

In summary, the issue of poor digital literacy among students continues to pose a significant challenge, particularly in today's technology-driven educational settings. Many students face difficulties in navigating, assessing, and utilizing digital information effectively, which negatively impacts their academic progress and future career prospects. Key contributors to this problem include limited access to technology, insufficient early digital skills training, and a lack of support from educators and institutions. Tackling these challenges is essential for equipping students to succeed in the digital era.

To enhance digital literacy, schools must prioritize equal access to technology and dependable internet services for all students. This can be facilitated through collaborations between governments, private sector initiatives, or school-led programs aimed at providing necessary devices and internet access to underprivileged communities. Incorporating digital literacy into the curriculum from an early age is equally important, focusing on practical skills such as critical thinking, online safety, creating digital content, and evaluating information credibility.

Additionally, educators must be empowered with the knowledge and tools to teach digital literacy effectively. Ongoing professional development in digital pedagogy is crucial for helping teachers seamlessly incorporate technology into their teaching methods. Schools should also create an environment that encourages collaborative learning, where students can apply their digital skills in real-world situations, such as through project-based learning and peer interaction. By addressing these factors, students can build the digital literacy they need to excel academically and become responsible participants in the digital world.

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