Digital Inequality for Children with Disabilities: Prospects and Challenges

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Abstract
Children with disabilities who have little to no access to computers are falling behind in learning the skills necessary for special education and for the modern workplace. The research cited in this article discusses the existence of a digital inequality, outlines the problems and difficulties of special teacher philosophies and behaviours in special school settings, recommends instructional strategies to train special teachers, and offers both causes and remedies for what is already happening. This article should discuss the prospects, issues, challenges, and impact the digital inequality has on children with disabilities. Additionally, look for articles that include information regarding special teachers' expectations of children with disabilities and solutions to bridge the digital inequality. A list of guiding questions is needed to help narrow down the list of articles that are found.

Keywords: Digital Inequality, ICT, Children with Disabilities, Special Teachers etc.

Introduction
Children with disabilities can benefit greatly from ICT since it makes participation in educational activities easier while also enhancing learning. Children with disabilities may benefit from ICT if they can easily access online courses, work at their own pace, learn at home, communicate with peers, have access to information at anytime and anywhere, feel more independent, confident, and less stressed, and be able to keep up with the rest of the class (Fichten et al., 2009). For instance, even if a child is only mobile enough to use a single switch to interface with a computer, they might still access digital libraries to read books. This is especially true for

kids with motor control issues, such as cerebral palsy. Young children with disabilities who struggle to read may receive cognitive assistance to understand the information in electronic texts (Ko, et. al., 2011). ICT-enhanced learning is therefore necessary for children with disabilities. However, the introduction of ICT has also brought about a challenge. Not every youngster has the same possibilities to use technology. A digital inequality has been produced since some children with disabilities do not have equitable access to ICT. Since the 1990s, researchers have examined the issue of digital inequality in relation to a variety of variables, such as age, gender, SES, disabilities, and demography (Lebens, et. al., 2009; Martin, 2003; Mckenzie, 2007; Stoilescu & McDougall, 2011; Vicente & López, 2010; Yael & Zeev, 2006).

Information and communication technology (ICT) is now used in many spheres of life. One of the most crucial life skills for kids with disabilities is learning how to utilise ICT. ICT integration into daily life sparked extensive ICT research in special education (e.g. de Jong, Specht, & Koper, 2010; Huang et al., 2010; Tosun & Baris, 2011). ICT not only improves education but also closes the access gap to learning resources, especially when it comes to demographics. For instance, Elen and colleagues discovered that when given Internet access, children in remote areas could successfully complete social studies tasks online (Elen et al., 2010). Technology acts as an equaliser for participation in educational activities. Few opportunities exist for children with disabilities to use ICT. According to two polls conducted in the early 2000s, fewer people with disabilities than those without disabilities owned computers or had access to the Internet (Department for Education and Skills, 2001; Russell & Stafford, 2002).

Emerging technologies' constructive and dynamic role in special education is no longer a secret. Researchers advise special educators to use technology to enhance their lessons wherever possible (Centeio, 2017). It is crucial that special teachers have access to ICT since technology use in educational settings is thought to improve the quality and accessibility of learning for students with disabilities (Domingo & Garganté, 2016). They won't be able to use technology affordances in their instructional methods because of digital isolation. So, it is necessary to look into the issue of digital inequality among instructors in various contexts. These studies aid in the adoption of the essential actions to eliminate or at the very least reduce this issue among special educators. Also, they would assist in promoting the SDGs (United Nations, 2015), which aim to close global access and participation gaps in special education.

Digital Technologies in the Current Era

The current era is known as the "information age," during which time ICTs are considered to be a key mode of production (Rogers, 2016), and countries' socioeconomic progress is significantly influenced by their ability to access and produce information. Information superhighways' advancement has caused swift and significant changes in our society's social, cultural, political, and economic facets (Shafique & Mahmood, 2008). According to Mahmood (2009), ICTs have become prevalent in society and have had a favourable impact on all aspects of

modern life, including commerce, entertainment, socialising, and education. ICT's pervasiveness in society is thought to aid socioeconomic development (Hanafizadeh, Hanafizadeh, & Bohlin, 2013; Youssef, Dah mani, & Omrani, 2013). Yet, just having access to ICT does not guarantee societal advancement; rather, once people have access to developing technologies, their responses are what count (Alampay, 2006). The socioeconomic ties in the society are built on the exploitation of information and knowledge rather than on the foundation of material things, as Sianou-Kyrgiou and Tsiplakides (2012) have suggested.

Digital Inequality and Its Impact on the Society

If people from all walks of life use developing technologies to actively support people with disabilities in their work and daily lives, they can effectively contribute to the growth of society. Everyone must, therefore, have physical access to a variety of ICTs and be equipped with digital skills. Regrettably, due to their unequal access to ICT, not all members of society can use ICT to participate more effectively in the development of many aspects of the society. The digital inequality is a complicated issue caused by the unequal access to ICT. Particularly for children with disabilities, digital inequality is a complex and diverse issue (Chang, Wong, & Park, 2014). The disparity between subgroups of the population that have appropriate access to ICT and those that have "zero" or limited access to computers, the Internet, and other digital devices is noted. Digital inequality is a problem that affects everyone, from very large to very tiny scales, at least to some extent. The disparities between wealthy and developing nations, rural and urban areas, men and women, competent and incompetent populations, and micro and macro-organizations could be influenced by this (Hameed, 2007). Children with disabilities may benefit from having enough access to digital technologies in terms of their social standing and financial resources; On the other hand, the lack of access to technology might further compel the already marginalized group of people with disabilities (Rogers, 2016). In addition to creating a knowledge gap, digital exclusion, according to Resta and Laferrière (2015), also limits opportunities for intercultural networks, communications, and understandings. Researchers have referred to the topic of the digital gap as a key issue for social justice in the modern period due to the detrimental consequences of digital inequality on the economically underprivileged and other marginalized groups along with disabilities (Resta & Laferrière, 2015; Rogers, 2016). The problem is widespread and is nevertheless a source of social anxiety (Resta & Laferrière, 2015).

ICT and Special Education

The goal of information and communication technologies (ICTs) is to improve the quality of life, reduce social exclusion, and increase participation of people with disabilities or educational needs. ICTs now play a significant role in people's daily lives in many areas, including education, training, and employment. ICTs are also an important tool for people with disabilities and/or special educational needs. The goal of using ICT for students with disabilities and/or special educational

needs in the field of education, in particular, is to provide them with equal educational chances, as well as a way to support these learning opportunities. However, students with disabilities and/or special educational needs are among the categories who encounter access and usage challenges. A range of learning environments and activities geared towards effective learning are created as teaching with the aid of technology gains popularity and acceptance in the educational community. "Educational technology" refers to the tools used to facilitate learning. Both electronic and ICT tools are used in educational technology to foster the growth of new cognitive abilities. The usage of any technology is anticipated for the integration process with the primary objective of assisting the learner in approaching knowledge. This technology may consist of widely used devices like laptops, tablets, interactive whiteboards, mobile phones, etc. or more specialized assistive technologies like mobility aids, reading programmes screens, alternative keyboards, assistive and alternative communication devices, etc. that make up for access issues or limitations for students with special needs or special educational needs. ICT has been increasingly incorporated into education at all levels thanks to the quickly expanding and developing fields of telecommunications, as well as computer hardware and software. The growth of multimedia, which has substantially differentiated the forms of representation (picture, audio, video, and text), as well as easy access to information, have both contributed to the integration and subsequent use of ICT in education (fast search, fast transmission and exchange). Two other crucial criteria for the integration of ICT in the educational process are informing society and examining the role that schools should play in the context of such a developing society. The increasing use of computers and networks in many aspects of human activities of daily life (such as economy, public administration, entertainment, information, etc.) and the exploration of these two topics are two other examples.

The Importance of Digital Equity in Special Education

Efforts to outfit classrooms and develop specialized teacher technology skills have issues with acceptance, sustainability, and scalability (Resta & Laferrière, 2015). Meeting digital equity among children with disabilities, special teachers, and administrations is the most important difficulty among all of these problems. Launching policies and programmes that give children with disabilities and special educators equal access to digital technology is necessary for ICTs to empower special education (Resta & Laferrière, 2015). Having proper ICT access for instructors and students with disabilities is the first and most important requirement for using ICT in special education. The importance of ICT becomes more apparent in universities to help build a knowledge society, making special teachers' access to ICT an important area of investigation. Universities and other higher special education institutes are considered to be the key sources of skilled workforce upon which a knowledge society is built. These studies are even more important in developing nations like India because the issue of digital inequality there is more prevalent.

Overview of Special Teachers' Access to ICT

In this study, we looked at the motivational, physical, skill, and usage levels of the special teachers' access to ICT as well as the impact of their personal level (age, gender), positional (type of university/Institutes), and individual categories on that access. We also looked at how the special teacher's use of digital tools for instruction related to other ICT access levels. We discovered that special instructors from public sector institutions had less overall access to ICT than special teachers from private institutions. These results support the widespread beliefs held in the nation and are in line with what school instructors in Burnip's (2006) study discovered. The difference in special teachers' physical and skill access to ICT between those who work in public and private sector institutes was pronounced, suggesting that public sector special teachers have less physical access to ICT devices and services and are less competent than their counterparts in the private sector. Special educators' lower proficiency with ICT in public sector institutions shows a need for increased professional development opportunities in this field. There is a critical need to equip special educators for cutting-edge teaching methods since an increasing number of institutions are integrating technology into teaching and learning (Ranieri, et. al., 2018). Only when they are proficient in both general digital technology use and the application of such technologies to the teaching of their particular subject areas will this be possible.

Relationship between Educational Use and Other ICT Access Factors

This paper also made an effort to review the connection between the teacher's instructional use of ICT and other ICT access factors. The results of this study demonstrated that endogenous motivation, general ICT use, and the teacher's physical access to ICT at institutions all significantly predicted the use of ICT in instruction. None of the other ICT access factors, such as exogenous motivation or any of the three types of skill access, were found to be a reliable indicator of how well special teachers used ICT in their lessons.

The Compatibility of Research Results with Van Dijk's Conceptual Framework (2005)

Between the four levels, there were noticeable changes in the special teacher's CT access. Van Dijk (2005) proposed the paradigm of progressive types of ICT access; however, the order of the special teacher's intensity with the four phases of ICT access (motivational, physical, skills, and usage access) is not entirely consistent with his reasoning. Particularly, it doesn't seem totally compatible with the order of succession of the four ICT access levels provided by the model for better skills and usage access combined with a lower level of physical access. According to Van Dijk's multi-layered model of ICT access from 2005, after gaining adequate physical access to ICT, a person can develop their ability to use digital technology. This claim does not suggest that a person will automatically obtain digital skills provided they have enough physical access to ICT, notwithstanding their desire, purpose, and attempts to do so. Also, it does not imply that access to talents will be less intense than access to physical resources. Despite having less physical access

to ICT, our research suggests that the special teachers' high motivational access may have aided in their development of stronger skills for using digital technology. This backs up the claim made by Ghobadi & Ghobadi (2013) that motivation improves people's ability to use ICT.

Conclusion

Children with disabilities may not benefit from the ICT curriculum designed for youngsters with regular development. A typical computer class typically has students, and the teacher typically presents the curriculum to the entire class. Children with disabilities might not be able to receive the individualized support they require through this delivery mode to ensure that they make the same progress as their peers without disabilities. As having ICT skills is necessary for students to participate in educational activities, we should re-evaluate how to ensure that all students, including kids with disabilities, have these abilities. A screen reader (Non-Visual Desktop Access), for example, might be included to the ICT training programme to help the children with disabilities get around their reading challenges when reading the text on the function menu. Web-based learning, embedding game-based and scaffolding methodologies that could increase learning motivation could also be potential approaches in addition to one-onone tutorial instruction. In particular, aside from a fundamental understanding of computers, children with disabilities have low proficiency with Office (Word, Spread sheet, and Presentation), graphic design software, and Internet usage. It is important to create a web-based learning system that teaches the aforementioned ICT competence. After being evaluated by special educators, it will be more effective for children with disabilities to develop particular ICT skills. It is necessary to modify the ICT curriculum to meet the needs of kids with disabilities. Future research might therefore examine how ICT instruction methodologies can be used to meet the unique requirements of children with disabilities (Soomro et al. 2020).

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