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Digital literacy of students with intellectual disabilities: A systematic literature review

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Abstract

Digital literacy is a critical competency that enables individuals to navigate, evaluate, and create digital content while comprehending digital information and its associated social and cultural practices. For students with intellectual disabilities (ID), digital literacy plays a vital role in fostering independence, enhancing educational engagement, and improving social integration. However, challenges such as online safety risks, limited information literacy, and accessibility barriers persist, necessitating a systematic approach to digital literacy instruction. This systematic review highlights evidence-based practices and identifies effective strategies to enhance digital literacy among students with ID guided by the PRISMA framework from 2000 to 2024. A comprehensive search using Scopus identified 7,721 studies, which were systematically filtered based on relevance and quality assessment criteria, resulting in a final selection of 32 studies. Of the 32 reviewed articles, 12 identified repetitive learning as the most commonly used strategy, and 10 highlighted the effectiveness of assistive technologies in enhancing digital skills among students with ID. The findings highlight the effectiveness of assistive technology, video-based learning, and structured instructional models in improving digital literacy among students with ID. Additionally, the study identifies key challenges, including inadequate infrastructure, insufficient teacher training, and cognitive barriers that hinder digital inclusion. The research underscores the importance of integrating digital literacy into inclusive education through evidence-based strategies, policy development, and stakeholder collaboration. Future research should focus on adapting digital literacy frameworks to diverse cultural and socio-economic contexts, particularly in developing countries, to ensure equitable access and sustainable implementation.

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Introduction

Digital literacy is an essential skill encompassing the ability to navigate, evaluate, and create digital content, comprehend digital information, and understand the social and cultural practices associated with digital media use (Eden, 2024; Jia & Huang, 2023; Wang, 2024; Yuan et al., 2022). It includes the technical aspects of accessing information, fosters critical thinking, and enhances employability for participation in the digital society (Marzo, 2024). The integration of digital literacy into inclusive education plays a crucial role in expanding access and promoting educational equity for all learners, including individual with disabilities (Hatlevik & Christophersen, 2013; Ng, 2012). However, the effectiveness of technology use in inclusive education remains limited (Naslund & Gardelli, 2013; Vicente & López, 2010). Research on individual disabilities, particularly those with intellectual disabilities (ID), in acquiring digital skills is still scarce (Li-Tsang et al., 2007). This scarcity in research and the challenges faced by students with ID in digital access reinforce the urgency of integrating inclusive digital literacy practices in both theoretical and practical educational frameworks. This group often experiences social marginalization due to limited access to technology and digital information (Vicente & López, 2010; Wong et al., 2004). Key challenges faced by individuals with ID include online safety risks, limited information literacy, and low reading skills, all of which contribute to difficulties in using digital devices, such as challenges in operating touchscreens to access controls on small screens (Lombardi et al., 2016; Stock et al., 2008). Addressing these challenges, integrating digital literacy into the inclusive education curriculum emerges as a relevant solution. The implementation of consistency- and repetition-based strategies can improve the effectiveness of digital learning for students with intellectual disabilities (Chiner et al., 2021; Chiner & Cardona-Moltó, 2017; Wehmeyer et al., 2004; Wehmeyer et al., 2012). Therefore, systematic and evidence-based instructional strategies are needed to enhance accessibility and effectiveness in digital education. Digital literacy for students with ID involves more simplified, repetitive instruction and the use of assistive technologies, in contrast to the general population where digital literacy includes more advanced critical and evaluative skills (Chadwick et al., 2013; Seok & DaCosta, 2016).

Individuals with ID experience physical, mental, intellectual, or sensory impairments that may hinder their full and equal participation in society (Wehmeyer et al., 2008; WHO, 2021). Developing digital literacy skills can promote independence, enrich educational experiences, and strengthen social interactions (Chadwick et al., 2013; Khanlou et al., 2021). Various video-based and computer-assisted interventions have been shown to effectively improve functional competencies and learning processes for individuals with ID (Ramdoss et al., 2011; Rayner et al., 2009; Sturmey, 2003). The use of multimedia software programs can boost confidence, enhance learning motivation, and provide more options for representing academic preferences (Davies et al., 2001; Seok & DaCosta, 2016). Students with ID often struggle to understand digital information, particularly in the context of visual preference utilization (Benz & Halpern, 1993). Previous studies indicate that only a few have explored the use of handheld computers in teaching digital skills to individual with ID (Davies et al., 2003). Barriers to accessing and utilizing digital resources limit their participation in digital-based educational activities (Chadwick et al., 2013; Erickson et al., 2010). Thus, comprehensive learning strategies and educational models specifically designed to accommodate the characteristics of students with ID in digital literacy programs are essential. Properly implemented digital literacy programs can help an individual with ID develop functional daily life skills and improve their ability to access information across various digital platforms.

Research Questions

Based on the background outlined above, the research questions for this study are formulated as follows:

a) How do existing literature studies relate to strategies, models, and methods used in practical digital literacy processes for students with ID, and what frameworks are effective in implementing digital literacy for these students?

b) What aspects are included in the instruments used to measure the effectiveness of inclusive schools in implementing digital literacy?

c) What are the research trends from 2000 to 2024 regarding digital literacy for students with ID?

Research Objectives

Based on the research questions outlined above, this study aims to achieve the following objectives: a) To analyze and synthesize existing literature on the strategies, models, and methods used in the practical implementation of digital literacy for students with intellectual disabilities (ID), and to identify effective frameworks for integrating digital literacy into inclusive education. b) To identify and evaluate key aspects

included in the measurement instruments used to assess the effectiveness of inclusive schools in implementing digital literacy programs for students with ID. c) To explore research trends from 2000 to 2024 related to digital literacy for students with ID, providing insights into the evolution of methodologies, challenges, and best practices in the field.

Methodology

This study employs a Systematic Literature Review (SLR) approach, guided by the PRISMA framework. The review aims to address three key research questions concerning strategies, measurement instruments, and research trends in digital literacy for students with ID from 2000 to 2024. A comprehensive literature search was conducted using Scopus, systematically identifying, screening, and analyzing relevant studies to extract key findings, themes, and patterns. The objective is to provide a holistic understanding of digital literacy implementation for students with ID in inclusive education settings.

Search Strategy and Data Collection

To ensure a rigorous and comprehensive selection of studies, the following search query was used: TITLE-ABS-KEY (digital AND literacy AND student OR children AND special AND needs OR slow AND learner OR intellectual) AND PUBYEAR > 1999 AND PUBYEAR < 2025 AND (LIMIT-TO (DOCTYP, "ar")) AND (LIMIT-TO (PUBSTAGE, "final")) AND (LIMIT-TO (SRCTYPE, "j")) AND (LIMIT-TO (LANGUAGE, "English")). This query initially retrieved 7,721 papers from Scopus. Refining the search by restricting the publication years (2000–2024) resulted in 7,700 papers**.** Further filtering was applied by excluding non-final publication stages, non-journal sources, and papers in languages other than English, reducing the dataset to 1,664 papers**.** A subject keyword checklist was then applied to exclude studies that: Did not focus on systematic literature reviews (SLR) or bibliometric research. Were unrelated to primary education, intellectual disabilities, or slow learners. This process further refined the dataset to 597 papers**.** Next, relevant keywords and inclusion criteria were applied, reducing the selection to 298 papers.

Quality Assessment (QA) and Selection Process

To ensure that only high-quality and relevant studies were included, a three-stage review process was implemented: Review 1 – Thematic Filtering: Identified and analyzed studies specifically related to elementary school students with ID. Review 2 – Content Evaluation: Assessed the relevance and methodological rigor of the selected papers. Papers that did not provide substantial insights into digital literacy strategies or assessment frameworks were excluded. Review 3 – Final Selection: Conducted an in-depth qualitative analysis of the remaining 32 studies. Extracted core findings, methodologies, and frameworks to synthesize best practices in digital literacy for students with ID. To ensure the validity and reliability of the study, the following Quality Assessment (QA) criteria were used: QA1: What types of digital literacy programs, inclusive models, and specialized applications have been used for students with ID? QA2: What specific instructional strategies have been employed to adapt digital literacy activities for students with ID? QA3: What improvements in cognitive, motor, or socio-emotional development result from digital literacy programs for these students? QA4: What challenges and barriers exist in implementing digital literacy for students with ID, and how have these been addressed in the literature? QA5: Do the studies provide evidence on the effectiveness of inclusive schools using digital literacy as a primary approach? QA6: What are the most effective individual education programs and classroom methodologies for integrating digital literacy into inclusive education? These six QA criteria were selected based on prior systematic reviews on inclusive education (e.g., Chadwick et al., 2013; Hasanah et al., 2022), which emphasize intervention effectiveness, accessibility, and instructional strategy clarity for students with ID. Each study was evaluated against these QA criteria, with responses systematically documented to establish research patterns and trends. The final 32 studies were analyzed to identify: Key themes and patterns in digital literacy implementation for students with ID. Effective models and intervention strategies for inclusive education. Measurement frameworks used to assess digital literacy proficiency. Challenges and recommendations for improving digital inclusion. The entire study selection process, from identification and screening to the final inclusion of 32 studies, is illustrated in the PRISMA flow diagram in Figure 1.

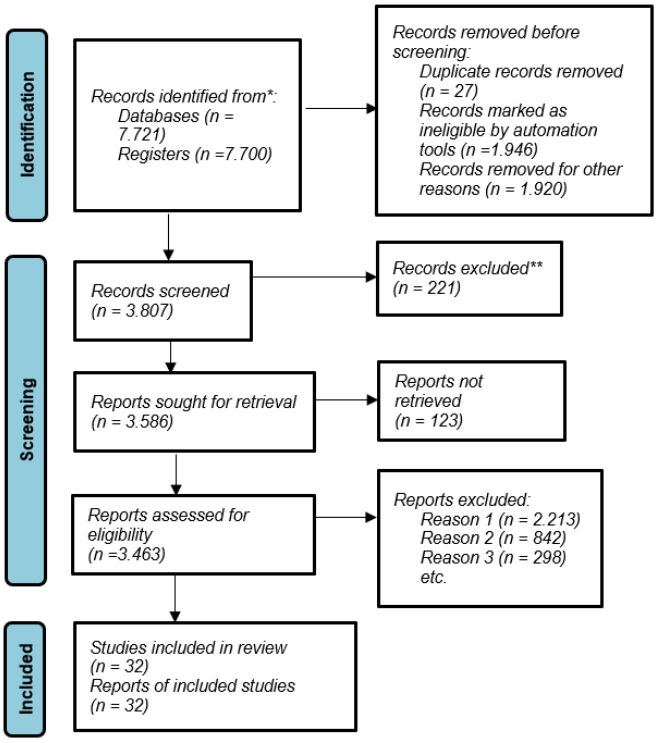


Figure 1 Data Collection
Source: Page et al. (2021)

Results

Strategies, Models, and Methods in Practical Digital Literacy Processes for Students with ID and an Effective Framework for Implementing Digital Literacy

As shown in Table 1, the most frequently adopted strategy across 12 studies was repetitive learning, indicating its centrality in instructional design for digital literacy among students with ID. This reflects the need for cognitive reinforcement due to the memory challenges often experienced by these students.

Aspects in Instruments Used to Measure the Effectiveness of Inclusive Schools in Implementing Digital Literacy

The effectiveness aspects for inclusive schools measure students' digital skills with a focus on technology accessibility and curriculum adaptation that is disability-friendly. Key aspects include cognitive abilities, tailored learning adaptations to meet student needs, and assessments of the social-emotional support provided by the school to maximize students' digital literacy.

Table 2 summarizes the key challenges faced by students with intellectual disabilities (ID) in developing digital literacy, such as difficulties in conceptual understanding, fine motor skills, and communication barriers. The information presented highlights the multidimensional nature of these obstacles, which require tailored teaching approaches and holistic interventions. Understanding these challenges is essential for designing effective instructional strategies, enabling curriculum development and supportive technologies to be aligned with the unique characteristics and needs of students with ID. Therefore, Table 2 not only describes the barriers but also serves as a foundation for formulating more inclusive and pedagogically responsive educational interventions.

Table 1 Strategies, models, methods, and digital literacy framework for students with ID

Strategy/Model/Method	Definition	Research Papers	Number of Documents
Personalized Strategy	Digital literacy strategies should include elements such as hands-on experiential approaches, allowing students to learn through direct interaction with digital technology. This involves contextual learning, where students are given tasks or activities relevant to their daily lives, such as familiarizing themselves with device interfaces and using simple applications for communication. This approach aims to enhance basic skills in understanding digital information and helps students adapt to an ever-evolving technological environment.	Bulić and Blazevic (2022), Danuri et al. (2023), Elhoweris et al. (2022), Heitplatz (2020), Kalenjuk et al. (2024), Merlo et al. (2023), Nusir et al. (2013), Panesi et al. (2020), Utepbayeva (2024), Zhang (2021)	10
Specialized Interventions/Repeated Learning Process	Effective digital literacy methods for students with ID include repetitive and gradual learning, which reinforces memory and allows students to deeply understand digital concepts. In practice, this repetitive learning method involves repeated practice of basic skills, such as navigating device menus or identifying symbols. The literature also shows that positive reinforcement, like verbal appreciation or small rewards, can motivate students to participate actively and boost their confidence in interacting with technology. This approach focuses not only on outcomes but also on the learning process adapted to each individual, allowing students to learn at their own pace.	Alqarni (2021), Holmgren (2023), Huang and Musah (2024), Karakara and Osabuohien (2019), Marnewick et al. (2022), Maurer (2024), Mølster and Nes (2018), Netwong (2019), Özdemir and Karaman (2013), Polat et al. (2023), Salgarayeva et al. (2021), Schlatter et al. (2022)	12
Online Safety Guidelines for Students with Intellectual Disabilities	Recommended frameworks for implementing digital literacy for students with ID emphasize collaboration between teachers, parents, and policymakers to support students' access to inclusive digital education. This collaboration addresses accessibility challenges, such as limited facilities or a lack of technological knowledge among educators. The literature shows that digital literacy programs involving teacher training in inclusive approaches are more likely to succeed in fostering digital skills in students ID. With proper collaboration, these digital literacy approaches can also address important online safety aspects, given the students' limited understanding of digital content risks.	Asbell-Clarke et al. (2024), Barnes et al. (2024), Berget et al. (2021), Castañón et al. (2023), Chambers et al. (2011), Cranmer (2020), Gökbulut and Güneyli (2019), Kalyanpur and Kirmani (2005), Kanniainen et al. (2022), Zhang and Duke (2011)	10

Aspects in Instruments Used to Measure the Effectiveness of Inclusive Schools in Implementing Digital Literacy

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Table 2 Aspects for implementing digital literacy for students with ID

Aspects	Definition	Research Papers	Number of Documents
Cognitive Ability	One key aspect measured is technology accessibility, which refers to the availability of digital devices that students with ID can use, as well as the support provided by the school to ensure students can use these devices independently or with minimal assistance. In addition to accessibility, the instrument also assesses students' ability to access digital resources, such as online learning materials, and the maintenance of devices to ensure they can be used optimally.	Asbell-Clarke et al. (2024), Barnes et al. (2024), Berget et al. (2021), Merlo et al. (2023), Netwong (2019), Utepbayeva (2024)	6 articles
Curriculum Adaptation to Meet Student Needs	The success of a program or school curriculum in meeting the needs of students with ID can be seen in outcomes such as improved digital skills, platform navigation abilities, and students' interaction with digital devices relevant to the curriculum. Effective digital literacy programs often adopt an experiential and contextual learning approach, where students can practice the skills they have learned in activities relevant to both classroom and everyday life outside of school.	Bulić and Blazevic (2022), Castañón et al. (2023), Chambers et al. (2011), Cranmer (2020), Danuri et al. (2023), Elhoweris et al. (2022), Erika et al. (2022), Heitplatz (2020), Holmgren (2023), Kalenjuk et al. (2024), Kalyanpur and Kirmani (2005),Marnewick et al. (2022), Özdemir and Karaman (2013), Panesi et al. (2020), Polat et al. (2023), Salgarayeva et al. (2021), Zhang and Duke (2011)	17 articles
Assessment of Social-Emotional Support Provided by the School	Social-emotional support as part of the effectiveness of digital literacy implementation in inclusive schools. Social-emotional support helps students ID navigate the digital environment with confidence and provides assistance for students who struggle to understand digital concepts. This	Alqarni (2021), Gökbulut and Güneyli (2019), Huang and Musah (2024), Kanniainen et al. (2022), Karakara and Osabuohien (2019), Maurer (2024), Mølster and Nes (2018), Nusir (2013), Zhang (2021)	9 articles

Table 2 (Continued)

Aspects	Definition	Research Papers	Number of Documents
	aspect may include the presence of trained support teachers who understand and meet student needs, as well as support programs involving parents in the digital literacy learning process at home. This social-emotional factor is important because it can enhance students' engagement in the digital literacy learning process, reduce their anxiety, and encourage them to interact with technology positively.		

Discussions

Recent literature reviews indicate that several effective strategies and models exist for teaching digital literacy to students with intellectual disabilities. One of the primary strategies is the use of assistive technology-based approaches. Assistive technology, including specialized software and educational applications, has been proven to help students better understand and access digital information. Research has shown that these tools facilitate learning by providing support tailored to students' needs, enabling them to interact more effectively with digital content and enhancing their literacy skills (Hakim et al., 2023; Hasanah et al., 2022). Additionally, video-based learning has emerged as a significant strategy in the context of digital literacy. Several studies have demonstrated that the use of interactive videos can significantly enhance digital literacy skills and comprehension of digital concepts compared to conventional teaching methods. Interactive videos encourage student participation and make learning more engaging and in-depth. Research highlights that incorporating videos in the learning process contributes to the development of essential digital literacy skills for students (Hakim et al., 2023). Furthermore, structured and repetitive learning models are also noteworthy. This strategy involves repeating learning materials with gradual guidance, allowing students with intellectual disabilities to build their understanding progressively. Research findings suggest that this approach improves information retention and helps students develop digital skills step by step (Gillern et al., 2022; Perwita et al., 2023). These findings align with the instructional design theory for special education (Wehmeyer et al., 2004) which emphasizes adaptive strategies such as assistive technology and repeated instruction for students with cognitive limitations. The repetition-based learning strategies identified in this review directly address Objective A, as they offer a validated framework for digital literacy inclusion for students with ID.

Collaboration between teachers and parents also plays a crucial role in supporting students' digital literacy. Parental involvement in the home learning process has been found to enhance the effectiveness of school-based learning. Research indicates that parental support in practicing digital literacy at home contributes to students' academic achievements, underscoring the importance of synergy between school and home environments in supporting digital education (Kailani et al., 2021). In addition to these strategies, experiential learning models have been found promising in promoting digital inclusion for students with special needs. This approach emphasizes hands-on and interactive learning, encouraging students to directly engage with technology, thereby creating more meaningful and relevant learning experiences (Blau et al., 2020).

The significance of digital literacy programs for students with intellectual disabilities cannot be overstated, given their substantial impact on students' independence, technological comprehension, and social skills. Various instruments have been employed in research to assess the effectiveness of digital literacy programs. Some key aspects commonly measured include: (1). Digital Navigation Skills: The ability of students to use digital devices, such as tablets or computers, is a crucial indicator of digital literacy. Research suggests that students with strong digital navigation skills can operate independently in digital environments. These skills are essential for fostering students' autonomy (Ussarn et al., 2022). (2). Understanding of Digital Concepts: The extent to which students grasp fundamental digital technology concepts, including online safety and data privacy, is highly significant. Students must understand the potential risks they may encounter online and develop the ability to protect their personal information. Enhancing this understanding can boost students' confidence (Baxter & Reeves, 2022). (3). Increased Independence: Evidence indicates that students engaged in digital literacy programs tend to be more independent in accessing information and interacting online. For students with intellectual disabilities,

this increased independence can improve their quality of life. Strategic interventions in digital literacy programs can provide students with greater control over their resources and information (Moni et al., 2018). (4). Social and Emotional Impact Participation in digital activities has also been proven to enhance the confidence and social skills of students with intellectual disabilities. Research shows that active involvement in digital literacy programs can positively affect students' interpersonal relationships and their ability to collaborate and interact with others (Prasetiyo et al., 2021).

Despite advancements in developing digital literacy programs, many challenges persist. The lack of teacher training in utilizing technology to support learning and digital literacy for students with special needs is recognized as a significant obstacle (Latteck & Bruland, 2020). Additionally, limited access to disability-friendly technology and difficulties in comprehending complex text-based information hinder the expansion of digital literacy's positive impact among these students (Bernaschina, 2023). The necessity for further research in this area is evident, particularly concerning the development of more effective methods and tools for digital literacy instruction, as well as evaluating existing programs to reach more students with intellectual disabilities (Venkatesan, 2023). This highlights the need for collaboration among researchers, educators, and policymakers to promote more inclusive and effective digital literacy initiatives.

The analysis results indicate that implementing digital literacy for students with intellectual disabilities faces several major challenges. One of the primary obstacles is limited infrastructure and resources**.** Many schools lack adequate access to appropriate technological devices for students with special needs. This significantly hampers their ability to engage in effective digital learning, given the necessity of specially designed tools to support technology use by students with disabilities (Ayasrah et al., 2023). Research suggests that adequate infrastructure plays a crucial role in student engagement in technology-based activities (Ayasrah et al., 2023). Additionally, the lack of teacher training poses a significant challenge. Many teachers do not receive sufficient training to integrate digital literacy into inclusive education. Research findings highlight that teachers feel the need for better training to understand the appropriate methodologies for teaching digital literacy to students with disabilities (Sadaf, 2019). It is recommended that professional development programs for teachers include specific modules on accessible and relevant digital literacy for students with special needs. Cognitive challenges also present a serious issue. Students with intellectual disabilities often struggle to comprehend abstract concepts and navigate complex digital environments. Research indicates that difficulties in processing digital information and interacting with technology can lead to challenges in their social and emotional skills (Deniz, 2022). Therefore, instructional materials need to be designed adaptively to accommodate their varying levels of understanding.

In recent years, there has been a significant trend in digital literacy research for students with intellectual disabilities. A systematic analysis of the literature indicates that this field has undergone rapid development, particularly over the past two decades. Between 2000 and 2010, the primary focus of research centered on the use of assistive technology and the challenges related to digital accessibility for students with special needs. Assistive technology has been recognized as an essential tool that enhances the independence and social abilities of individuals with intellectual disabilities, particularly in the context of learning and social interactions (Ibraimkulov et al., 2022; Martin et al., 2021; Rasouli et al., 2021). However, from 2011 to 2024, a shift in focus emerged in pedagogical approaches. Recent studies have begun exploring innovative methods such as video-based learning and computer-assisted interventions, which are integral to the integration of digital literacy into inclusive curricula (Heman et al., 2022; Mardiana, 2024; Spencer et al., 2021). For instance, the use of Learning Management Systems (LMS) has been proven to support the learning process of students with disabilities in a more interactive and accessible manner, significantly improving their academic outcomes through engaging digital interactions (Rofil et al., 2023; Topal et al., 2021).

Despite these advancements, most research remains dominated by developed countries, with limited data from developing regions such as Southeast Asia. This gap highlights the need for a deeper understanding of cultural contexts and infrastructure, which may influence the effectiveness of the technologies and methodologies employed. Therefore, further exploration is necessary to identify the challenges faced and determine effective strategies for enhancing digital literacy for students with intellectual disabilities in diverse environments (Fazil & Faiz, 2022; Sulaimani & Bagadood, 2022). The involvement of the educational community and support from various stakeholders, particularly in policy development and programs that enhance access to educational technology, is crucial for improving digital literacy among students with disabilities. Facilitating access to appropriate technology and providing training for digital instruction will not only improve students' skills but also foster their integration into a more inclusive society (Bi & Casper, 2023; Rodrigues, 2023).

Conclusion and Recommendation

This study provides a comprehensive analysis of digital literacy implementation for students with intellectual disabilities, synthesizing key findings from 2000 to 2024. The results indicate that digital literacy is essential for fostering independence, academic achievement, and social integration among students with ID. Effective strategies such as assistive technology, video-based learning, and structured instructional models have been shown to enhance digital literacy outcomes. However, significant challenges remain, including limited access to technology, inadequate teacher training, and cognitive barriers that hinder digital engagement. To address these challenges, this study emphasizes the need for systematic and evidence-based instructional approaches. Schools must prioritize infrastructure development, teacher training programs, and curriculum adaptations to accommodate the diverse learning needs of students with ID. Additionally, policymakers should support digital inclusion initiatives by promoting accessibility standards and funding research on adaptive learning technologies.

Despite advancements in digital literacy research, a substantial gap exists in the representation of developing regions, particularly in Southeast Asia. Future studies should explore the contextual factors influencing digital literacy adoption in diverse socio-economic settings. Furthermore, interdisciplinary collaboration among educators, technologists, and policymakers is crucial to developing inclusive digital learning frameworks that cater to the unique needs of students with intellectual disabilities. By bridging research gaps and addressing implementation barriers, this study contributes to the advancement of digital literacy as a fundamental component of inclusive education. The findings underscore the necessity of fostering digital equity and accessibility to ensure that students with intellectual disabilities can fully participate in the digital society. To overcome these challenges, several recommendations have been proposed: (1). Enhancing Teacher Training: Specialized training programs focused on digital literacy for students with special needs are essential to improve teachers' ability to effectively educate and guide their students. Research shows that professional development in technology improves teaching practices in the classroom (Ayasrah et al., 2023) and helps teachers respond to the challenges faced by their students (Maunula & Lähdesmäki, 2022). (2). Developing a Flexible Curriculum: Adaptive, experience-based learning materials will be highly beneficial in helping students grasp difficult concepts (Alakrash & Razak, 2021). Learning strategies that incorporate real-life experiences and practical applications can facilitate better information absorption. (3). Strengthening School-Parent-Community Collaboration: Parental involvement in home-based digital literacy practices has been proven to assist students in applying the skills they learn at school. Research indicates that close collaboration between schools and parents enhances learning outcomes for students with disabilities (Ayasrah et al., 2023; Sadaf, 2019). (4). Providing Inclusive Technology Developing and supplying digital assistive tools that are more accessible and user-friendly for students with intellectual disabilities will support their participation in digital activities. Educational institutions must collaborate with technology providers to create more student-centered solutions (Ayasrah et al., 2023). This study contributes to the literature by offering a categorization of digital literacy strategies for students with ID into three dimensions: instructional design (e.g., repetitive learning), socio-emotional scaffolding, and assistive technology use. A novel contribution of this review is the framework connecting cognitive abilities, curriculum adaptation, and emotional support as interlinked components necessary for digital inclusion.

Conflicts of Interest

There is no conflict of interest.

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