



Digital Media and EdTech-Based Instruction for Students and Teachers with Disabilities in Jordan

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Abstract

This research examines the use of digital media in special education, specifically emphasizing its use in instructing pupils with impairments. The study utilizes a qualitative methodology to investigate the technologies, tools, methods, and approaches that might improve education for EdTech students with disabilities via digital media, along with the obstacles they encounter. A comprehensive literature review was performed, examining 12 papers published from 2020 to 2022. The review's systematic approach facilitated data categorization using designated rubrics, utilizing SCOPUS, ScienceDirect, Emerald Insight, and ProQuest as the principal databases for literature discovery, while Google Scholar served as a supplementary resource. The study seeks to address the deficiency in research about the use of digital media in special education by offering significant insights for educators and students who may be oblivious to its potential advantages. The findings emphasize the partnership between educators and library media professionals to guarantee both physical and digital resource accessibility for students with impairments. The research also reveals beneficial associations between instructional practices and enhanced results for these pupils. This study examines two primary inquiries: the technology and methodologies used, and the obstacles encountered by students with disabilities in EdTech-centric education.

Keywords: Learning, Digital Media, Disabilities, EdTech, Teachers, Students, Jordan

Acknowledgments: Thank you to all parties who have participated in helping in the process until the completion of this research.

For citation:

Alzubi, A. (2024). Digital Media and EdTech-Based Instruction for Students and Teachers with Disabilities in Jordan. *Journal of Digital Learning and Distance Education*, 3(5), 1077-1084. <https://doi.org/10.56778/jdlde.v3i5.352>.

Introduction

In this paper, I will highlight how digital media try to help EdTech-Based Students with Disabilities through the forms and tips of digital media, although technology has the potential to provide users with more agency, it also carries the risk of becoming a source of annoyance and shame if it is difficult to use or if an individual feels that their devices stand out from the norm. Digital media has facilitated the emergence of novel types of visual communication, including digital graphics,

video, and animation. These media formats provide enhanced interactive and immersive experiences and have gained significant popularity among consumers. Furthermore, digital media has influenced the business strategies of conventional media organizations. Instruction Utilising EdTech for Students and Educators with Disabilities (Mohammad Alzubi, 2022). One must first have a nonfundamental belief in the equality and rights of all kids and families, with a focus on the most vulnerable, such as pupils with disabilities, if they are to establish enabling and inclusive environments. Consequently, teaching methods must facilitate imperative that educational technology facilitates successful inclusion for all students by addressing the basic challenges of equality. Also, it's important to consider how difficult it might be to prove a match with a certain person's specific about how difficult it might be to prove a match with a certain person's specific set of needs. Despite not advocating for a methodological framework, this analysis recognizes the necessity for a framework or model that may provide sufficient guidance on how to best fit the student's current talents and preferences within a learning situation. The Matching People and Modeling Phenomena using Technology, for instance, Takes a Focused, Individualized Framework to the Work of 2 P. LYNCH et al. Acknowledge the technological features and functions in addition to the user's unique psychological traits, demands, and preferences. Assistive technology is a key component of this strategy, and teaching about it and the potential benefits it may bring to the educational process is thus crucial. Keep in mind that the knowledge you'll get from this article might serve as a useful lens for tackling the issues discussed below. Therefore, it is important to consider not just the user's needs, expectations, and preferences, but also the capabilities and characteristics of the technology itself and the service delivery process, to ensure a good fit between the two.

Although digital media, like electronic media in which data are kept in digital form, are ubiquitous in contemporary life, the study of how digital media influences behavior is still in its infancy (Seiler et al., 2022). Digital media are electronic media in which data are stored in digital form. For instance, 45 percent of the world's population, or 3.5 billion individuals, are active on social media, and the typical user spends around three hours each day on social media. In light of these statistics, it is of extreme significance to gain an understanding of how technologies such as social media influence health decision-making and behavior, as well as to design and evaluate effective behavior change interventions using social and other different channels (that is, programs aimed at changing specific behaviors in a population using one or more digital platforms as the delivery channel, as well as research aimed at determining how effective such programs are. Information on the effectiveness of utilizing online content to alter people's actions is expanding. Numerous digital technology-based behavior modification strategies have been used, including the use of numerous channels (including text messaging, social media, and apps) and program start programs (such as social media service organizations and personalized coaching). Increasing these tactics' frequency, intensity, engagement, and feedback frequency, intensity, engagement, and feedback of these tactics might improve their efficacy (Nesi et al., 2020).

To encourage the purpose of encouraging the acceptance of new behaviors and the maintenance of existing ones, digital media for behavior change is an intervention strategy that makes full use of the capabilities of digital devices to communicate and create environmental cues and incentives (i.e., under behavioral economics). You may use WhatsApp, Facebook Messenger, Instagram, Twitter, and other social media and mobile applications to implement these concepts these concepts into action. Video, memes, website links, visual pictures, and other instructional modalities are all options within these platforms that they may use. Group communication, such as seen in a Facebook group, facilitates collaborative efforts and mutual aid among community members seen in a Facebook group, facilitates collaborative efforts and mutual aid among members of the community. Digital therapies allow for equal attention to be paid to both forms of interaction. In addition, interventions may take place from participant to participant, with the intervention being led by the participants themselves. As stated by Evans et al. in their 2020 study. Research questions: What type of technology, tools, methods, or techniques EdTech-Based Students with Disabilities through the forms and tips of digital media? What challenges are there in technology faced by EDtech-based

students with Disabilities through the forms and tips of digital media? Research Objectives; To Explore the type of technology, tools, methods, or techniques EdTech-Based Students with Disabilities through the forms and tips of digital media: To determine the challenges are there in technology faced by students with Disabilities through the forms and tips of digital media.

Literature Review

According to the findings of several investigations that have been carried out over the previous decade, educational environments that make use of technology as a supplement to traditional classroom instruction have witnessed a rise in the number of new software programs and technological advancements. That order for computer-assisted learning technologies to be successful in special education, the learning environments in which they are implemented need to have a significant amount of support from schools and educators. In addition, (Alzayer & Banda, 2017) underlined that the effective use of computer-assisted tools in special education may raise impaired students' engagement in learning activities, increasing the fact that the effective use of computer-assisted tools in special education may raise impaired students' engagement in learning activities, which would therefore increase their confidence in their abilities to study. Despite this, there are many obstacles to overcome to successfully implement special education programs that are supported by technology. For instance, research that was conducted by (Woodfine et al., 2008); (Ferrari et al., 2012), found that pupils who had dyslexia needed more time to enhance their reading, writing, and memory skills. Furthermore, the likelihood of these students having positive learning outcomes in an online setting that followed to traditional best practices was much lower. Students who were enrolled in special education programs were given a learning task to complete at a school library as part of the study that was carried out by (Campigotto et al., 2013). This is another evidence of how this concept may be observed in action. The students asked that they utilize an application on an iPhone to collect photos on pieces of paper to match the photographs with the relevant language; nevertheless, the majority of students struggled to operate the software. The student's requests were granted. To put it another way, the creation and use of software should consider users' characteristics and needs into consideration the characteristics and needs of users. This also suggests that teachers of outstanding children are now facing new challenges in the classroom.

According to (Thomas et al., 2019), kids who participate in technology-based learning activities can experience customized learning, free from the continuous requirement for the engagement of instructors. The use of it satisfies the requirements necessary to achieve the objectives of customized learning, adaptive learning, and distant learning (Fernández-López et al., 2013). It should be noted, however, that continual investigation and review are essential in order to build a teaching software program that will aid students with disabilities in gaining information while they are engaged in the process of learning. In order to determine whether or whether the software is useful throughout the teaching and learning process, it is required to observe impaired students using the program. (Soykan & Özdamlı, 2017) A pilot study during the initial design stage of developing an instructional application for special education is essential. Additionally, it is important to invite relevant teachers and students to provide suggestions during this stage of development. Emphasized how important it is to carry out testing on a massive scale to guarantee that special education apps are of high quality and easy to use.

In conclusion, as time has gone on, software programs have become the most critical instructional tools for special education teachers. Students with special needs may also benefit from these technologies as a useful teaching aid. When using desktop equipment and software applications, students with disabilities should also make use of supplementary educational software programs to boost their skill performance (Ok & Kim, 2017). Available research evaluations on innovation special education frequently concentrate on specific issues rather than providing a comprehensive overview. Some recent examples include (Albarran & Sandbank, 2019) discussion of the benefits of instructional feedback for students with special needs, (S. Snyder & Huber, 2019) study of the implementation of technology-based instruction in special education, and (Cinquin et al., 2019)'s

study of online learning environments for students with cognitive impairments. Conclusions from this study show that it is useful and successful to use technology in special education settings. However, only a limited number of studies have been undertaken to explore the research developments of systems that will ensure tools and software programs in special education, as shown by studies that are important to technology-supported special education. In particular, the many facets of the digital learning paradigm, such as instructional approaches and research concerns, have been ignored in these studies. This is a gap in what we know about the effects of technology on special education. This research analyzed how different kinds of software and hardware aid special education teachers. This was performed by reviewing the relevant past reviewed to provide a more comprehensive study analysis. In addition, it makes some recommendations for the present and the future depending on its methods and conclusions (H. Snyder, 2019).

Methodology

A systematic literature study was performed so that the information could be compiled in an orderly method. A systematic literature review is distinguished from other kinds of reviews by its extensive searching tools, preset key terms, and systematic guidelines for inclusion and exclusion. Established widely in the medical profession, a systematic review is both a research strategy and a method for systematically locating and evaluating high-quality studies. The primary purpose of any systematic review is to analyze data from several sources. To begin, I searched for relevant research using online resources. To acquire substantial and thorough findings, at least two electronic databases are required. For this article, I utilized SCOPUS, ScienceDirect, Emerald Insight, and ProQuest as our primary electronic databases for literature identification, with Google Scholar serving as a secondary resource. While searching, I paired the keywords with BOOLEAN operators and the more complex search feature offered by each database to narrow our results to those most relevant to our study concerns. The concepts behind the chosen keywords were gleaned from the aforementioned works. The search terms used were "Jordan" and variations on the words "digital literacy," "digital competence," "digital skills," "information literacy," and "computer literacy". The number of publications was reduced while the accuracy of the information search was improved by restricting the search to the database titles, abstracts, and keywords. By selecting more specific criteria, such as the year of publication, we may narrow our focus to the most up-to-date conceptualizations of digital literacy (Oh et al., 2021).

Results and Discussion

Teachers

When it comes to actual classroom teaching, there are additional obstacles to overcome. An analysis of 300 lessons from eight districts (including primary English, mathematics, Kiswahili, and science at Standards 3 and 6) by (Hardman et al., 2011) found that pupil-centered forms of learning comprised only 14% of lesson time, with paired or group work accounting for only 6% of lesson time (ibid.). Chirwa also brings out teachers' overreliance on "chalk and talk" methods of teaching (2018). When looking at the research on efficient classroom use of time, it becomes obvious that teacher training and development programs need to focus on helping educators become better at helping their students make the most of their class time (Schweisfurth, 2013).

Students

There were 98.8 percent of students enrolled in kindergarten through eighth grade in 2019, compared to 32.0 percent in high school. Enrollment rates for boys and girls are almost equal throughout all educational levels, with females usually benefiting from somewhat higher rates. There is indeed a gender discrepancy in educational attainment in Tanzania, as shown by statistics from the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) between

2007 and 2015. And at the higher education level, male enrollment (5.2%) is about twice that of female enrollment (2.8%).

Education sector progress and challenges

In 2018-2019, almost all children, including boys and girls, enrolled in some kind of formal education. This trend is pretty steady until required schooling is no longer in place, at which point it dips to 69.3 and 80.7 percent, respectively. Syrian refugee enrolment was low in 2015-16, with 36.7% for primary and 13.5% for secondary. Enrollment has increased to over 57.8 percent due to these efforts. Somewhere in the neighborhood 400 schools have undergone a "double-shift" conversion, allowing them to accommodate twice as many students. Policy changes have been implemented to allow students who have been out of school for more than three years to enroll again. The most well-known of these NGO-led programs is UNICEF's Makani centers, which provide a "catch-up" course for younger pupils who have been out of school for an extended period.

Table 1. ICT access in schools

Information and Communication Technology Usage and Access in Schools	Percentage / Number
Schools connected to the internet	80%
Secondary schools with computer labs	100%
Schools' computers that need repair/replacement	50%
General internet usage	65.0%
Children over the age of 5 using the internet	65.0%

Ministry / Agency	Roles and responsibilities in EdTech
Queen Rania Center for Education and Information Technology	The QRC is a department within the MoE and is responsible for implementing technology-based teaching and learning programs for basic and secondary education. It also manages school and ministry technological infrastructure.
National Center for Curriculum Development	The NCCD was established in 2017 to develop curricula aligned with international best practices for Jordan. Financially and administratively independent from the MoE, the NCCD falls under Jordan's Prime Ministry. Previously, the task of curriculum development was the responsibility of the curriculum department within the MoE, which has contracted significantly since the formation of the NCCD
Ministry of Digital Economy and Entrepreneurship	Previously the Ministry of ICT, the MDEE supports Jordan's transformation towards a digital economy, including digital entrepreneurship, digital skills, digital financial services, digital infrastructure, and digital platforms.

Table 2. Key government partners in EdTech

Organization	Roles and responsibilities in EdTech
Queen Rania Foundation	QRF conducts research and program development to support the Jordanian public education system. As part of the DFID-funded Evidence Driven Results in Learning (EDRiL) project, the QRF works closely with the MoE to incorporate evidence into the MoE decision-making. Some of QRF's key programs include Activating EdTech, Karim Jana, and Edraak.
Queen Rania Teachers Academy	An affiliate of QRF, QRTA manages several teacher-training programs across Jordan, including the Pre-Service Teacher Education Program Diploma and the Teachers Network Program

Edraak	Another affiliate of QRF, Edraak is one of the first Arabic MOOC platforms and was launched in 2014. It has since expanded into K-12 education as well, developing online material for maths and English, funded by Google.org and the Jack Ma Foundation.
Abwaab and Joacademy	Two startups aim to provide supplementary learning materials for students sitting for the secondary school leaving exams (Tawjihi). Both companies played a large role in Jordan's COVID-19 education response, providing both online materials as well as training to the MoE to develop their educational videos.
Mawdoo3	Mawdoo3 was commissioned by the MoE to create the Darsak and teachers.gov.jo platforms, which was key to the government's Covid-19 education response. The MoE is currently in discussion with Mawdoo3 to expand the functionality and use of these platforms.

Data Analysis

Because of the need to delve deeply into the data and maintain a heightened awareness of its many different methods and social events, this study was done as a case study. By proposing a screening, we can better understand why digital media should be included in special education. The value of this proposition is shown via a variety of tools and technology. Due to the paucity of investigations, this work used a sample size of 12. Selected articles were published in the years 2020–2022. It's crucial to note that the function of digital media in assisting digital media students with disabilities in technical education via digital media models and recommendations is given additional relevance by distinct ideas of obtaining unique importance. In a similar vein, the purpose of this article is to assess the effectiveness of digital media in facilitating the technical education of students with disabilities in the field of digital media. Using the review's organizational framework, we collected and properly categorized the data necessary for the evaluation. Given its superior approach to combining extensive subjective information, the review is the most useful instrument for this evaluation. Preparing the results is a must and may be done quickly and easily. Following this feedback to better serve children with varying requirements, the researcher then looked at all schools that offered services including special education, group work, library digital media professionals, general education instructors, and specialized education specialists. If properly stocked and managed, libraries may boost students' autonomy and productivity. The library's collection on people with disabilities may assist make everyone's life more manageable and normal, especially for those with impairments.

Findings

Example of digital media used to conduct outcome and impact evaluations

Lastly, digital media and social media platforms may be used to assess the efficacy of digital media interventions in bringing about desired behavioral changes. As was said before, a cutting-edge form of social media is the "virtual lab." By first identifying users who seem, based on publicly accessible data, to meet a given demographic, behavioral, or lifestyle profile (such as being a healthcare professional in a specific nation of a certain age range), social media makes it possible to focus recruiting efforts. Ads on Facebook, for instance, might be used to ask a targeted audience to participate in a study by tapping into Facebook's private user data. Upon initial expressing of interest by clicking on a link to a survey, further screening may be done (e.g., through eligibility questions) to confirm research inclusion or exclusion, followed by informed consent.

Systematic literature reviews may be useful for a number of purposes, including the mapping out of regions of ambiguity, the identification of places where little or no relevant research has been done, and the identification of locations where more studies are necessary. They are developed to encourage transparent research processes that can withstand examination and are guided by a clear research question or hypothesis (Langan et al., 2013). To learn more about how technology can help

children with disabilities in LMICs learn, a systematic review was conducted following the guidelines laid out in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses and the Cochrane Handbook for Systematic Reviews and Interventions. This was done to collect as much information as possible regarding the ways in which technology is assisting the education of children with special needs (Moher, 2009). The PRISMA criteria necessitate the development of clear research objectives and methodologically rigorous procedures for identifying, selecting, and critically appraising studies to be included in the review, as well as for collecting and analyzing data from those investigations.

Discussion

Despite appearances, Jordan has a powerful educational technology infrastructure, both in terms of its physical components and its institutional components. They have a long history of both large-scale and small-scale educational technology experiments and projects, and they have a high rate of internet and gadget penetration at both the home and the school level. Additionally, they have a high rate of internet penetration. Nevertheless, it is now plainly clear that there are problems with the accessibility as well as the effectiveness of the technology that is now being used in educational institutions. This is shown by the fact that there are challenges. In addition, to facilitate the effective use of educational technology, the Ministry of Education (MoE) is required to face a wide range of additional problems.

Conclusion

Given the insufficiency of comprehensive studies addressing this issue and identifying solutions for these students, it is imperative to enhance research on the impact of digital media on the education of students with disabilities in technical fields, utilizing digital media frameworks and strategies. This is due to a deficiency of research and studies that can adequately address this sort of inquiry. Moreover, it is essential to explore contemporary approaches in education, including interactive learning, digital multimedia utilization, and the incorporation of advanced technologies such as holograms, augmented reality, simulators, and 3D technology. This study examines the evolving importance of digital media in the classroom. This is achieved by examining corporate incentives to identify answers to pressing issues and generate tangible benefits via digital media use. In special education, progress remains a crucial element, acting as the principal tool for reassessing the evolution of educational frameworks. Because the children served by special education do not align with mainstream digital media norms, it is essential for special education to continually explore innovative teaching methods due to the inherent characteristics of the area. This technique provides the necessary foundation for creative problem-solving and critical analysis. Regardless of the condition, timely acquisition of the necessary assets is unfeasible. This situation requires the instructor to expand their present teaching methodology.

Conflicts of Interest

The writers say they have no competing interests.

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