DIGITAL LITERACY AND DISABILITY IN GLOBAL SCIENTIFIC STUDY: BIBLIOMETRIC PERSPECTIVE

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Abstract. This study aims to analyze the main themes of global scientific research on digital literacy and disability through bibliometric analysis and examine global publication trends from the perspective of influential organizations and countries. Data were drawn from 145 documents in the Scopus database and processed using VOSviewer. The analysis revealed four main themes: First, digital inclusion in health, education, and participation is hindered by literacy gaps and inaccessible device design. Second, emerging digital technologies (e-learning, IoT, and the Metaverse) create opportunities for accessibility and inclusion but raise ethical challenges. Third, the COVID-19 pandemic accelerated digitalization yet exposed persistent barriers of exclusion and access, emphasizing the need for inclusive, socio-emotional, and technical solutions for vulnerable groups. Fourth, digital skills development underscores user-centered design and motivational strategies to address low literacy challenges. Additional findings show that Universitat D'Alacant (Spain) and the United States are the most influential contributors.

Keywords: digital literacy, disability, bibliometrics, global publications, publication trends

INTRODUCTION

The issue of digital inclusion is crucial globally, particularly for people with disabilities and the elderly. However, efforts to achieve this still face various obstacles, such as low digital literacy, limitations in user-friendly device designs, and more fundamental social inequalities. On the other hand, the emergence of various new digital technologies, such as e-learning platforms, the Internet of Things (IoT), and the Metaverse, presents significant opportunities to expand access, strengthen digital literacy, and promote inclusion in health, education, and employment. However, the simultaneous adoption of these technologies also presents ethical challenges that require consideration. The COVID-19 pandemic has accelerated the digitalization process in various fields, such as health, education, the arts, and the workplace. However, this situation has also exposed fundamental barriers, including exclusion, unequal access, and low digital literacy. This situation highlights the importance of developing digital solutions and inclusive designs that focus not only on technical aspects but also on the social and emotional needs of vulnerable groups, including people with disabilities, patients, students with special needs, and older workers. Thus, studies on digital inclusion, accessibility, and skills enhancement for people with disabilities need to focus on strategies that encourage motivation, cross-device empowerment, and the application of user-centered design to overcome metacognitive barriers and low literacy while strengthening participation and equality.

Several previous studies have confirmed that assistive technology and digital health services play a significant role in promoting inclusion and increasing the independence of people with disabilities. Previous research has addressed various aspects, such as efforts to improve eHealth literacy for people with disabilities through redesigned health apps (Ha et al., 2023) and the positive impact of digital apps on students' cognitive development, whose success depends on social support (Samuelsson et al., 2024). Furthermore, studies have highlighted accessibility gaps, such as the challenges of telemedicine for visually impaired users (Binder-Olibrowska et al., 2022; Fuentes et al., 2022) and the need for additional training for caregivers in the use of assistive technology (Carmo Rodrigues Almeida et al., 2019). Other research has focused on the application of new

technologies; for example, integrating patient perspectives into digital health design to create more equitable service systems (Ruh, 2024) or using the Metaverse to empower deaf students (Mystakidis et al., 2024).

In the realm of education and employment, studies have highlighted the structural influence of technology use in special education (Starks & Reich, 2023) and the importance of accessibility-compliant e-learning design for improving digital literacy (Blazheska-Tabakovska et al., 2019). Other studies have highlighted the impact of the COVID-19 pandemic on cancer patients' quality of life through web-based interventions (Contreras-Sánchez et al., 2024), while digital literacy among families of students with special needs remains low in schools (Spencer et al., 2023). Furthermore, research focusing on individuals with intellectual disabilities reveals that achieving true inclusion requires more than just providing access to technology; it also requires support in social and emotional interactions (Setchell et al., 2021). Still other studies have shown that user-centered design is crucial for e-learning platforms aimed at users with cognitive and visual impairments (Veljanovska et al., 2020) and that digital literacy in adolescents with intellectual disabilities is predicted by support needs and social maturity (Seok & DaCosta, 2017).

Previous studies have provided in-depth insights into specific issues in digital literacy and disability, ranging from ethical challenges and pandemic responses to the need for user-centered design. However, a systematic macro-review of the global landscape of research on digital literacy and disability is lacking and would be interesting to conduct. This represents a research gap, primarily due to the lack of structured analysis that maps publication trends, particularly key interconnected themes, and identifies key players (countries and organizations) leading research in the digital literacy and disability domain.

To fill this gap, bibliometric analysis is an essential tool for exploring and analyzing key topics in global publications related to digital literacy and disability. The bibliometric analysis in this study utilizes VOSviewer to visualize clusters, maps, and networks between documents. Thus, bibliometric analysis provides a strong methodological foundation for understanding the structure of global knowledge related to digital literacy and disability.

Meanwhile, the main objective of this study is to analyze the main topics of global scientific studies that highlight digital literacy and disability through bibliometric analysis. Specifically, this study aims to investigate global publication trends in terms of the organizations and countries that are most influential in publications on digital literacy and disability. This study provides a solid academic foundation for future research by mapping the main topics of existing research and identifying organizations and countries that have a significant influence on research on digital literacy and disability.

RESEARCH METHOD

Bibliometric analysis in this study was employed to trace and examine the key themes of global publications related to *digital literacy* and *disability*. In addition to mapping the dominant research topics, the analysis also identified the most influential countries and organizations contributing to this field. VOSviewer served as the primary tool for conducting the bibliometric analysis, enabling the exploration and visualization of various elements such as cluster formation, mapping patterns, and the identification of networks among documents.

This study selected Scopus as the primary source of global scientific publications among several other sources, such as Web of Science (WoS), Google Scholar, and others. Scopus was chosen because it covers a broader range of subjects than WoS and is also cited more frequently by researchers and academics (Martín-Martín et al., 2021; Zhu & Liu, 2020). Besides its popularity in bibliometric research, Scopus is the most extensive provider of abstract and citation databases (Burnham, 2006; Guz & Rushchitsky, 2009). Moreover, Scopus tends to generate a higher number of citations than WoS, despite covering a shorter time span (Pranckutė, 2021).

In order to maintain data integrity and prevent needless complications, Scopus was used as a single dataset in this investigation. Data complexity, which often has a negative impact on study results, is eliminated by using a single database (Deyanova et al., 2022). Since the accuracy of bibliometric analysis is primarily dependent on how well the selected database represents the research topic, using a single source also increases the validity of the results (Mongeon & Paul-Hus, 2016).

Meanwhile, data collection in this study has several stages, including (1) initial identification of scientific articles through several keywords, namely *digital literacy AND disability OR disabilities OR people with disabilities OR disabled persons*; (2) first stage data selection by excluding the years 2025 and 2026 (there are already articles that will be published); (3) second stage data selection by limiting the document type to only articles, conference papers, books, and book chapters; (4) third stage data selection through language restrictions by only selecting articles or documents in English; (5) the process of filtering documents that are relevant to the research topic because not all documents resulting from data selection are in accordance with the research topic; and (6) final determination of the data to be analyzed in the study. These stages of data collection are shown in Figure 1.

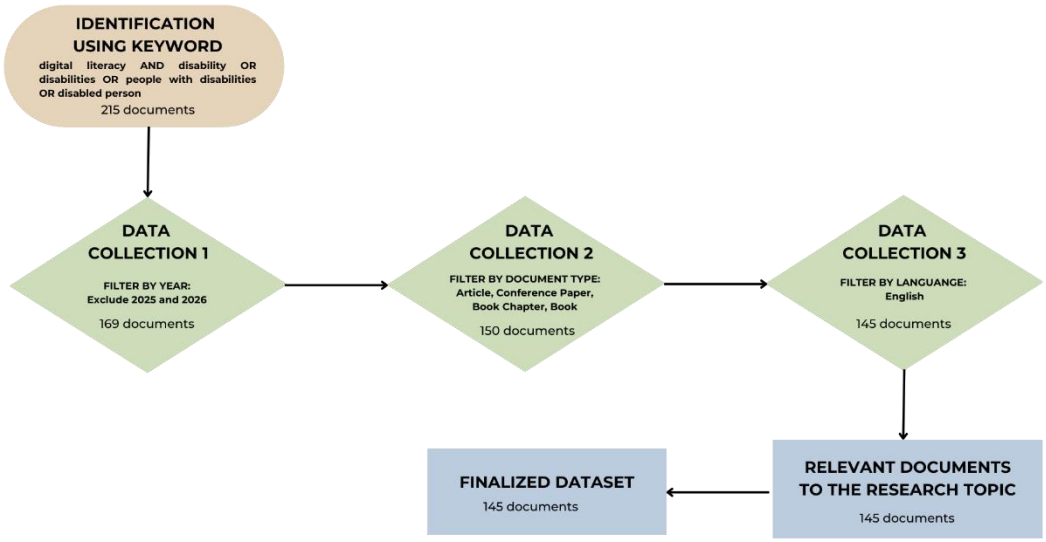

Fig. 1. Data Collection Stage
Source: Author's Elaboration

RESULT AND ANALYSIS

1.1 Key Themes in Publications on Digital Literacy and Disability

The main themes in this study were explored through keyword co-occurrence analysis of the research dataset. This study analyzed 145 documents simultaneously by examining keywords in the title, keywords, and abstract. VOSviewer was the primary tool for processing the keyword co-occurrence dataset by selecting the analysis type "co-occurrence" and the analysis unit as "keyword author". After that, the data processing selected the number of keyword occurrences as one. The results of the first stage of data processing yielded 1,350 keywords. Checking was required after the results of the first data processing. The method was to compile a thesaurus to eliminate redundant keywords. In the second stage of data processing, using the same method (number of keyword occurrences: 1) and entering the created thesaurus into VOSviewer, the data processing results produced 1,290 keywords.

The number of keywords from the second stage of data processing was still relatively large and required a third stage. This data processing selected the number of occurrences of a keyword as six. The result was 40 keywords appearing in VOSviewer. The keyword network map resulting from this third stage of data processing is shown in Figure 2. The map shows four main clusters, each colored by the 40 keywords, as shown in Table 1.

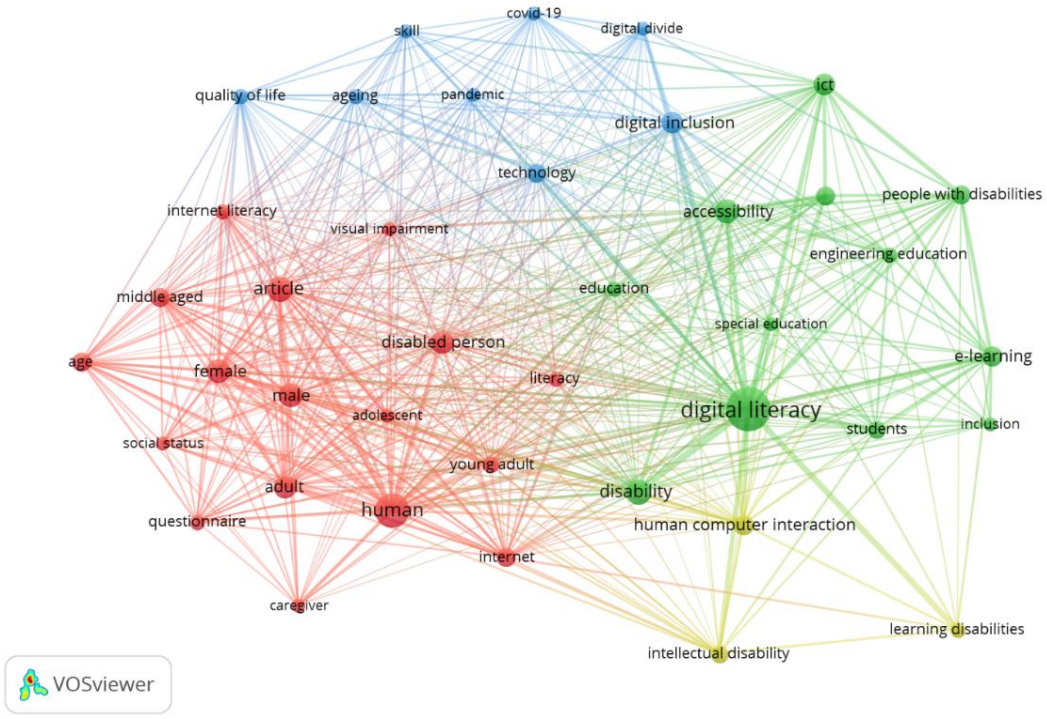

Fig. 2. Core Keywords Identified in 145 Publications
Source: Processed primary data using VOSviewer

Table 1. Key Themes Examined in 145 Publications

Cluster Label	Theme	Keywords	Examples of Prior Studies
1-Red Cluster	Digital inclusion supports the health, education, and participation of people with disabilities and older adults but remains hindered by device design, digital literacy gaps, and broader inequalities.	adoloscent; adult; age; article; caregiver; disabled person; female; human; internet; internet literacy; literacy; male; middle aged; questionnaire; social status; visual impairment; young adult	Samuelsson et al. (2024); Ha et al. (2023); Fuentes et al. (2022); Binder-Olibrowska et al. (2022); Chen et al. (2022); Gupta et al. (2021); Carmo Rodrigues Almeida et al. (2019); Lee et al. (2020); Lissitsa & Madar (2018); d'Orsi et al. (2014); Xavier et al. (2014)
2-Green Cluster	Digital technologies in health, education, and the workplace, such as e-learning platforms, IoT, and the Metaverse, create opportunities to improve accessibility, digital literacy,	accessibility; assistive technology; digital literacy; disability; e-learning; education; engineering education; ict; inclusion; people with disabilities; special education; students	Ruh (2024); Wilson (2024); Mystakidis et al. (2024); Starks & Reich (2023); Blazheska-Tabakovska et al. (2019); Hoogerwerf

Cluster Label	Theme	Keywords	Examples of Prior Studies
	and inclusion, while also raising ethical challenges.		et al. (2017); Vanderheiden et al. (2014); Hernández-Rizzardini et al. (2012)
3-Blue Cluster	The COVID-19 pandemic accelerated digitalization in health, education, the arts, and employment, but also exposed barriers such as literacy gaps, exclusion, and unequal access, thereby underscoring the need for inclusive design and digital solutions that support both technical and socio-emotional aspects for vulnerable groups, including patients, students with special needs, people with disabilities, and older workers.	ageing; covid-19; digital divide; digital inclusion; pandemic; quality of life; skill; technology	Contreras-Sánchez et al. (2024); Spencer et al. (2023); B. Lee et al. (2023); Chadwick et al. (2022); Setchell et al. (2021); Peinado et al. (2021); Ruthmann & Mantie (2017)
4-Yellow Cluster	Digital inclusion, accessibility, and skills development require user-centered design, motivational strategies, and multi-device empowerment, although these efforts continue to face barriers such as low literacy and metacognitive challenges, which must be addressed to enhance equity and participation.	human computer interaction; intellectual disability; learning disabilities	Veljanovska et al. (2020); Fajardo et al. (2019); Seok & DaCosta (2017); Rocha et al. (2017); Rocha et al. (2015); Cihak et al. (2015)

Source: Processed primary data using VOSviewer

Table 1 presents the results of processing the research dataset using VOSviewer for keyword co-occurrence analysis. The results reveal four main clusters formed from the grouping of 40 keywords. Each cluster is explained below.

Cluster 1 (red) consists of 17 keywords, including *adolescent, adult, age, article, caregiver, disabled person, female, human, internet, internet literacy, literacy, male, middle-aged, questionnaire, social status, visual impairment,* and *young adult*. The overarching theme represented by this cluster emphasizes that digital inclusion supports the health, education, and participation of people with disabilities and older adults but remains hindered by device design, digital literacy gaps, and broader inequalities.

A growing body of research shows that digital health technologies and assistive technologies play a vital role in advancing inclusion, independence, and equity for people with disabilities. One study elaborates on the concept of *digital health equity* by redesigning personalized health applications to improve eHealth literacy among people with disabilities (Ha et al., 2023). In educational contexts, the use of digital applications has been shown to foster cognitive development, although outcomes depend on social maturity and the level of support provided (Samuelsson et al., 2024). Other research highlights persistent accessibility gaps, such as limited access to Information and Communication Technology (ICT) and challenges in telemedicine for users with visual impairments (Binder-

Olibrowska et al., 2022; Fuentes et al., 2022), as well as the relationship between digital literacy and employment opportunities for people with visual disabilities (Gupta et al., 2021).

Studies on assistive technology and caregiving also confirm similar findings. Research indicates that caregivers require additional training in the use of assistive technologies to prevent neglect and promote inclusion (Carmo Rodrigues Almeida et al., 2019). Another study found that IoT services should be co-designed with users to accommodate diverse needs (H. Lee et al., 2020). Although internet adoption among people with disabilities has increased, socioeconomic disparities remain a major barrier (Lissitsa & Madar, 2018). Moreover, digital literacy has been shown to help protect older adults from a decline in daily living skills (d'Orsi et al., 2014). Overall, the studies in Cluster 1 emphasize that digital inclusion relies not only on access but also on usability, training, and emotional relevance. Therefore, digital inclusion strategies must be participatory and context-sensitive to ensure truly equitable digital participation.

Cluster 2 (green) comprises 12 keywords, including *accessibility, assistive technology, digital literacy, disability, e-learning, education, engineering education, ICT, inclusion, people with disabilities, special education,* and *students*. Collectively, these keywords reflect a central theme in which digital health technologies, education platforms, and workplace innovations, such as e-learning systems, the Internet of Things (IoT), and the Metaverse, offer new opportunities to enhance accessibility, digital literacy, and inclusion for people with disabilities and older adults, while simultaneously posing ethical challenges.

The studies in Cluster 2 collectively emphasize the importance of the interconnection between digital inclusion, accessibility, and assistive technology in improving the quality of life and learning experiences of people with disabilities. The integration of patients' perspectives in digital health design has been shown to foster more human-centered and equitable healthcare systems (Ruh, 2024). However, the implementation of IoT technologies in assistive programs also raises ethical concerns related to privacy, autonomy, and digital literacy (Wilson, 2024). In the field of education, the use of the Metaverse has been shown to empower deaf students through immersive *Science, Technology, Engineering, Arts, and Mathematics* (STEAM) exhibitions that promote social inclusion and emotional engagement (Mystakidis et al., 2024). Educational challenges during the COVID-19 pandemic have likewise drawn attention, particularly regarding how systemic and structural factors influence the use of technology in special education (Starks & Reich, 2023).

In the context of employment and lifelong learning, the use of AI-based technologies and adaptive systems has been proposed to create more inclusive post-pandemic work environments for older workers and people with disabilities. These efforts build upon the *Global Public Inclusive Infrastructure* (GPII) initiative, which promotes universal accessibility (Vanderheiden et al., 2014). In the realm of digital learning, user-centered e-learning and learning management system designs are considered effective in enhancing digital and health literacy, provided they comply with accessibility standards (Blazheska-Tabakovska et al., 2019). Moreover, the implementation of accessibility standards in virtual course design is crucial for achieving effective e-inclusion (Hernández-Rizzardini et al., 2012). Within school settings, self-assessment frameworks are also essential to support students' use of assistive technologies (Hoogerwerf et al., 2017). Collectively, the studies in Cluster 2 emphasize that an inclusive digital ecosystem—across health, education, and employment domains—requires participatory design, ethical implementation, and continuous adaptation to diverse user needs.

Cluster 3 (blue) explores the main theme of how the COVID-19 pandemic accelerated digitalization in health, education, the arts, and employment, but also exposed barriers such as literacy gaps, exclusion, and unequal access, thereby underscoring the need for inclusive design and digital solutions that support both technical and socio-emotional aspects for vulnerable groups, including patients, students with special needs, people with disabilities, and older workers. This theme is built from eight keywords, including *aging, COVID-19, digital divide, digital inclusion, pandemic, quality of life, skills,* and *technology*.

Various studies in Cluster 3 highlight the crucial role of digital technology, accessibility, and digital literacy in fostering social inclusion for people with disabilities across different sectors of life. In the health context, research in Mexico found that web-based electronic patient-reported outcome (ePRO) interventions improved quality of life and reduced support needs among breast cancer patients, although challenges persisted for users with low digital literacy (Contreras-Sánchez et al., 2024). In the field of education, a U.S. study revealed that schools faced multiple challenges during the COVID-19 pandemic, including teacher shortages and low digital literacy among families of students with special needs, underscoring the need for more accessible communication strategies (Spencer et al., 2023). In the realm of arts and culture, a cross-country study in Australia and Singapore identified three key enablers of digital inclusion in online arts participation among people with disabilities: digital access, safe online spaces, and enhanced digital literacy (B. Lee et al., 2023).

According to a global quick evaluation, the pandemic has made digital poverty among people with intellectual impairments worse. This issue can only be resolved with the help of the government, focused social interventions, and digital education (Chadwick et al., 2022). According to a different study, access by itself does not ensure inclusion because social and emotional connections influence how people with intellectual disabilities utilize technology in meaningful ways (Setchell et al., 2021). Furthermore, in order to better support older workers and employees with disabilities, the pandemic's accelerated digital transition in the workplace brought attention to the need for more inclusive work environments, especially through programs like the GPII (Peinado et al., 2021). Meanwhile, in music education, digital technologies have been recognized for their potential to broaden participation, creativity, and inclusion through participatory learning models that emphasize diversity and universal (Ruthmann & Mantie, 2017). Overall, the studies in Cluster 3 reaffirm that digital inclusion requires a holistic approach—one that combines access, literacy, social support, and ethically designed technologies adaptable to users' diverse needs.

Cluster 4 (yellow) demonstrates the key theme: digital inclusion, accessibility, and skills development for people with disabilities require user-centered design, motivational strategies, and multi-device empowerment, despite barriers such as low literacy and metacognitive challenges, to improve equity and participation. This key theme is formed from three keywords: *human-computer interaction, intellectual disability,* and *learning disabilities*.

Various studies reviewed in Cluster 4 emphasize the importance of digital literacy, user-centered design, and adaptive technologies in enhancing learning, communication, and independence among individuals with intellectual disabilities. One study developed an e-learning platform based on the principles of *human-computer interaction* (HCI) and *user-centered design* (UCD) to assist users with visual, hearing, and cognitive impairments in improving their health knowledge (Veljanovska et al., 2020). Another study examined the learning processes of students with intellectual disabilities through video blogging and found that comprehension levels largely depended on metacognitive skills, where higher monitoring accuracy enhanced understanding—particularly when engaging with more complex video formats (Fajardo et al., 2019). Furthermore, digital literacy among adolescents with intellectual disabilities was found to be influenced by support needs, social maturity, age, and gender, indicating that both individual and contextual factors shape the development of digital competence (Seok & DaCosta, 2017).

Other studies in this cluster look into how people with intellectual disabilities accomplish common digital activities like selection, manipulation, and navigation. Even brief exposure to digital environments can improve motivation, task completion, and independence; however, reading and writing skills remain substantial impediments (Rocha et al., 2015, 2017). Meanwhile, another study found that people with intellectual disabilities may learn to write and receive emails using various digital devices, emphasizing the empowering effect of multimodal digital communication (Cihak et al., 2015). The research in Cluster 4 confirms that inclusive and adaptive digital environments—based on accessibility, usability, and participatory design—are critical for promoting digital inclusion, lifelong learning, and social empowerment among people with intellectual disabilities.

1.2. Influential Organizations in Digital Literacy and Disability Research

A total of 242 organizations were identified as participating in digital literacy and disability research in the dataset. In VOSviewer, two analyses were conducted: co-authorship and citation. First, the co-authorship analysis was performed using "organizations" as the unit of analysis. The threshold was set to a minimum of one document per organization and zero minimum citations to ensure the inclusion of all contributing organizations and provide a comprehensive overview of their involvement.

Second, the citation analysis was conducted, also using "organizations" as the unit of analysis. The thresholds for the number of documents and minimum citations were set to the same values as in the co-authorship analysis to maintain consistency between the datasets.

The results of both analyses are presented in Table 2, showing the top seven organizations contributing to and influencing publications on digital literacy and disability.

Table 2. List of Organizations with the Most Influence in 145 Publications

Num.	Organizations	Total Publications	Citations	Co-authorship Links	Citation-Links
1.	Universitat D'alacant, Spain	4	144	4	0
2.	University College London, UK	3	173	3	0
3.	Technische Universität Dortmund, Germany	3	128	1	0
4.	Seoul National University, South Korea	3	20	1	0
5.	University of Wisconsin Madison, US	3	16	3	0
6.	Boise State University, US	3	13	0	0
7.	University of Maryland, US	3	3	0	0

Source: Processed primary data using VOSviewer

The Universitat d'Alacant, Spain, is the most influential organization in publications related to digital literacy and disability. As shown in Table 2, this university has four publications, with 144 citations and four co-authorship links. The triple-digit citation count suggests a strong global influence, indicating that its publications are widely referenced. Meanwhile, the number of co-authorship links reflects collaboration with at least four other organizations in this research area.

The second and third positions are occupied by University College London (UCL), UK, and Technische Universität Dortmund, Germany, respectively, each with three publications and three-digit citation counts (173 and 128). UCL holds the highest overall citation count among all organizations in the dataset, highlighting its substantial impact on scholarship in digital literacy and disability. UCL has three co-authorship links, indicating collaboration with three other institutions. In contrast, Technische Universität Dortmund has one co-authorship link, demonstrating more limited collaboration compared to UCL.

The fourth to seventh most influential organizations in digital literacy and disability publications are Seoul National University, South Korea (3 publications, 20 citations, and 1 co-authorship link), University of Wisconsin–Madison, USA (3 publications, 16 citations, and 3 co-authorship links), Boise State University, USA (3 publications, 13 citations, and no co-authorship links), and University of Maryland, USA (3 publications, 3 citations, and no co-authorship links).

Additionally, the citation-links column in Table 2 shows a value of zero for all organizations. This indicates that none of the documents within the 145-document dataset cite each other. While each article does have citations, the cited works fall outside the dataset because they do not align with the topic or context defined for this research.

1.3. Influential Countries in Digital Literacy and Disability Research

Countries that influence publications on digital literacy and disability are presented in this subsection. Table 3 presents the country column, total publications, citations, co-authorship links, and citation links. The country column shows the countries contributing to the publications. The total publications column measures the number of publications for each country related to digital literacy and disability. The citations column indicates a measure of influence, as when an article is highly cited, it gains significant international attention. The next column, co-authorship links, measures collaborations utilizing co-authorship data through co-authorship links (Zupic & Čater, 2015). The citation links column, meanwhile, shows the inter-citation relationships between countries in the research dataset.

The analysis of 145 documents in the research dataset shows that publications on digital literacy and disability are distributed across 39 countries. Using VOSviewer data processing, the analysis types selected were "co-authorship" and "citation" with the unit of analysis being "countries." Data processing for each type of analysis was conducted separately and individually. To provide a comprehensive overview of the country, each analysis type selected a document count of one per country and a minimum citation count of zero. After completing the analysis of the research dataset, the results showed that 39 countries had publications relevant to this research topic. Of these 39 countries, this study selected the 12 countries with the highest number of publications, with a minimum of five documents as the criterion, as shown in Table 3.

Table 3. List of Countries with the Most Influence in 145 Publications

Num.	Country	Total Publications	Citations	Co-authorship Links	Citation-Links
1.	United States	44	496	9	0
2.	United Kingdom	15	404	6	0
3.	Germany	14	176	5	0
4.	Spain	11	199	6	0
5.	Australia	9	156	2	0
6.	Canada	9	209	3	0
7.	South Korea	8	94	3	0
8.	Italy	6	4	1	0
9.	India	5	18	4	0
10.	Ireland	5	113	3	0
11.	Portugal	5	29	0	0
12.	Sweden	5	136	3	0

Source: Processed primary data using VOSviewer

The United States (US) is the country with the highest number of publications related to digital literacy and disability. The US produced 44 documents, which have collectively received 496 citations. The high citation count suggests that research from the US is widely acknowledged and referenced by scholars from other countries. In addition, the US has a co-authorship link strength of nine, indicating collaboration with nine of the 39 countries conducting research in this field.

Following the US, the countries ranked second to sixth also demonstrate strong citation performance, each recording three-digit citation counts. These countries include the United Kingdom (UK) with 15 publications and 404 citations, Germany with 14 publications and 176 citations, Spain with 11 publications and 199 citations, Australia with nine publications and 156 citations, and Canada with nine publications and 209 citations.

Meanwhile, countries ranked seventh to twelfth have fewer than nine publications. These include South Korea (8 publications, 94 citations), Italy (6 publications, 4 citations), India (5 publications, 18 citations), Ireland (5 publications, 113 citations), Portugal (5 publications, 29 citations), and Sweden (5 publications, 136 citations).

CONCLUSION

A total of 145 research dataset documents related to scientific publications on digital literacy and disability, derived from the Scopus database, were reviewed using bibliometric analysis in this study. The results of the dataset analysis revealed several important findings that align with the research objectives. The main findings of the study revealed four important themes from the identification of keyword co-occurrence data.

First, digital inclusion plays a role in supporting the health, education, and social participation sectors for people with disabilities and the elderly, but remains hampered by limitations in technological design, low digital literacy, and various other forms of inequality. Second, the use of digital technology in health, education, and the workplace, such as e-learning platforms, the Internet of Things (IoT), and the Metaverse, provides opportunities to expand accessibility, improve digital literacy, and strengthen inclusion, but also raises ethical issues that require attention. Third, the COVID-19 pandemic has accelerated the digitalization process in various fields, including health, education, the arts, and employment, but has also exposed obstacles in the form of digital literacy gaps, social exclusion, and unequal access. This situation emphasizes the importance of inclusive design and digital solutions that can address the technical and socio-emotional needs of vulnerable groups such as patients, students with special needs, people with disabilities, and older workers. Fourth, the theme of digital inclusion and skills enhancement for people with disabilities emphasizes the importance of user-centered design approaches, motivational strategies, and empowerment through various tools, despite still facing obstacles of low digital literacy and metacognitive challenges in efforts to strengthen equality and participation.

This study also identified the most influential organizations and countries in publications related to digital literacy and disability. The most dominant organization was the Universitat d'Alacant, Spain, while the most influential country was the United States. The United States produced 44 publications and received 496 citations. This high number of citations indicates that scientific works from the United States have attracted considerable attention from other countries, as reflected in the frequent citations to publications originating from that country.

This study provides an academic foundation for future research. By mapping four key thematic clusters and identifying the most influential countries and organizations, the results of this bibliometric analysis offer a framework for future researchers to determine their research focus, identify potential areas for collaboration, and address specific research gaps in the field of digital literacy and disability.

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